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**ADOLESCENT PSYCHOSOCIAL FUNCTIONING AND
SCHOOL SUPPORTIVENESS IN MALAYSIA**

A Thesis in Human Development and Family Studies

by

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ABSTRACT

This dissertation focuses on conceptualizing psychosocial functioning in Malaysian adolescents, and understanding school factors related to these outcomes, so as to eventually assist school staff in developing techniques and programs in promoting positive youth development. There are four chapters in this dissertation.

In Chapter 1, exploratory and confirmatory factor analyses show support for a 3-factor structure that map on to a theoretical framework of psychosocial well being. Findings further support expected factorial invariance across gender for urban middle income adolescents in Malaysia.

In Chapter 2, findings show that the majority of adolescents, as expected, experience high psychosocial well-being and low psychosocial maladjustment, and a small number experience low well-being and high psychosocial maladjustment. However, there exist a significant number of adolescents who do experience high well-being and high maladjustment, and low well-being and low maladjustment (both for depression and for delinquency). Their mean reported values differ from the more “common” low-high and high-low groups on school support variables, educational outcomes, and economic sufficiency. Results present support for well-being and maladjustment as distinct dimensions of adolescent psychosocial functioning.

In Chapter 3, controlling for economic sufficiency, grade-level, and gender, all of which are significantly associated with outcomes of interest, findings support the hypotheses that school support variables have a positive main effect on adolescent positive sense of self and personal control, prosocial orientation, and avoidance and resistance skills. Findings suggest that teacher support, school peer support, competency building support in the classroom, and school

environment support are key qualities in Malaysian schools that are associated with important markers of adolescent psychosocial well-being.

In Chapter 4, hierarchical linear regressions where economic sufficiency, school, grade-level, and gender are controlled for, show that indices of school supports are significantly associated with outcomes of interest. Most indices of school supports have a significant negative association with depression and a significant positive association with commitment to learning and school. However, only the broader school environment support has a significant association with delinquency.

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INTRODUCTION

This section provides the reader with an introduction and overview of my dissertation with reference to three key papers and a brief report based on data from the 2003 Malaysian Child & Adolescent Well-being (MCAW) Study. The first paper focuses on conceptualizing psychosocial well-being in adolescents and validating measures used to assess adolescent well-being in Malaysian. The second paper is a brief report that makes the argument that psychosocial well-being and psychosocial maladjustment are associated but distinct constructs. The third paper explores how school support factors are associated with psychosocial well-being in adolescents. Finally, the fourth paper explores how school support factors are associated with psychosocial maladjustment (depression and delinquency) and educational outcomes. A summary of findings across all papers are discussed in the fourth paper. Each of the papers corresponds to the following aims:

Specific Aim 1

Paper 1 addresses Specific Aim 1. Here, the aim is to refine scales and factorial structure for adolescent psychosocial well-being from measures used in MCAW, and confirm factorial invariance across gender.

Sub-Aim 1.1. To explore and confirm a proposed framework of adolescent psychosocial well-being from measures used in MCAW using split-half validation on 1818 school-going adolescents.

Hypothesis 1.1. From preliminary work, it is likely that four sub-scales of well-being exist in the dataset that can be used as indicators of psychosocial well-being in adolescents in Malaysia i.e., positive sense of self & personal control, pro-social competence, caring & contribution, and resistance skills. This is investigated using exploratory factor analysis, and confirmatory factor analysis.

Sub-Aim 1.2. To examine factorial invariance across gender.

Hypothesis 1.2. I test the hypothesis that the factor structure of psychosocial well-being determined in Sub-Aim 1.1 would work reasonably well for both urban school-going adolescent boys and girls in Malaysia. This will allow for gender comparisons across psychosocial well-being indicators. This is investigated using structural equation modeling.

Specific Aim 2.

Paper 2 addresses Specific Aim 2. Here the aim is to determine the relationship between psychosocial well-being (PWB) and psychosocial maladjustment (PMA).

Hypothesis 2. The hypothesis is that PWB and PMA are different dimensions of adolescent psychosocial functioning that are not on opposite poles of a single continuum although they are expected to be associated. A 2x2 table of low and high PWB and PMA (separate analysis for depression and delinquency) is constructed, anticipating significantly higher numbers of adolescents with high PWB and low PMA, and low PWB and high PMA, though for the latter, fewer Malaysian adolescents are expected to report high depression and delinquency. Given the hypothesis that PWB and PMA are distinct but associated constructs, a significant amount of adolescents who experience low PWB and low PMA, and high PWB and high PMA (both for depression and for delinquency) are expected to be observed as well. To determine how the latter two groups differ from the high PWB and low PMA adolescents, and low PWB and high PMA adolescents, characteristics of mean differences in levels of economic sufficiency, grade-level, school supportiveness, and educational outcomes will be explored using ANOVA and post-hoc analysis (i.e., Tukey's method).

Specific Aim 3

Here, the aim is to determining the association between perceptions of school supports in Malaysia and adolescent psychosocial adjustment and learning outcomes while taking into account gender, economic sufficiency and grade level. Paper 3 addresses sub-aim 3.1 below, while paper 4 addresses sub-aims 3.2 and 3.3 below.

Sub-Aim 3.1. To examine relationship between school supportiveness and psychosocial well-being, and determine gender effects. School supportiveness includes teacher support, peer support, competence building support in the classroom, and a school environment that is safe, caring and has healthy boundaries.

Hypothesis 3.1. The hypothesis is that school supportiveness would be positively associated with adolescent positive sense of self and personal control, pro-social orientation and resistance skills, even after controlling for economic sufficiency, school, grade level and gender.

Sub-Aim 3.2. The intent is to examine the relationship between perception of school supports and psychosocial maladjustment, and determine gender effects.

Hypothesis 3.2. The hypothesis is that school supports would be negatively associated with depression and delinquency for both boys and girls. Hierarchical linear regressions will be used where economic sufficiency, school, grade-level, and gender will be controlled for.

Sub-Aim 3.3. The intent is to examine the relationship between perception of school supports and educational outcomes. In this study, ‘commitment to learning and school’ and ‘overall grade for the most recent examination’ are two general educational outcomes of interest.

Hypothesis 3.3. The hypothesis is that school supports would be positively associated with the two educational outcomes. Hierarchical linear regressions will be used where economic sufficiency, school, grade-level, and gender will be controlled for.

The four papers are arranged as chapters within this document and all tables, figures, and references are provided at the end of each chapter.

Findings in this dissertation contribute towards the following: One, this study provides a useful framework based on theory in measuring psychosocial well-being in adolescents using the indicators of positive sense of self and personal control, pro-social competence (including caring and contribution), and avoidance and resistance skills. Two, this study's findings on the relationships between school supportiveness and psychosocial functioning in adolescents lend support for initiating longitudinal studies and universal school-based interventions in Malaysia that specifically target school supports in examining the extent these supports are predictive of psychosocial outcomes in adolescents. More detailed contributions corresponding to findings are presented within each paper.

CHAPTER 1

Measuring Psychosocial Well-being in Malaysian Adolescents

CHAPTER 1

Measuring Psychosocial Well-being in Malaysian Adolescents

1.1. INTRODUCTION

As schools are a central social context in the lives of adolescents, having a framework for measuring psychosocial well-being in school-going adolescents is an important step in working towards promoting positive youth development in schools (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2002; Roeser, Eccles & Sameroff, 2000). This study explores a framework for measuring key indicators of adolescent psychosocial well-being in Malaysian schools. Enhancing psychosocial well-being and promoting positive development is a valued objective of education in Malaysia for both boys and girls (Maria 2002; Pong, 1995). To better determine the advancement of this goal, empirical instruments are needed that clearly measure psychosocial well-being (versus psychosocial maladjustment such as depression and delinquency), and map onto key markers of positive functioning in the social environment. This paper proposes and empirically tests a theoretical framework of adolescent psychosocial well-being, using items from the 2003 Malaysian Child and Adolescent Well-being (MCAW). The analyses also examine the fit of this model for males versus females in urban school-going adolescents.

