

DIRECT AND INDIRECT EFFECTS OF SELF-CONCEPT AND SOCIOECONOMIC STATUS ON STUDENTS' ACADEMIC ACHIEVEMENT

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ABSTRACT

The purpose of this study is to determine the direct and indirect effects of academic self-concept, non-academic self-concept and socioeconomic status on academic achievement using structural equation modelling. This is an empirical research with a sample of 493 students from eight secondary schools. We highlight the importance of identifying the specific direct and indirect effects produced by the predictors of academic achievement. Data collected using a self-administrative questionnaire. The results demonstrated that the a priori full model fits data well. Analysis revealed that socioeconomic status, non-academic self-concept and academic self-concept are significant predictors for academic achievement. Socioeconomic status and non-academic self-concept result direct and indirect effects on academic achievement. Academic self-concept produces only a direct effect on academic achievement.

Keywords: Academic Achievement. Self-concept, Socioeconomic Status

INTRODUCTION

Academic achievement has always been a measure of the amount of knowledge acquired by a person. This fact is not only true for this millennium that is being dominated by information technology revolution, but is proven even before the revolution, that it will continue to play a key role into the future, particularly so in the era of globalization which is created as a result of the advancement of knowledge. Academic achievement is an important element and is being taken seriously by parents and society in today's context that is education-oriented, centred on the intellectual as well as being caught in the "paper chasing" craze (Nor, 2004). Besides, good academic achievement is also a passport to further studies at higher learning institutions locally and abroad, and even a passport to a good job (Lim, 1998). According to the Research Centre on Academic Success [CRIRES] (2005), academic achievement refers to a certain level of achievement obtained by an individual in various areas of knowledge and skills. This level is determined in terms of age, learning process that they have gone through, and the ability of individuals with respect to aspects of education, qualification and socialization.

Based on psychological theories and previous studies, three factors which are hypothesized to have effects on academic achievement are identified, they are academic self-concept, non-academic self-concept and socioeconomic status. Bronfenbrenner Ecological Theory (1979, 1989, 1995) explains that biological and environmental factors play an important role in the physical, psychological and cognitive development of a person. As academic achievement is closely related to cognitive development, it is definitely influenced by academic self-concept, non-academic self-concept and socioeconomic status of the family.

Academic self-concept is the perception about one's ability to learn and accept all forms of academic behaviours (Brookover, Peterson & Thomas, 1964). Research finding of Wondimu

and Marjon (2006), indicates that academic self-concept and academic achievement are positively related. According to researchers, students who felt positively about themselves in life will be more competent in specific domains such as academics. This is consistent with Mendez's (2005) study which shows that students with high academic self-concept will have a cumulative GPA higher than those with low academic self-concept. Positive academic self-concept is the only non-cognitive predictor to have an effect on college students' academic achievement (Nasim, Roberts, Harrell & Young, 2005). According to Byer (2000), there is a significant relationship between academic self-concept and academic achievement ($r = .50$). Academic self-concept explains 24% of the variance of academic achievement. Hence the results of Chapman and Tunmer (1997), Chapman, Tunmer and Prochnow (2000) and Craven, McInerney and Marsh (2000) also found that children's academic achievement is more strongly correlated with cognitive component than affective component of self-concept.

Non-academic self-concept is the perception about oneself in areas not related to academic activities (Suntonrapo, Auyorn & Thaweewat, 2009). In this study, non-academic self-concept is categorized into physical, family, personal, moral and ethical, and social aspects. Effect of non-academic self-concept on academic achievement is not consistent. The study by Sánchez and Roda (2003) on 245 primary school students in Spain shows that non-academic self-concept is a negative predictor of academic achievement. This finding is in conflict with the finding by Chong (2007) who 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. In addition, the finding by Suntonrapot (2009), and Suntonrapo, Auyorn and Thaweewat (2009) also recognize the existence of a relationship between non-academic self-concept and academic achievement. However, Marzuki (2002), in a study conducted in the Malaysian context, shows that there is no relationship between academic self-concept and achievement in Science.

Family socioeconomic status is considered as one of the best predictors for academic achievement by educational researchers, educators and the public over the past few decades (Marzano, 2003). This is supported by the large scale study by Coleman in 1966, entitled 'Equality of Educational Opportunity' which states that socioeconomic status is a strong predictor of academic achievement (Thomas & Stockton, 2003). The study by Heng (2000) using local sample reported that those from families with high incomes or whose parents are highly educated have better academic achievement. Based on her findings, Ruzina (2005) concludes that students in the high socioeconomic status category perform well academically while low academic performance is usually associated with students in the low socioeconomic status category. According to Tiller, Garrison, Block dan Cramer (2003), respondents whose parents are highly qualified academically and earning higher incomes have higher ability scores on cognitive aspects. Yap (2000) finds that parents in the high socioeconomic status category are more involved in their children's education both at home and at school compared to parents in the low socioeconomic status category. This factor of the intensity of parental involvement in children's education both at home and at school is positively associated with children's academic performance.

