A STRUCTURAL MODEL OF THE RELATIONSHIPS BETWEEN TEACHER, PEER, AND PARENTAL SUPPORT, BEHAVIOURAL ENGAGEMENT, ACADEMIC EFFICACY AND COGNITIVE ENGAGEMENT OF SECONDARY SCHOOL ADOLESCENTS

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A Thesis submitted to the College of Arts and Sciences in full fulfillment of the requirements for the degree of Doctor of Philosophy
Universiti Utara Malaysia

By

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ABSTRACT

The present investigation examined the hypothesized structural relationships between teacher, parental, and peer academic and emotional support on adolescents' cognitive engagement directly and indirectly through academic efficacy and behavioural engagement. A cross-sectional study utilizing survey method, the present study examined perceived academic and emotional support from teachers, classmates and parents via instruments, which were adapted from a number of established measures. A total of 450 adolescents (selected via multistage cluster sampling) from eleven secondary schools in the state of Kedah in Malaysia took part in the survey. The psychometric properties of the instruments were assessed through reliability analysis, exploratory and confirmatory factor analysis. Through the various analysis conducted, the instrument used in the present study is valid to be used in the local educational settings. Utilizing Structural Equation Modeling via AMOS version 16.0, the structural model was tested against the data for its fitness. Results indicated that academic efficacy and behavioural engagement did serve as plausible mediators in the relationships between support factors and cognitive engagement. Specifically, teacher academic support and parental emotional support emerged as two salient predictors in the indirect relationships between support factors and cognitive engagement. Peer academic support was the only variable that had direct association with cognitive engagement. In addition to the preceding findings, results also indicated that the model for male and female differed significantly in that there were limited significant paths for the male model whereas there were a number of significant paths in the female model. Apparently, parental emotional support became the only indirect predictor on cognitive engagement for male adolescents whereas teacher academic and emotional support as well as parental academic and emotional support both contributed towards cognitive engagement indirectly through academic efficacy and behavioural engagement for female adolescents. Female adolescents also perceived significantly higher peer academic and emotional support and their level of cognitive engagement were significantly higher compared with their male counterparts. Additionally, younger adolescents received significantly higher parental academic support compared with older adolescents. On the other hand, older adolescents received significantly higher teacher emotional support compared with younger adolescents. The findings support the assumptions of Social Cognitive theory through its Triadic Determinism Principle whilst at the same time lends support to the Bronfenbrenner Ecological approach, Person Environment Fit theory as well as Social Capital theory. Lastly, theoretical as well as practical implications of the study are also discussed.
ABSTRAK (BAHASA MELAYU)

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DEDICATION

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ABBREVIATIONS

TAS  Teacher Academic Support
TES  Teacher Emotional Support
PAS  Parental Academic Support
PES  Parental Emotional Support
FES  Peer Academic Support
FAS  Peer Emotional Support
EFA  Exploratory Factor Analysis
CFA  Confirmatory Factor Analysis
AMOS Analysis of Moment Structures
SPSS Statistical Package for Social Sciences
TPPSS Teacher, Parental, Peer Support Scale
SES  Socio-economic status
CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

One of the fundamental issues in education is how schools can assist students in their learning subsequently increasing their academic outcomes. Negative school related outcomes are varied, ranging from dropouts to delinquency, health-risky behaviour, and aggression (Carter, McGee, Taylor, & Williams, 2007; Fredericks, Blumenfeld, & Paris, 2004; Jimmerson, Campos, & Greif, 2003). On the other hand, positive outcomes encompass among others, academic achievement and school completion (Fredericks et al., 2004). As such, schools and teachers are increasingly held accountable for their students' achievement (Stipek, 2006). Of late, two important aspects in education that have taken the interest of the school have been academic performance and engagement. In fact, the growing interest among researchers, educators and policy makers on the topic of school engagement has become more prominent because engaging students in their learning is viewed as a way to reduce "low
The contents of the thesis is for internal user only
REFERENCES


Burkett, E. (2002). Another Planet: a year in the life of a suburban high


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Griffith, J. (2002). A multilevel analysis of the relation of school learning and


Invest Malaysia 2010. Retrieved on June 30, 2010 from:
http://www.indonesianstockmarket.com/idx/invest-malaysia-2010-conference/

Philadelphlia, PA: Institute for Research and Reform in Education.


social climate and individual differences in vulnerability to psychopathology among middle school students. *Journal of School Psychology, 39*(2), 141-159.


parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling.* 9, 151-173.


Maria, M.S. (2002). Youth in Southeast Asia: Living within the continuity of


Midgley, C., Maehr, M.L., Hicks, L., Roeser, R., Urdan, T., Anderman, E.M.,


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Norzaini Azman, Manisah Mohd Ali, Abd Halim Tamuri, & Zalizan Mohd


emotional functioning in early adolescence: Longitudinal relations, patterns, and prediction by experience in middle school. *Developmental and Psychopathology, 10*, 321-352.


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of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266-1281.


Student crime on the rise. (2005, August 1,) *New Straits Times*, pp. 4.


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