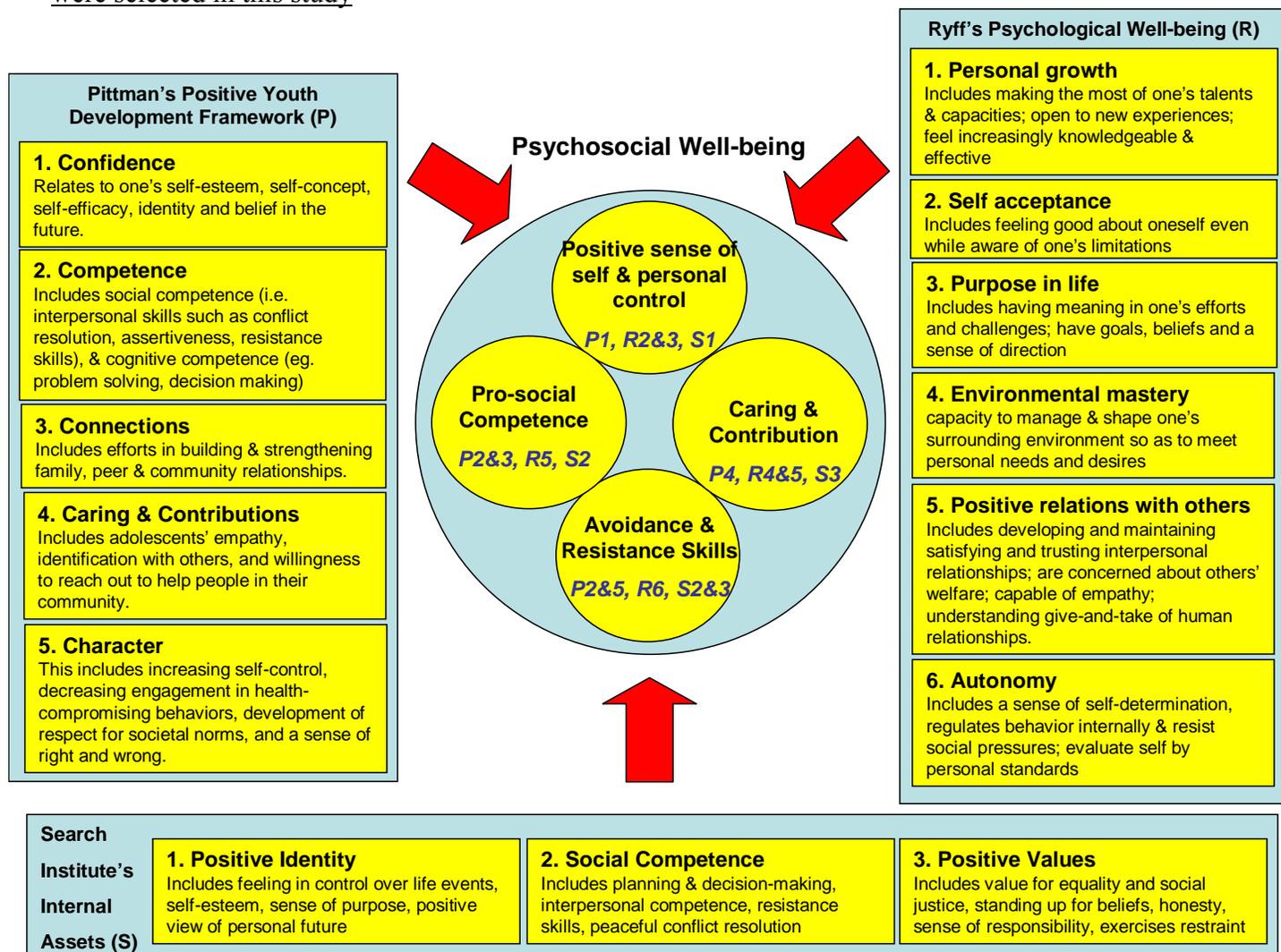
There are various models of psychosocial/psychological well-being in the literature, some derived from adulthood and others from studies on children (Cowen, 2000; Lerner & Castellino, 2002; Masten & Coatsworth, 1998; Pittman, Irby & Ferber, 2000; Roth & Brooks-Gunn, 2002; Ryff, 1995; Moore et al., 2001). In this study, psychosocial well-being reflects the close connection between psychological aspects of individual experience and the wider social experience that is expressed through an individual's positive cognitive, emotional and behavioral functioning (Sameroff, 2000).

The literature described various indicators of psychosocial well-being that pertain to positive development. There are three primary frameworks of positive functioning that I build from in selecting my key indicators of adolescent psychosocial well-being i.e., the psychological well-being framework proposed by Ryff (Ryff, 1995, 1989) and Moore (Moore et al., 2001), the positive youth development framework proposed by Pittman (Pittman et al., 2000) and Catalano (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002), and the developmental assets framework proposed by Search Institute (Benson, 2002) (see Figure 1.1). Ryff integrates various developmental, clinical and mental health theories including Erickson's psychosocial development theory and proposes the following markers of psychosocial well-being for adults: a sense of continued growth and development as a person, positive evaluations of one's self and one's life, the belief that life is purposeful and meaningful, the capacity to manage one's life and the surrounding world effectively, the possession of good relationships with other people, and a sense of self-determination (Ryff, 1995, 1989). Moore et al. (2001), building on Ryff's work proposes a similar framework for children. Pittman, Catalano and other researchers of positive youth development have proposed the following indicators of positive adolescent functioning: confidence, competence, connections, caring and contribution, and character (Catalano et al., 2002; Lerner & Castellino, 2002; Masten & Coatsworth, 1998; Pittman et al., 2000; Roth & Brooks-Gunn, 2002). Finally, Search Institute's developmental assets framework includes four internal assets of which three are more closely related to what I view as dimensions of psychosocial well-being, i.e. positive identity, social competence, and positive values (Benson, 2002; Leffert, Benson, Scales, et al., 1998).

The literature has yet to clearly distinguish between what constitutes well-being versus predictors of well-being. Zaff, Smith, Rogers, Halle & Bornstein (2003) forward the notion that elements of social and emotional well-being such as self-esteem and positive social relationships

influence each other across the lifespan, functioning at times as outcomes and at times as contributors to overall healthy development. In this study, I propose four key markers of adolescent psychosocial well-being that I wish to investigate: (1) positive sense of self and personal control; (2) pro-social orientation and competence; (3) caring and contribution; and (4) avoidance and resistance skills. I distinguish these markers from psychosocial maladjustment (see Gomez 2005b), and from what I term as psychosocial school supports such as teacher and peer social support, social competency building efforts in the classroom, and broader school environment support discussed elsewhere (see Gomez 2005c).

Figure 1.1: Three theoretical frameworks that contributed to how indicators of psychosocial well-being were selected in this study



Positive sense of self and personal control. Adolescence is an important stage in life where individuals attempt to integrate various components of the self (Erickson, 1968). Positive sense of self and personal control represents how comfortable the individual is in being oneself, whether the individual feels in control of his or her life, and whether the individual is optimistic about his or her future (Scales & Leffert, 1999). In this study, positive sense of self and personal control reflect, in part, areas of self-concept, internal locus of control, self-efficacy, self-esteem, sense of purpose, and a positive view of personal future (Scales & Leffert, 1999). However, Marsh and Shavelson (1985) argue that constructs such as self-concept are complex, multifaceted hierarchical structures that require greater understanding and precision in measurement, much of which is beyond the scope of this study.

Pro-social orientation and competence. There is a broad range of competencies that are important markers of cognitive, social and emotional development during childhood and adolescence (Moore et al., 2001). In this study, pro-social competence is specified and measured as an important outcome that is indicative of positive development (Catalano et al., 2002), particularly in the area of healthy social orientation. It comprises skills and behaviors that help integrate one's feelings, thinking, and actions in order to achieve successful adjustment within one's social environment (Catalano et al., 2002; Weissberg & Greenberg, 1998; Welsh & Bierman, 2001). It includes the ability to initiate and maintain relationships with both peers and adults, the ability to resolve conflict healthily, and empathy and perspective-taking ability so as to be sensitive to the needs of others. In this study, I do not distinguish between competence as a skill (behavioral) versus as an attitude (cognitive) and include both in the measurement of this construct.

Caring and Contribution. From a humanistic perspective, society is obligated to ensure adolescents develop into caring and socially-contributing individuals (Pittman, Irby, Tolman et al., 2003). This includes adolescents' placing an importance in helping others, their interest in making their

community a better place, and an interest towards finding solutions for social problems. The concept of caring and contribution relates to two human characteristics: (1) character strength that includes kindness, social responsibility, and moral commitment (Park, 2004); and (2) shared beliefs that, when internalized, affects thinking and behavior that benefit individuals and the larger society (NRC & IOM, 2002; Scales & Leffert, 1999). While different societies may have specific cultural value systems, it is believed that characteristics such as caring and contribution are universal values shared across most societies (Scales & Leffert, 1999).

Avoidance and resistance skills. A marker of positive adolescent development includes the avoidance of health-compromising and future-jeopardizing behaviors (Blum 2002). Evidence suggests that personal assets, such as avoidance and resistance skills, can protect adolescents against difficult social situations and pressure to engage in risky behaviors (NRC & IOM, 2002). Avoidance and resistance skills reflect self control and self-monitoring of one's behavior, ability to distinguish between positive and negative peer influence and to resist negative influence. A significant aspect of a public health model involves addressing the resistance of the individual to noxious agents (Albee & Gullotta, 1997). Ryff (1995) discussed avoidance and resistance skills within the concept of autonomy, where the individual is able to regulate behavior internally and resist social pressures to think and act in certain ways, and is able to evaluate self by personal standards. In this study, adolescent avoidance and resistance skills include the attitude or skill of avoiding what is dangerous or unhealthy, avoiding tobacco, alcohol and other drugs, and resisting negative peer influences.