PURPOSED OF THE STUDY

Based on the study of related literature, a priori model that links academic self-concept, non-academic self-concept and socioeconomic status with academic achievement, is modelled to examine the direct effects and indirect effects of these factors on the academic achievement of tenth grade students.

METHODOLOGY

The respondents of this study consisted of 493 tenth grade 16-year-old students of public schools located in Selangor, Malaysia. Respondents' academic achievement is measured based on the results of the PMR examination (Lower Secondary Assessment) which comprised of English language, Malay Language, Mathematics, Science, Geography and History. Socio-economic status refers to the incomes and highest qualifications obtained by the respondent's father. Brookover Academic Self Concept Scale (Brookover, Patterson, & Thomas, 1964) is used to measure academic self-concept and the Tennessee Self Concept Scale (Fitts, 1965) is the instrument used to evaluate non-academic self-concept. In the first stage a cluster random sampling is used to select four urban schools and four rural schools from the list of schools provided by the Selangor State Education Department. In the second stage, three Form 4 classes are selected at random from each school. All the students in the classes selected become the respondents to this study. The researcher went to the schools on the appointed dates after obtaining approval from the Educational Planning and Policy Research Division, Selangor State Education Department and the principals of the schools. The respondents were gathered and assured about the confidentiality of the information provided by the respondents in the questionnaire. A pilot study was carried out to determine the validity and reliability of the instruments, and they were found to have a high degree of validity and reliability.

This is a quantitative study. The relationships between academic self-concept, non-academic self-concept, socio-economic status, and academic achievement will be examined based on a priori model developed by the researcher. The data collected will be analyzed using the SPSS and structural equating modeling (SEM) using AMOS 4.0 (Analysis of Moment Structure).

RESULT OF THE RESEARCH

Demographic Characteristics of Respondents:

Out of a total of 493 respondents, there are 46% Malays, 37% Chinese, and 15.2% Indians and 1.8% others. On the gender of respondents in this study, 44.2% are male respondents and 55.8% are female respondents. 5.1% of respondents obtained 6 As, that is, grade A in Bahasa Malaysia, English, Science, Mathematics, History and Geography in their PMR results. 4.3% obtained 5 As, 4.8% received 4 As, 6.7% 3 As, 5.7% 2 As and 18.2% 1 A. 55.2% did not get any A in any of the six subjects. Some 284 respondents were from urban schools and 209 respondents were from rural schools. 36.5% of respondents are from families where the parents' income is between RM500 - RM1999, 61.86% of between RM2000 - RM3999 and 1.64% of the respondents whose parents are earning RM4000 and above. 93.71% of respondents' parents do not have any university qualification, while only 6.29% of respondents' parents have university qualifications.

FULL MODEL

A full model is constructed to examine the relationship between the latent variables of academic self-concept, non-academic self-concept, socioeconomic status and academic achievement as illustrated in Figure 3. The results showed that full a priori model for academic achievement fit the data of this study well. This is because the value of GFI, CFI and TLI are greater than .900. On the other hand, the RMSEA value is less than .050 (Bentler & Bonett, 1980, Hu & Bentler, 1999; Kline, 2005; Hair, Anderson, Tatham & Black, 1998).