Challenges to the model of psychosocial well-being. The conceptual model of psychosocial well-being presented here is not without its challenges. Firstly, it seems probable that the above indicators of well-being overlap to some extent both conceptually and empirically. There may exist similar or associated underlying psychological processes that creates a challenge to have distinct

conceptual boundaries and scales of measurement. Secondly, the conceptualization of well-being and adolescent development in general may differ by culture depending on the value placed on specific psychosocial outcomes within a particular society (NRC & IOM, 2002; Schneider, 1998).

Nonetheless, some markers may transcend cultures. Positive sense of self and personal control, prosocial orientation and competence, caring and contribution, and avoidance and resistance skills may exist as universal markers of positive human development across multiple cultures.

This investigation focuses on measuring key indicators of psychosocial functioning discussed in the framework above using youth self-reports. There are two aims in this paper. The first is to explore the factor structure of adolescent psychosocial well-being from a measure used in MCAW, i.e., Search Institute's Developmental Assets Profile (DAP). It is hypothesized that the factorial structure of psychosocial well-being would map onto my proposed theoretical framework and four clear indicators of well-being would be observed. Second, to examine the factorial invariance of psychosocial well-being across gender. It is hypothesized that a similar factor structure would be obtained for both Malaysian boys and girls.

1.2 METHODS

Sample. The MCAW 2003 dataset includes 1818 students from three schools in Kuala Lumpur, Malaysia. One was a co-educational school, the other was an all girls' school, and the third was an all boys' school. All three were urban schools situated in the same regional area in Malaysia. Schools were recruited through personal contacts, and after obtaining permission from the relevant authorities in Malaysia and human subjects approval from the Penn State University Institutional Review Board. Passive parental consent and active student assent was obtained. Boys and girls were about equally represented in the sample (girls accounted for 49.9%). Each grade-level made up about one-third of the sample, i.e., Secondary 1 at 30%, Secondary 2 at 35% and Secondary 4 at 35%¹. In general, Secondary 1 students are 13-years of age, Secondary 2 are 14-years of age, and Secondary 4 are 16-years of age. In terms of ethnicity, the sample of 45.2% Malays, 40.9% Chinese, 9.8% Indians and 3.7% Other races² closely resembles the general Kuala Lumpur urban population in Peninsular Malaysia (Malaysian Department of Statistics, 2004). In terms of economic indicators, this sample is believed to resemble the urban middle to high income population in Malaysia.

Procedures. The surveys were administered in each classroom during school hours. In general, each class was assigned two research assistants that were recruited from an undergraduate psychology program in Malaysia and provided with survey administration training. The principal investigators coordinated the overall administration of data collection at the school level. Students in a class received a briefing prior to taking the survey that included thanking them for their willingness to participate, assurance of confidentiality, emphasizing honest responses, and the need to maintain a conducive atmosphere for this survey. On average, surveys took between one class period to one and a half class periods (i.e., 40 to 60 minutes) to be administered and completed by students.

¹ Secondary 3 and Secondary 5 are national examination years and at the time of data collection were not accessible

² For analysis purposes in this paper, Ceylonese, Eurasians, Natives (Orang Asli) and those of mixed parentage are grouped as one category of "Other".

Instrument. A paper-and-pencil self-report instrument for classroom administration was developed for MCAW. Three Internal Assets scales of the Developmental Assets Profile (DAP; Search Institute, 2003) i.e., Positive Identity, Social Competency, and Positive Values was selected. The DAP was created based on Search Institute's developmental assets framework (Benson, 2002, Leffert et al., 1998). This instrument was selected as it reflects well the proposed framework of adolescent psychosocial well-being, captures the process of socialization, was simple to use, and did not seem to require much cultural adaptation (see Table 1.1).

Items from the DAP were translated into Malay and back-translated into English. Note that most urban middle income students in Malaysia speak and write both Malay (as the primary language taught in schools) and English (as a second language widely taught and used in schools). However, the researchers decided to use Malay to ensure all students were able to complete the survey without language being a barrier. Translation of items into Malay was done by the co-investigators on the project who are Malaysians and bi-lingual. Back-translation was done with support obtained from the Malaysian-American Center for Educational Exchange (MACEE) and a Malay native speaker who currently resides in the United States. Items were then checked for their comprehensibility with the help of a Malay native speaking student at Penn State University. The consistency of items between the English and Malay version were checked with the developer of the DAP. Items within each scale are rated from 1 = Not at all or Rarely to 4 = Extremely or almost always.

Measures. Early scale conceptualization of psychosocial well-being based on the present theoretical framework (see Figure 1) and item face validation suggested the presence of four scales (see Table 1.1).

Table 1.1: Proposed measurement model of psychosocial well-being adapted from three internal assets scales of the DAP

		The Four Proposed Markers of Psychosocial Well-being			
		Positive Sense of Self & Personal Control <i>(Factor 1)</i>	Pro-Social Orientation & Competence <i>(Factor 2A)</i>	Caring & Contribution <i>(Factor 2B)</i>	Avoidance & Resistance Skills <i>(Factor 3)</i>
Three of the DAP Internal Assets Scales					
Positive Identity	I feel good about myself.	X			
	I feel good about my future.	X			
	<i>I feel my life and future is in my control</i>	X			
	I deal with frustration in positive ways	X			
	<i>I am shaping my purpose in life</i>	X			
	<i>I overcome any challenges in ways that bring benefits to me and others</i>		X		
Social Competency	I plan ahead and make good choices about what I do.	X			
	I am sensitive to the needs and feelings of others.		X		
	I resolve conflict where no one gets hurt or injured.		X		
	I accept people who are different from me.		X		
	I build friendships with friends my age and adults.		X		
	I express my feelings in appropriate ways		X		
	<i>I stay away from things that are dangerous or not healthy</i>				X
I resist bad influences from other kids				X	
Positive Values	I stand firm to what I believe is true.	X			
	<i>I am shaping views and habits of personal health which are good</i>	X			
	I am developing respect for other people.		X		
	I take responsibility for what I do.		X		
	I tell the truth even when it is not easy.		X		
	I am interested in helping solve social problems.			X	
	I am encouraged to help others.			X	
	I am developing a desire to serve others.			X	
	I think it is important to help other people.			X	
	I am interested in making my community a better place.			X	
	<i>I stay away from cigarettes, alcohol and drugs</i>				X

Italics indicate wording as per translation in Malay that attempts to closely reflect wording of survey item in English

X = item dropped as a result of EFA

Positive sense of self and personal control. There are 8 items that were expected to load on this scale including “I feel good about myself”, “I stand up for what I believe in”, and “I take responsibility for the things I do”.

Pro-social orientation and competence. There are 9 items that were expected to load on this scale including “I build friendships with peers and adults”, “I resolve conflicts without anyone getting hurt”, and “I am developing respect for other people”.

Caring and Contribution. There are 5 items that were expected to load on this scale including “I think it is important to help other people”, and “I am interested in helping solve social problems”.

Avoidance and resistance skills. There are 3 items that were expected to load on this scale including “I say no to things like tobacco, alcohol and drugs”, and “I resist bad influences from other kids”.

Data Cleaning and Missing Data. The dataset was checked for errors and cleaned after running univariate descriptive statistics. Missing data (i.e., for gender and grade level) were replaced with known values using specific codes within the assigned participant ID. Misses for each section of the survey were counted. Where missing responses totaled over half of survey items in two or more sections of the survey and with sporadic misses in other sections, these participants were removed from the dataset. This resulted in 6 cases being removed. Based on missing value analyses, it was determined that no scales had missing values above five percent. Thus, no further action was deemed necessary to address missing values.

Analysis. To establish the factor structure of adolescent psychosocial well-being, a split-half cross-validation method was used. This was accomplished using the statistical software SPSS 12.0 where respondents in the dataset were randomly assigned a value of either 0 or 1 and then divided into two sub groups. The first group, the derivation group, was used for exploratory purposes and had 936

participants. The second group, the validation group, was used to confirm the structure of psychosocial well-being and had 882 participants.

Exploratory factor analysis. Using SPSS, exploratory factor analysis (EFA) was performed on the derivation group. Both varimax and promax rotations were utilized. Given that similar results were obtained using maximum likelihood, generalized least squares, and principal axis factoring, and that I expected factors of well-being to correlate, results from the maximum likelihood method with a promax rotation are presented in the results section.

Confirmatory factor analysis. Structural Equation Modeling (SEM) specified by AMOS 5.0 (Arbuckle, 2003) was used to validate the factor structure obtained through EFA above. SEM procedures are described elsewhere (Bollen & Lennox, 1991; Muthen, 1994). None of the observed items were allowed to cross-load on other factors, and none of the errors were correlated. Model fit was determined by observing fit indices. The χ^2 index reflects the discrepancy between hypothesized values for a priori model and empirically derived data observed. If the value for χ^2 is significant, this indicates that the entries for the proposed model deviates from those obtained, and the proposed model is thus untenable. However, one of the limitations associated with the χ^2 value is its dependency on sample size. In other words, a large sample size would be expected to lead to a rejection of the model even though the difference between the proposed model and the observed data is trivial. Thus, under large sample size conditions, it is more useful to inspect the relative fit indices such as the normed fit index (NFI; Bentler & Bonnett, 1980), the comparative fit index (CFI; Bentler, 1990), the Tucker-Lewis index (TLI; Tucker & Lewis, 1973) and the root mean squared error of approximation (RMSEA; Steiger, 1990). The CFI and the TLI (also known as the NNFI) are incremental fit indices and test the proportionate improvement in fit by comparing the target model to a baseline model such as the independence model I have set up in this study (Bentler, 1990; Tucker & Lewis, 1973). A CFI

or TLI value of .90 or larger would suggest what many researchers consider to be an acceptable degree of fit of the model to the data. The RMSEA represents closeness of fit (Browne & Cudeck, 1993). The RMSEA value should approximate or be less than 0.05 to demonstrate close fit of the model (Browne & Cudeck, 1993).

Evidence for measurement invariance across the two samples involved a nested sequence of increasingly stringent tests for factorial invariance. The hierarchy of using weak (i.e. factor loadings equal), strong (i.e. factor loadings and mean intercepts equal), and strict (factor loadings, mean intercepts, and unique variances equal) factorial invariance is based on Meredith (1993). In determining factorial invariance across gender, the same method of nested sequence of increasingly stringent tests were used.

1.3 RESULTS

A series of EFAs were executed on the derivative sample. Items were dropped if they significantly contributed to loading patterns that were far from the hypothesized structure. The six items that were dropped had loadings less than .4 and issues of cross-loading across factors. Upon further inspection, translation of three of these items was somewhat problematic, and possibly contributed to their lack of model fit. In the final analyses (EFA), both a specified four-factor solution and an unspecified three-factor solution provided support for two of the four factors proposed (see Table 1.2). However, the four-factor solution did not provide a clear distinction between factors 2A and 2B where item loadings did not correspond to the conceptual framework proposed, and where cross-loadings were present. The four-factor model was retested using SEM, retaining scales for all four factors as hypothesized. The correlation between the two factors of Prosocial Orientation & Competence and Caring & Contribution were .97, suggesting that both actually belong within the

same factor. Thus, contrary to an expected four-factor structure, the final structure of psychosocial well-being using EFA had 19 items that loaded at .4 or higher onto 3 factors (see Table 1.2). Given that the three factors correlated above .4, a decision was made to rely on the final structure obtained through oblique rotation (i.e., Promax).

Model fit for confirmatory factor analysis across the two sub-groups are presented in Table 1.3. The chi-square for the configural model was significant and likely due to the high degree of power to reject for small differences between observed and expected covariances. Inspection of fit indices show that the model fit the two groups well (NFI=0.90, CFI=0.94, TLI=0.92, and RMSEA=0.03). The next test in the hierarchy is that of weak factorial invariance. Placing this equality constraint on the factor loadings across groups led to some difference in χ^2 at the .05 level between this model and the configural model ($\Delta\chi^2 = 28.54$, $\Delta df = 19$). However, fit indices show almost no reduction in model fit. Inspection of the relative fit indices for the strong and strict factorial invariance conditions also appeared to provide a reasonable fit across validation groups. The additional constraints of unique variances in the strict factorial invariance model produced a small difference in χ^2 ($\Delta\chi^2 = 16.39$, $\Delta df = 19$), but inspection of fit indices show very little change and all fit indices continue to show acceptable fit. The tests of invariance above show that constraints of strict factorial invariance (equivalent factor loadings, variable means, and variable uniqueness) provide a good fit across both the derivative and the validation groups suggesting that the 3-factor structure is generally a workable structure for urban Malaysian adolescents.

Table 1.2: The structure of psychosocial well-being using EFA on the derivative sample (maximum likelihood method with a Promax rotation).

Proposed scale	Items	Specified 4-factor solution Loadings				Unspecified 3-factor solution Loadings		
		Factor 1	Factor 2A	Factor 2B	Factor 3	Factor 1	Factor 2	Factor 3
Positive Sense of Self & Personal Control	I feel good about myself.	0.69	-0.02	-0.04	-0.07	0.70	-0.07	-0.06
	I feel good about my future.	0.62	0.00	0.06	-0.02	0.63	0.05	-0.03
	I feel my life and future is in my control	0.58	-0.12	0.04	0.02	0.58	-0.09	0.00
	I deal with frustration in positive ways	0.32	0.18	0.03	0.11	0.33	0.18	0.13
	I stand firm to what I believe is true	0.46	0.16	-0.03	-0.02	0.46	0.11	0.01
Prosocial Orientation (includes Prosocial Orientation & Competence and Caring & Contribution)	I am sensitive to the needs and feelings of others.	-0.04	0.32	0.28	0.04	-0.04	0.57	0.03
	I am developing respect for other people.	0.05	0.17	0.32	0.12	0.05	0.46	0.09
	I resolve conflict where no one gets hurt or injured	-0.02	0.52	-0.01	0.11	-0.02	0.46	0.17
	I take responsibility for what I do	0.14	0.54	-0.04	0.00	0.14	0.44	0.08
	I accept people who are different from me.	0.02	0.62	-0.12	-0.05	0.03	0.44	0.05
	I build friendships with friends my age and adults	0.11	0.19	0.26	0.04	0.11	0.42	0.02
	I am interested to help solve social problems.	-0.11	0.38	0.39	-0.13	-0.11	0.75	-0.16
	I am encouraged to help others.	-0.10	0.65	0.11	-0.04	-0.09	0.68	0.02
	I am developing a desire to serve others.	0.05	0.07	0.59	-0.05	0.06	0.63	-0.14
	I think it is important to help other people.	0.00	0.58	0.02	0.04	0.00	0.54	0.10
I am interested in making my community a better place.	0.03	-0.13	0.69	0.03	0.03	0.54	-0.09	
Avoidance & Resistance Skills	I stay away from things that are dangerous or not healthy	0.04	0.08	-0.04	0.62	0.04	0.01	0.65
	I resist bad influences from other kids	0.03	0.04	0.02	0.62	0.03	0.04	0.63
	I stay away from cigarettes, alcohol and drugs	-0.10	-0.09	0.02	0.72	-0.10	-0.08	0.70

Table 1.3: Nested tests and corresponding chi-square and fit indices for the SEM of psychosocial well-being

Model	χ^2	df	p	$\Delta\chi^2$	Δ df	NFI	CFI	TLI	RMSEA
<i>Across validation groups</i>									
Configural	813.27	298	.00	-		.90	.94	.92	.03
Weak FI	841.81	317	.00	28.54	19	.90	.93	.92	.03
Strong FI	862.10	336	.00	20.29	19	.90	.93	.93	.03
Strict FI	878.49	355	.00	16.39	19	.89	.93	.93	.03
Saturated	.00	0				1.00	1.00		.11
Independence	8262.75	380	.00			.00	.00	.00	.03
<i>Across gender</i>									
Configural	828.42	298	.00			.90	.93	.91	.03
Weak FI	862.69	317	.00	34.27	19	.89	.93	.92	.03
Strong FI	1018.87	336	.00	156.18	19	.87	.91	.90	.03
Strict FI	1106.66	355	.00	87.79	19	.86	.90	.90	.03
Saturated	.00	0				1.00	1.00		.11
Independence	8099.44	380	.00			.00	.00	.00	.03

The above nested tests repeated for gender shows that testing for weak factorial invariance provides good fit for both boys and girls (see Table 1.3). Inspection of the relative fit indices for the strong and strict factorial invariance conditions appear to provide a satisfactory fit across gender (strict FI: NFI=0.86, CFI=0.90, TLI=0.90, and RMSEA=0.03), though difference in χ^2 moving from the weak to the strong model is somewhat large ($\Delta\chi^2 = 156.18$, Δ df=19). Results show sufficient factorial invariance for the model to be used for both boys and girls.

Given factorial invariance across this Malaysian sample of adolescents, scales of psychosocial well-being were constructed by calculating the mean of the scale items, with higher scores indicating higher well-being. The psychometrics of these scales are presented in Table 1.4.