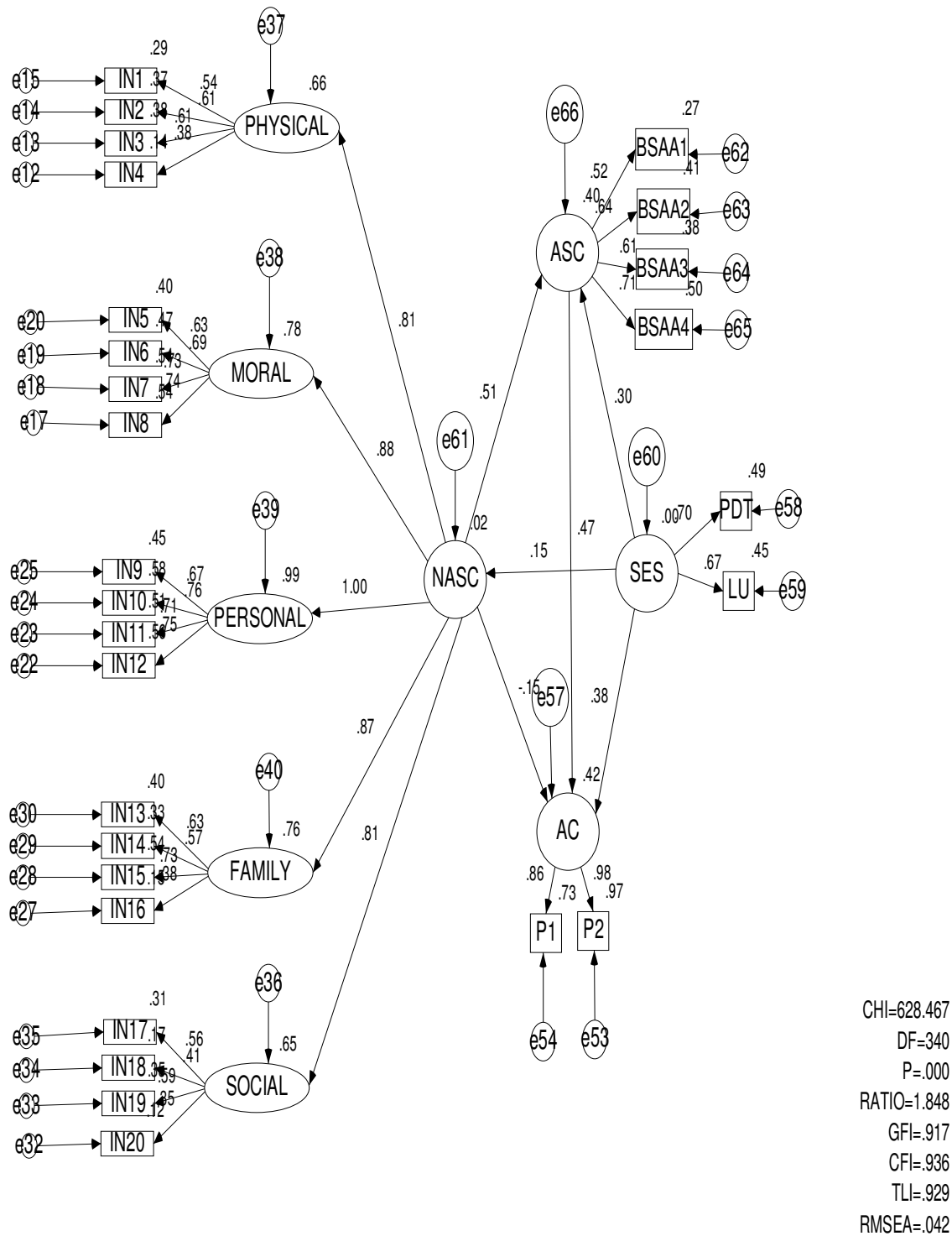


Figure 3: Full model of academic achievement

(IN1-IN20, P1-P2, BSAA1-BSAA4, PDT and LU represent observed variables, e represents error variances, ASC represents academic self-concept, NASC represents non-academic self-concept, SES represents socioeconomic status and AC represents academic achievement)

Table 1: **Standard** total effect, **standard** indirect effect and standard **direct** effect

	Estimates	95%CI*	
		Lower	Upper
SES → AC (ASC and NASC)**			
Standardized total effect	.536	.440	.628
Standardized indirect effect	.155	.089	.227
Standardized direct effect	.381	.257	.507
ASC → AC			
Standardized total effect	.465	.326	.608
Standardized indirect effect	.000	.000	.000
Standardized direct effect	.465	.326	.608
NASC → AC (ASC)**			
Standardized total effect	.089	-.022	.191
Standardized indirect effect	.238	.151	.338
Standardized direct effect	-.149	-.287	-.032

*Based on 1000 *bootstrap* sample.

** Mediator

Table 1 shows the type of effects produced by academic self-concept, non-academic self-concept and socioeconomic status on academic achievement. Socioeconomic status is a major predictor of academic achievement with a standardized total effect of .536. The standardized total effect of .536 is due to both the standardized indirect effect of .155 together with the standardized direct effect of .381. Standardized indirect effect exists due to the presence of academic self-concept and non-academic self-concept as mediators. Socioeconomic status has a stronger direct effect on academic achievement compared with the indirect effect. Academic self-concept is the second important predictor for academic achievement. The standardized total effect of academic self-concept on academic achievement is .465. Academic self-concept has direct effect only on academic achievement. The standardized total effect of non-academic self-concept on academic achievement of .089 is small and insignificant. On the contrary, both the standardized indirect effect of .238 and a standardized direct effect of -.149 are significant. Non-academic self-concept results a positive indirect effect and a negative direct effect on academic achievement. The emergence of indirect effects is due to the presence of academic self-concept as mediator. In magnitude, the indirect effect produced by non-academic self-concept on academic achievement is approximately two times the direct effect of non-academic self-concept on academic achievement. This means that non-academic self-concept has a stronger indirect effect, not direct effect, on academic achievement.