Table 1.4: Psychometrics of Psychosocial Well-being Scales

	Correlation			# of items	Alpha	Skewness ^a	Kurtosis ^a
	PS	PO	ARS				
Positive Sense of Self & Personal Control (PS)		.53**	.27**	5	.70	-0.04	-0.33
Prosocial Orientation (PO)			.35**	11	.83	-0.06	-0.18
Avoidance & Resistance Skills (AS)				3	.73	-1.38	1.35

a. For all variables, SE for Skewness = .06, and SE for Kurtosis = .11

Table 1.5 show mean levels for both boys and girls are similar for positive sense of self and pro-social orientation. However, mean differences in avoidance skills are observed; corresponding to higher expected levels in girls versus boys. In general, both sexes reported just above average levels of positive sense of self and pro-social orientation, and high levels of avoidance skills.

Table 1.5: Mean differences between boys and girls for each psychosocial scale

	Scale range	Total Sample		Boys (B)		Girls (G)		Mean Difference (B - G)
		Mean	SD	Mean	SD	Mean	SD	
Positive Sense of Self & Personal Control	1.00 – 4.00	2.81	0.57	2.83	0.56	2.79	0.58	0.03
Pro-Social Orientation	1.00 – 4.00	2.88	0.50	2.82	0.50	2.94	0.49	-0.12
Avoidance & Resistance Skills	1.00 – 4.00	3.42	0.70	3.29	0.76	3.55	0.62	-0.26**

** t-test shows significance at $p < .01$

The intent of this paper is to test a proposed model of psychosocial well-being based on scales derived from the DAP and not to test the assets framework on which the DAP is based upon. However, I did run analysis to determine how well the three internal assets measures of the DAP fit the Malaysian sample. Before running structural equation modeling, I removed two items from each scale so as to match only the items used in my model of psychosocial well-being. Confirmatory factor analysis on these three modified scales of the DAP found poor fit across the two sub-samples. At the configural model, chi-square was large ($\chi^2 = 1680.96$), and fit indices showed poor fit (NFI=.80, CFI=.83, TLI=.78, RMSEA=.05). The weak model was not satisfactory as well ($\chi^2 = 1702.58$, NFI=.79, CFI=.82, TLI=.79, RMSEA=.05). Future work on the DAP in Malaysia using all original scales and in keeping within utility suggested by Search Institute may yield more promising results for those interested in using the instrument in the country.

1.4 DISCUSSION

Using scales adapted from the DAP, I proposed a four component conceptual model of psychosocial well-being i.e., positive sense of self and personal control, pro-social orientation and competence, caring and contribution, and avoidance and resistance skills. Using a combination of exploratory factor analysis and confirmatory factor analysis using a split-half reliability design, a three factor model was confirmed. In contrast to the conceptual model, adolescent reports did not distinguish pro-social orientation from caring and contribution. In hindsight, caring and contribution could well be one way Malaysian adolescents transcribe prosocial orientation and competence into behavior. Further research is necessary to consider whether the two are conceptually separate or closely related factors. Nonetheless, the good fit for the three-factor model of psychosocial well-being for both derivation and validation groups provide cross-validation support for the proposed scales. That these items, derived from American measures, were able to fit a conceptual and measurable model in Malaysia is encouraging. Further, that this 3-factor psychosocial well-being model provides satisfactory fit for both boys and girls, permits the use of the same measures for future work on gender comparisons.

As the measurement framework of psychosocial well-being in this study is new, it currently limits us from doing any precise cross-cultural comparisons. For example, it remains to be determined if levels of psychosocial well-being found in this data are similar to levels of adolescent well-being in other countries. Comparable studies do show similar above average levels of positive sense of self in Chinese adolescents (Chen, Hi & Lee, 2004; using Harter's self-perception measures), Singaporean adolescents (Sim, 2000; using Rosenberg's self-esteem

measure), American adolescents (Rice & Cummins, 1996; using Rosenberg's self-esteem measure), and Israeli adolescents (Hoffman, Levy-Shiff & Ushpiz, 1993; using Hofman et al.'s self-esteem measure). It is likely that at least in regards to positive sense of self, urban Malaysian adolescents are similar to their peers in other developed parts of the world.

A key limitation in this study is mono-method bias as I relied solely on adolescent self-reports. Self-reports suffer from various limitations including how reliable adolescents are in reporting on their own psychosocial outcomes, how much such self-perceptions reflect actual functioning, and social desirability issues. For example, Hughes, Cavell, and Grossman (1997) found that children who are aggressive were more likely to inflate ratings of their personal competence and quality of relationship with others compared to non-aggressive children. In fact these children seem to report high personal competence while being rated by teachers and peers as lacking in positive functioning. This not only points to the need to use multiple reporters, but multiple indicators of psychosocial well-being as well so as to obtain a more complete picture of adolescent functioning.

Despite the above limitation and those related to the use of cross-sectional data, I believe that this study provides initial impetus for measuring positive psychosocial functioning in adolescents across societies. Until more recently, most research equated well-being with the absence of disorder or disease (Moore & Keyes, 2003). Rather than using indicators of a lack of well-being to measure well-being, this study explored the use of positive indicators that reflect positive psychosocial functioning. Being able to measure these key areas may provide us with indicators of how well societies are nurturing their young for present and future functioning in their social environment. These indicators may also provide us with outcome markers that we can target in programs aimed at promoting healthy youth development (Zaff, Smith, Rogers,

Halle & Bornstein, 2003). In a country like Malaysia experiencing rapid economic and social change, measuring psychosocial well-being becomes an important area that both government and non-government efforts can be channeled towards as the nation embarks on matching psychosocial resources to the changing needs of adolescents who are already in developmental transition.

Future work will include testing a larger pool of items that could be added onto existing scales so as to better map the broader conceptual framework and definitions presented in this paper. In its present form I realize that gaps exist. For example, the scale for avoidance and resistance skills could be better strengthened if there were two or three more items that probe adolescent response in the presence of pressure to engage in unhealthy behavior. Future studies will also aim at identifying other likely markers of psychosocial well-being. There are various theoretical perspectives that can guide our search for these indicators. For example, Ryff (1989) and Moore et al. (2001) include in their model of psychological well-being purpose in life and autonomy. Pittman (2000) includes character (inclusive of positive values and moral commitment) as a marker of positive youth functioning. Future studies might also benefit in using more than one instrument that measures psychosocial well-being. For example, instruments such as Harter's Self-perception Profile for Children include six markers of psychosocial well-being, i.e., scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth (Harter, 1985). This instrument also has children identify the domains they consider important to their self-esteem. Finally, focus groups of young Malaysians and their caregivers will add further knowledge in identifying other important markers of psychosocial well-being, and possibly those that are culturally-specific. For example, given the collectivist nature of Asians, particularly in communities that continue to

hold on to their traditions and customs, a measure of filial respect for elders, close cooperation with family members, group harmony within social institutions such as the school, and appreciation for the dynamics of the extended family system might be important culturally-specific indicators of healthy adolescent development for these communities (Maria, 2002; Khoo, 2002).

1.5 CONCLUSION

This study lends its voice to others in the field that has called for greater inclusion of positive indicators in assessing adolescent psychosocial well-being. It presents a measurement model that includes three key indices, i.e., positive sense of self and personal control, pro-social orientation, and avoidance and resistance skills. One important utility for researchers, educators and practitioners, is that these can be included as markers in determining if efforts in enhancing protective factors and reducing impact of risk factors have significant influence on adolescent psychosocial functioning.

CHAPTER 2

The Two Faces of Psychosocial Functioning in Malaysian School-going Adolescents

CHAPTER 2

The Two Faces of Psychosocial Functioning in Malaysian School-going Adolescents

2.1 INTRODUCTION

There are various models of psychosocial/psychological well-being in the literature, some derived from adulthood and others from studies on children (Cowen, 2000; Lerner & Castellino, 2002; Masten & Coatsworth, 1998; Pittman, Irby & Ferber, 2000; Roth & Brooks-Gunn, 2002; Ryff, 1995; Thornton, 2001). The research literature have more often taken a unidimensional view of psychosocial functioning, where psychosocial well-being is seen as the opposite of psychosocial distress (or vice-versa), and operationalized using for example measures of depression, anxiety, physical symptoms, or self-esteem (Wilkinson & Walford, 1998). However, Wilkinson & Walford (1998) forwards the notion that psychological health is two distinct and related dimensions i.e., psychological well-being and psychological distress (Wilkinson & Walford, 1998). Similarly in this paper, adolescent psychosocial functioning is proposed of including both psychosocial well-being and psychosocial maladjustment.

Psychosocial well-being is expressed through an individual's positive cognitive, emotional and behavioral functioning, while adapting to one's social ecology (Rolf & Johnson, 1999; Sameroff, 2000). Thus it reflects the close connection between psychological aspects of individual experience and the wider social experience. In this paper, key markers of psychosocial well-being include positive sense of self and personal control, pro-social orientation, and resistance skills. Selection and validation of these markers are discussed elsewhere (see Gomez, 2005a).

Depressive symptoms and delinquent behavior are seen as two areas of psychosocial maladjustment in themselves as well as in problems associated with them that creates challenges for adolescents to function optimally in their social environment. Depression is known to be a major cause of distress in young people worldwide (Costello et al., 2002). While, delinquency in young people seems to be a growing concern in Malaysia which could be attributed to a number of causes from psychopathology, to disrupted support functions of traditional social institutions, and to deficiency in positive development in individuals experiencing boredom, alienation, and disconnection (Larson, 2000; Maria, 2002). A review of the literature on depression and delinquency is presented elsewhere (see Gomez, 2005d).

The “social” in “psychosocial functioning” highlights the importance of how an individual’s psychological health is shaped by multiple sources of influence and diverse person-environment interactions (Cowen, 2000). From a developmental perspective, adolescents’ interactions with their social environment are primary determinants of their preparation for healthy adulthood (Call et. al., 2002). Some believe that positive transactions with the social environment are key for the “self to be realized” (Keyes & Haidt, 2003). Thus, growth and enhancement of psychosocial functioning occurs through the adjustment, adaptation, accommodation and assimilation to an ever-changing environment (Hunter & Csikszentmihalyi, 2003; Roberts et. al., 2002). This paper discusses adolescent psychosocial well-being and maladjustment in reference to the school environment in Malaysia. Given that schools are a central social context in the lives of adolescents, they can be an important setting for promoting positive adolescent functioning (Olsson et al., 2002; Roeser, Eccles & Sameroff, 2000).

Taken together, both well-being markers (e.g., positive sense of self and personal control, pro-social orientation, and resistance skills) and symptoms of maladjustment (e.g., depression

and delinquency) provide a broader picture of adolescent psychological functioning in their social environment than solely focusing on one dimension in exclusion of the other. This paper makes the argument that psychosocial well-being and psychosocial maladjustment are associated but distinct constructs and show how adolescents grouped into four groups of low and high on both dimensions differ.

2.2 METHODS

Sample. The MCAW 2003 dataset includes 1818 students from three urban middle-to-high income schools in Kuala Lumpur Malaysia. Boys and girls were about equally represented (49.4% and 49.9% respectively). Each grade-level made up about one-third of the sample, i.e., Secondary 1 at 30%, Secondary 2 at 35% and Secondary 3 at 35%. In general, Secondary 1 students are 13-years of age, Secondary 2 are 14-years of age, and Secondary 4 are 16-years of age. In terms of race, the sample of 45.2% Malays, 40.9% Chinese, 9.8% Indians and 3.7% Other races³ closely resembles the general urban population in Peninsular Malaysia (Malaysian Department of Statistics, 2004).

Procedures. The surveys were administered in each classroom during school hours. In general, each class was assigned two research assistants (RA) that were recruited from an undergraduate psychology program in Malaysia and provided with survey administration training. The principal investigators coordinated the overall administration of data collection at the school level. Students in a class received a briefing prior to taking the survey that included thanking them for their willingness to participate, assurance of confidentiality, emphasizing honest responses, and the need to maintain a conducive atmosphere for this survey. On average,

³ For analysis purposes in this paper, Ceylonese, Eurasians, Natives (Orang Asli) and those of mixed parentage are grouped as one category of "Other".

surveys took between one class period to one and a half class period (i.e., 40 to 60 minutes) to be administered and completed by students.

Instrument. A paper-and-pencil self-report instrument for classroom administration was developed for MCAW. Most items referenced American instruments, and were translated into the Malay language. While most urban middle income students in Malaysia speak and write both Malay (as the primary language taught in schools) and English (as a second language widely taught and used in schools), researchers decided to use Malay to ensure all students were able to complete the survey without language being a barrier. Most items in the survey had response options ranging from 1 to 4 (e.g., 1 = Not at all or Rarely to 4 = Extremely or almost always).

Measures.

Psychosocial Well-being. Three constructs of psychosocial well-being were measured in this study i.e., positive sense of self and personal control, prosocial orientation and competence, and resistance skills. Measures originated from three internal assets scales of the Developmental Assets Profile (DAP; Search Institute, 2003) i.e., Positive Identity, Social Competency, and Positive Values. Items from the DAP were analyzed resulting in three different constructs that I have proposed (see Gomez, 2005a). Psychosocial well-being constructs were validated using split-half validation and confirmatory factor analysis. The 5 items that make up *Positive Sense of Self & Personal Control* include “I feel good about myself”, “I stand up for what I believe in”, and “I take responsibility for the things I do”. The 11 items that make up *Prosocial Orientation & Competence* include “I build friendships with peers and adults”, “I resolve conflicts without anyone getting hurt”, “I think it is important to help other people”, and “I am interested in helping solve social problems”. And the 3 items that make up *Resistance Skills* include “I say no to things like tobacco, alcohol and drugs”, and “I resist bad influences from other kids”.

Depression. This scale assesses 7 primary symptoms of depression that include feeling sad, lonely, unloved, loss of enjoyment, lack of confidence in one's ability, self-blame/guilt, and self-hatred. Items in this scale were drawn from the Child Depression Inventory. There are four response options of items in this scale, from "I never feel this way", "Some days", "Most days", and "Every Day". This seven item scale showed high internal consistency (Cronbach's alpha = .84).

Delinquency. This 4-item measure assesses minor delinquent acts believed to be prevalent in Malaysian school students, i.e., cheating on exams, damaging property, theft, and threatening someone. Response options for items in this scale are frequency of behaviors ranging from never, once or twice, three or four times, and five or more times. Cronbach's alpha for this scale is .67.

Psychometrics of the above scales are in Table 2.1. From Table 2.1, we see that most psychosocial indicators are normally distributed with high Cronbach alphas. The skew and kurtosis in resistance skills is not unusual as it is expected that there would be significantly more adolescents who have higher resistance skills in this population than those who report otherwise. Given that the schools are urban middle-to-high income, generalizability of findings is limited to middle-to-high income adolescents.

Analysis. First, a correlational analysis was performed to explore the relationships between indicators of well-being and maladjustment (see Table 2.2). For this paper, a variable for psychosocial well-being was constructed by taking the mean of three scales i.e., positive sense of self & personal control, pro-social orientation, and resistance skills. Then dichotomous variables for well-being, depression and delinquency were created where those with values from 2.5 to 4.0 were labeled high on the respective scale and those with values below 2.5 as low on

the respective scale. A 2x2 table of low and high well-being and maladjustment was constructed where number of respondents per category are presented in each cell. The intent here is in observing how adolescents in each cell differ on a series of characteristics including economic sufficiency, grade-level, school supportiveness, and educational outcomes. Psychometrics of these comparison variables are given in Table 2.1. ANOVA and a post-hoc analysis (i.e., Tukey Method) are used to test for mean differences.

Table 2.1: Descriptive statistics of indicators of psychosocial well-being and psychosocial maladjustment, and variables used to compare between levels of functioning

	# of items	alpha	Mean ^a	SD	Skewness	SE	Kurtosis	SE
<i>Psychosocial functioning</i>								
Positive Sense of Self	5	.70	2.81	0.57	-0.04	0.06	-0.33	0.11
Pro-Social Orientation	11	.83	2.88	0.50	-0.06	0.06	-0.18	0.11
Resistance Skills	3	.73	3.42	0.70	-1.38	0.06	1.35	0.11
Depressive symptoms	7	.84	1.80	0.59	1.11	0.06	1.11	0.11
Delinquency	4	.67	1.28	0.42	2.44	0.06	8.09	0.11
<i>School variables & economic sufficiency</i>								
School Teacher Support	7	.84	2.41	0.61	0.16	0.06	-0.23	0.11
School Peer Support	3	.78	2.84	0.71	-0.31	0.06	-0.43	0.11
Competency Support in Classroom	10	.83	2.61	0.55	-0.14	0.06	0.05	0.11
Supportive School Environment	4	.78	2.78	0.72	-0.23	0.06	-0.55	0.11
Commitment to Learning	5	.67	2.95	0.52	-0.25	0.06	-0.09	0.11
Overall Recent Grades	1	-	3.53	1.00	-0.57	0.06	-0.13	0.12
Economic Sufficiency	3	.52	2.32	0.26	-0.37	0.06	4.01	0.11

^a All measures above range from 1.00 to 4.00, except Economic Sufficiency which is from 1.00 to 3.00

2.3 RESULTS

Correlations of measured variables are given in Table 2.2. All well-being markers are negatively correlated with depression and delinquency, though the strength of their associations varies. Positive sense of self is more strongly correlated with depression, followed by resistance skills and pro-social orientation. While resistance skills is more strongly correlated with delinquency, followed by pro-social orientation and positive sense of self.