DISCUSSION

The finding shows that academic self-concept, non-academic self-concept and socioeconomic status have an effect on academic achievement for the sample of respondents in this study. Socioeconomic status is the most important predictor for academic achievement of this study. This finding is supported by studies conducted by Marzano (2003) and Coleman (1996) which shows that socioeconomic status is one of the best predictors of academic achievement over the past few decades. The findings of this study is also consistent with the findings of Heng (2000), Ruzina (2005), Tiller et al (2003), Yap (2000), Mikk (2006), Yang (2003) and

Abbott and Joireman (2001). The role of socioeconomic status as a factor having a direct effect and an indirect positive effect on academic performance is also supported by the Bronfenbrenner Ecological Theory (1979, 1989, 1993). In this study, the direct effect of socioeconomic status on academic achievement is approximately three times that of the indirect effect. Socioeconomic status as a factor having a direct effect on academic achievement has been explained by the Heng's (2000) finding, that respondents from families of high socioeconomic status, with many facilities and assistance provided for by their parents to help them to excel academically. The high socioeconomic status families have the means to provide a motivating learning environment leading to the formation of positive attitudes towards learning and thus improving performance. In addition, parents in the high socioeconomic status category are usually well educated and drawing higher incomes, and enabled them to spend time, energy and money on their children's education as explained by Yap (2000). In this study, since most of the respondents come from families in the middle to lower categories in socioeconomic status, hence they are not provided with the necessary learning facilities, and the involvement of parents in guiding, motivating and encouraging learning which is important to the learning process in the home. This has resulted in most of the respondents in this study obtaining only moderate academic achievement. Thus, the direct effect of socioeconomic status is a very important factor in improving the academic achievement for the sample of students in this study.

Socioeconomic status may affect academic performance indirectly through the mediator academic self-concept and non-academic self-concept which can be explained based on the effect of socioeconomic status on parenting styles (Verna & Campbell, 1998). This is because parents who are highly qualified academically and with high incomes are usually more understanding and know the learning needs of children better. They will also be more encouraging, more involved in their children's learning as well as having a higher expectation of the academic success of their children. Such parents will be able to enhance the self-concept of a child.

Academic self-concept is the second most important predictor of academic achievement in this study. Academic self-concept can have a strong positive direct effect on academic achievement as defined in the model of self-enhancement. These results are consistent with the findings of Anderman and Anderman (1998), Mendez (2003) and Byer (2000). Academic self-concept can have a direct positive effect on academic achievement as academic self-concept is a perception of academic ability developed based on the academic success or failure experienced in the early stages. This perception will affect the confidence as well as to motivate individuals in the learning process. According to Jen and Chien (2008), individuals who have high academic self-concept in a particular subject will allocate more time for learning these subjects. Besides, self-concept is also found to have a significant relationship with motivation (Wondimu & Marjon, 2006). The influence of academic self-concept on academic achievement can be interpreted based on the Bronfenbrenner Ecological Theory (1979, 1989, 1993). According to Shavelson and Bolus (1982) and Rogers (1961), self-concept is the perception of an individual that is formed as a result of experience and interpretation of the environment.

The total effect of non-academic self-concept on academic achievement is weak and not significant, and is attributable to the direct effect of non-academic self-concept on academic achievement that is weaker as well as negative. On the contrary, indirect effect of non-academic self-concept on academic achievement involving academic self-concept as a mediator is stronger and positive. Direct effect of non-academic self-concept on academic achievement is supported by the findings of Chong (2007) and Craven, McInerney, and

Marsh (2000). In this study, non-academic self-concept produces a negative direct effect on academic performance which may be due to the non involvement of academic elements directly in the subscale of non-academic self-concept as found in academic self-concept. In addition, the respondents in this study are adolescents who are in a period of transition into adulthood and maturity. This causes them to devote more attention to various other aspects such as personal, physical, relationships with family and peers, and to deal with problems arising from physical and emotional development. Thus, less attention is given to the academic aspect. Non-academic self-concept also produces indirect positive effect on academic achievement through the mediator academic self-concept. This is because non-academic self-concept can produce a strong positive effect on academic self-concept on the respondents of this study and hence has a positive impact on academic achievement. This can be explained because the sample has a higher perception on personal, family, morality and ethics, physical and social aspects by which they may believe more in their academic ability and level of academic achievement. In view of non-academic self-concept having a strong positive effect on academic self-concept, the high non-academic self-concept may also lead to a higher perception and evaluation of their ability to learn and to accept all forms of academic behaviours (Brookover et al., 1964).

The results of this study shows that in an effort to enhance academic achievement and to excel academically, factors such as academic self-concept, non-academic self-concept and socio-economic status should be given due consideration by the parties concerned. The result of this study cannot be generalized as the sample size is relatively small. It is recommended that study of this nature should be conducted by enlarging the sample size and covering a wider area in order to provide a more comprehensive picture.

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