Table 2.2: Correlations between indicators of psychosocial well-being and psychosocial maladjustment

	Positive Sense of Self	Pro-Social Orientation	Resistance Skills	Depression	Delinquency
Positive Sense of Self	1.00	0.53	0.27	-0.30	-0.11
Pro-Social Orientation		1.00	0.35	-0.09	-0.20
Resistance Skills			1.00	-0.11	-0.28
Depressive symptoms				1.00	0.18
Delinquency					1.00

All correlations are significant at the 0.01 level (2-tailed)

In the subsequent tables, the indicators of well-being are combined to create one scale. Observed numbers of respondents per category of low and high well-being and maladjustment are given in Tables 2.3 and 2.4. Most adolescents report both high well-being and low maladjustment. However, almost 20% of adolescents in this sample report experiencing low well-being and low depression (n=178), or high well-being and high depression (n=178). While a smaller number of about 13% report low well-being and low delinquency (n= 208), or high well-being and high delinquency (n=31). Findings show that a substantial numbers of adolescents do not fall into more commonly expected groups i.e., where if well-being is high, depression is low, or where depression is high, well-being is low.

Table 2.3: Number of adolescents reporting either low or high well-being and either low or high depressive symptoms (Cross-tabulation).

		Wellbeing		Total
		Low	High	
Depression	Low	178.0	1415.0	1593.0
	High	47.0	178.0	225.0
Total		225.0	1593.0	1818.0

Table 2.4: Number of adolescents reporting either low or high well-being and either low or high delinquency (Cross-tabulation).

		Wellbeing		Total
		Low	High	
Delinquency	Low	208.0	1562.0	1777.0
	High	17.0	31.0	48.0
Total		225.0	1593.0	1818.0

The “uncommon” groups of adolescents are compared with the “common” groups, and differences in economic sufficiency, levels of school supports received, and educational outcomes are explored. These differences will provide clarity that these groups are distinct, requiring measures of both psychosocial well-being and psychosocial maladjustment. ANOVA results with post-hoc Tukey comparisons are provided in Tables 2.5 and 2.6. In Table 2.5, we begin by observing values in the first row where adolescents with low well-being and low depression are compared to the two “common” groups. Significant mean differences are observed. For example, in the upper left cell, we observe that the mean for teacher support is lower in the “uncommon” group than the high well-being low depression group by .25. All other values in the table are interpreted as above. We observe that for most variables compared, the low-well-being low-depression (W-Low & D-Low) adolescents have means scores that do not differ significantly from low-well-being high-depression, but have significantly lower mean

scores than high-well-being low-depression adolescents, particularly educational outcomes (i.e., W-Low & D-Low ~ W-Low & D-High < W-High & D-Low). Meaning that in adolescents low on well-being, it may not matter much if depression is low or high, as both groups show lower mean scores of supportiveness and educational outcomes than adolescents high on well-being and low on depression.

Table 2.5: ANOVA and post-hoc Tukey comparison results of differences in group means between low-high well-being by low-high depressive symptoms

		<u>Adolescents with High Well-being & Low Depression</u> (J)	<u>Adolescents with Low Well-being & High Depression</u> (J)
<u>Adolescents with Low Well-being & Low Depression</u> (I)	Economic Sufficiency	-.06**	.10
	Grade-level	.24	-.02
	Teacher Support	-.25**	.13
	Peer Support	-.42**	.14
	Classroom support	-.41**	-.04
	School environment	-.52**	.01
	Commitment to Learning	-.56**	-.01
	Present Grades	-.76**	.26
<u>Adolescents with High Well-being & High Depression</u> (I)	Economic Sufficiency	-.05	.12*
	Grade-level	.16	-.11
	Teacher Support	-.32**	.06
	Peer Support	-.25**	.31*
	Classroom support	-.02	.35**
	School environment	-.21**	.32*
	Commitment to Learning	-.10*	.45**
	Present Grades	-.44**	.58**

Mean difference values above are calculated as I – J.

F test was significant for all variables at p=.01 except Grade-level which was significant at p=.05

In the second row of Table 2.5 we observe that the high well-being high depression group have mostly higher mean scores than the low-well-being high depression group, and significantly lower mean scores on most school supports and educational outcomes than the high-well-being low depression adolescents (i.e., $W\text{-Low} \ \& \ D\text{-High} < W\text{-High} \ \& \ D\text{-High} < W\text{-High} \ \& \ D\text{-Low}$). Meaning that adolescents high on both well-being and depression, while doing better than those with low well-being and high-depression, have lower mean scores on most school supports and educational outcomes than adolescents with high well-being and low depression.

In the first row of Table 2.6, we observe that the low-well-being low-delinquency adolescents have similar means scores as low-well-being high-delinquency, but significantly lower mean scores than high-well-being low-delinquency adolescents in most areas, particularly educational outcomes (i.e., $W\text{-Low} \ \& \ D\text{-Low} \sim W\text{-Low} \ \& \ D\text{-High} < W\text{-High} \ \& \ D\text{-Low}$). Meaning that in adolescents low on well-being, it may matter little if delinquency is low or high, as both groups show lower mean scores of supportiveness and educational outcomes than adolescents high on well-being and low on delinquency.

Results for the high well-being high delinquency group have to be interpreted carefully as sample size is small. From the second row of Table 2.6, we observe that this group seems to have significantly lower mean scores on some school supports and commitment to learning than the high-well-being low delinquency adolescents (i.e., $W\text{-High} \ \& \ D\text{-High} < W\text{-High} \ \& \ D\text{-Low}$). The high well-being high delinquency group is seemingly similar to the low-well-being high delinquency group, but has much higher present grades than the latter (mean difference = .91).

Table 2.6: ANOVA and post-hoc Tukey comparison results of differences in group means between low-high well-being by low-high delinquency symptoms

		<u>Adolescents with High Well-being & Low Delinquency</u> (J)	<u>Adolescents with Low Well-being & High Delinquency</u> (J)
<u>Adolescents with Low Well-being & Low Delinquency</u> (I)	Economic Sufficiency	-.09**	-.13
	Grade-level	.19	-.62
	Teacher Support	-.24**	.14
	Peer Support	-.46**	-.46*
	Classroom support	-.40**	.02
	School environment	-.48**	.47*
	Commitment to Learning	-.54**	.14
	Present Grades	-.73**	.61
<u>Adolescents with High Well-being & High Delinquency</u> (I)	Economic Sufficiency	-.06	-.10
	Grade-level	.31	.50
	Teacher Support	-.43**	-.04
	Peer Support	-.42**	-.42
	Classroom support	-.18	.24
	School environment	-.68**	.27
	Commitment to Learning	-.42**	.27
	Present Grades	-.43	.91**

Mean difference values above are calculated as $I - J$.
F test was significant for all variables at $p=.01$

2.4 DISCUSSION

The purpose of this brief report is to show that psychosocial well-being and psychosocial maladjustment (i.e., depression and delinquency) are not two-sides of the same coin, but rather associated but distinct dimensions of psychosocial functioning that require separate measurement and analyses. Until more recently, most research equated well-being with the absence of disorder or disease (Moore & Keyes, 2003).

There are a few key observations in this paper. One, positive sense of self and depression are high correlates, while resistance skills and delinquency are high correlates (see Table 2.2). Future longitudinal studies may want to test the notion that for most adolescents having a high

positive sense of self is an internal psychosocial resource protective against depression, while having high resistance skills is an internal psychosocial resource protective against delinquency respectively.

Secondly, that most urban Malaysian school-going adolescents report low maladjustment is promising particularly for schools keen in preventing adolescent maladjustment (see Tables 2.3 and 2.4). Nonetheless, the numbers reporting high depression and at the same time high well-being is cause for concern, suggesting that measuring one dimension alone is not going to provide us sufficient information about the state of an adolescent's psychosocial functioning. Masten and Coatsworth (1998) observed that "prevention at its best represents both an effort to foster competence and to prevent problems". Thus, the measurement of both outcomes, i.e., well-being (with competence as a key marker) and maladjustment (including problem areas such as depression and delinquency) will help us gauge functioning of adolescents within the school system and determine directionality for intervention efforts.

Thirdly, when we consider well-being and depression together (Table 2.5), probably the adolescents we need to be more concerned about are those reporting low well-being. Results in this paper suggest that low psychosocial well-being could be seen as a primary beacon of distress, while level of depression could be viewed as a secondary marker of distress. When we consider well-being and delinquency together (Table 2.6), probably the adolescents we need to be more concerned about are those either with low well-being and/or those with high delinquency. Both psychosocial well-being and level of delinquency may act as primary beacons of distress. Interestingly, for the few adolescents reporting high well-being and high delinquency, they seem to be fairing better in their grades than the few adolescents reporting low well-being

and high delinquency, suggesting that the former may stand a better chance for change than the latter given intervention efforts by school personnel.

Finally, we observe an almost gradient-like pattern of adolescent external resources, educational outcomes, and economic sufficiency when we consider both dimensions of psychosocial functioning together. It is expected that adolescents experiencing high well-being and low maladjustment are generally going to fair better in life than the other three groups discussed above.

Study limitations include the use of cross-sectional data, mono-method bias, and the subjective nature of measures used. Recommendations are made for future research on Malaysian adolescents to use longitudinal methods of data collection, multiple reporters that include teacher and parent reports on adolescent outcomes, and other measures of well-being and maladjustment for comparison and validation purposes.

2.5 CONCLUSION

In the same way present researchers have developed a greater appreciation for considering both risk factors and protective factors in addressing adolescent functioning (Catalano et al., 2002b; Weissberg & Greenberg, 1998), the fields of prevention and positive youth development need to move forward in considering the distinct and complementary dimensions of psychosocial well-being and psychosocial maladjustment. School researchers, practitioners and school personnel are urged to consider the following: (i) to use both a disease-prevention model and a wellness enhancement model in planning for intervention efforts in school (Cowen, 2000); and (ii) to broaden their assessment of adolescent psychosocial functioning from previous methods of solely focusing on symptoms of psychosocial

maladjustment, to include markers of psychosocial well-being such as positive sense of self and personal control, prosocial orientation and competence, and resistance skills. National surveys on children and adolescents in various countries such as the Australian National Survey of Mental Health and Wellbeing (Sawyer et al., 2000) may also find it useful to include specific indicators of psychosocial well-being in providing a broader picture of adolescent health. Most present national databases continue to focus on problem behaviors such as substance abuse, delinquency and adolescent pregnancy (Moore & Keyes, 2003). Through a broader framework and multiple indices, we may better identify adolescents requiring greater social and educational support and intervention programming. These adolescents include particularly those reporting low overall well-being, irrespective of reported levels of depression, as well as to those reporting high delinquency. Finally, in taking a positive psychology perspective in including wellness as part of our concern for adolescent functioning we may be able to better help them “not just endure and survive but also flourish” (Seligman, 2002).

CHAPTER 3

School Supportiveness and Adolescent Functioning in Malaysia:

Psychosocial Well-being

CHAPTER 3

School Supportiveness and Adolescent Functioning in Malaysia: Psychosocial Well-being

3.1 INTRODUCTION

This paper focuses on school psychosocial characteristics that are hypothesized to be supportive of adolescent psychosocial well-being and potentially malleable and open to change. These characteristics include perceived teacher support, peer support, social competence support, and broader school environment support. School supportiveness was measured through adolescent self-reports in the 2003 Malaysian Child and Adolescent Well-being (MCAW) Study. The various theoretical perspectives supporting the association between school supportiveness and adolescent psychosocial outcomes are summarized in Figure 3.1.

Supportive Social Relationships in School

A basic psychological need of adolescents is for supportive relationships with adults and peers (Erickson, 1968). Child development researchers and sociologists both emphasize the value of strong supportive social relationships (e.g., attachment and friendships) to family, peers and the community that provide caring, empathy, and social problem-solving skills (Moore, Evans, Brooks-Gunn, & Roth, 2001). There is a positive relationship between social support and psychological well-being in adolescents (Rosenfeld et al., 1998). Lack of such supportive relationships or the disconnectedness from people and institutions within the social environment have been implicated in various adolescent problem behaviors (Crosnoe et al., 2004). Broad-based social support is seen as contributing to adjustment and development, and is a powerful

buffer and protective factor in resilient children and adolescents, both in western societies and in Asian adolescents (Clark, 1991; Coie et. al., 1993; Richman & Bowen, 1997; Takakura & Sakihara, 2001). Although there is no substitute for support from a caring family or parent, young people can still thrive if there are teachers and/or peers that can step in and provide the emotional support required for development (Carnegie Council on Adolescent Development, 1995).

Figure 3.1: Perspectives supporting the association between school supportiveness and adolescent psychosocial outcomes



School Teacher Support. An important source for support in young peoples' social ecology is a stable and supportive bond with caring adults including school teachers, particularly those who can provide cognitive and social encouragement, help them cope with current challenges, facilitate effective problem-solving processes that result in satisfying decisions and outcomes, and prepare them for future adult responsibilities (Bronfenbrenner, 1979; Carnegie Council on Adolescent Development, 1995; Pawelko & Magafas, 1997; Rutter, 1979). In Malaysian schools, teachers are the primary front-line adults who interact and influence adolescents. Often, students will meet their classroom⁴ teacher at least once a day, and most of their subject teachers at least three or four times a week. In general, Malaysian parents entrust the care of their children to teachers in the school, particularly their classroom teachers. Attachment theory, social control theory and the social development model all describe how positive attachments to adults increases the likelihood of healthy developmental outcomes while reducing negative outcomes such as problem behaviors (Catalano et al., 2004). A study by Jabnoon & Chan (2001) of 135 Malaysian teachers⁵ found that they were generally satisfied with intrinsic and extrinsic factors of their profession including the teacher-student relationship. In the Add Health dataset, positive teacher-student relationship was found to be associated with lower problem behaviors in school such as discipline problems, drug use, violence and suicide attempts and higher academic achievement (Crosnoe et al., 2004; McNeely & Falci, 2004). Crosnoe et al. (2004) added that the association between student-teacher relationship and certain adolescent outcomes were greater for certain groups (e.g., Hispanic Americans showed higher associations between positive teacher-student relationship and academic achievement). Although little is

⁴ The national education system in Malaysia keeps students together within one classroom (both as a cohort and within a physical structure) throughout the school year where each classroom is assigned one teacher responsible for the group of students overall functioning, as well as who usually teaches one subject for his/her class.

⁵ These teachers were from the same region of Malaysia from where the sample for MCAW was recruited

known about such associations among Asians in Malaysia, Crosnoe & Elder (2004) have shown that close relationships with teachers and peers were protective for Asian Americans. In Malaysia, protection afforded by the teacher-student relationship could be a result of quality of the interaction as well as of role modeling. For example, a study by Yusof & Amin (1999) on Malaysian secondary students found a positive correlation between values students admired and what they thought their teachers admired (Yusof & Amin, 1999). Nonetheless, the actual mechanics of teacher-student relationship and support, and how they impact Malaysian student outcomes is relatively unknown.

School Peer Support. Peers have a strong influence on adolescents, and the strong need to belong in adolescence can either promote healthy or unhealthy outcomes in adolescents (Battistich et al., 2000; Tobler et. al., 2000). Peers can either provide a stable and supportive source for health development, or can create pressure for young people to engage in misconduct that inhibits positive outcomes (Brown et al., 1997; Wang, Haertel, & Walberg, 1999). Malaysian adolescents spend a great part of their day in school and typically meet and interact with peers. Students remain together within a classroom for one academic year, and often times for a few academic years. The school then is a primary social group for Malaysian adolescents, creating opportunities for peer influence and peer friendships. Malaysian adolescents are known to more likely approach their friends for advice than adults, particularly in areas such as morality (Barone, 2004). Thus, peer friendships in school provide social capital such as social and emotional support and can act as a protective factor in buffering problem behaviors (Crosnoe & Elder, 2004; Crosnoe, Cavanagh, & Elder, 2003; Werner, 1995). However, providing emotional support alone does not reflect healthy peer support as adolescents with behavioral problems may

find emotional support among similarly-liked peers that do not result in positive outcomes (Hartup, 1996). Support from deviant peers may be perceived as positive by the adolescent, but lead to unhealthy outcomes. Healthy supportive relationships instead require peers that are socially skilled, model conventional behavior (e.g., good grades in school, involvement in school clubs), like school, and who can provide positive support (e.g. creating a forum to practice good decision-making skills) and good advice (e.g. constructive feedback) (Crosnoe et al., 2003; Hartup, 1996; Jessor et al., 1998). From a developmental ecological perspective, such positive peer relationships in school help adolescents meet their need for social connections and at the same time enhance positive adjustment within their school environment (Baker et al., 2003).

Social Competency Building Support in the Classroom

Social competencies such as knowing how to avoid things that are dangerous, building healthy friendships, expressing feelings appropriately, interpersonal decision-making, conflict resolution, and coping skills are important in providing skills and attitudes for adolescents to function effectively in society (Carnegie Council on Adolescent Development, 1995).

Adolescents need to develop academic and social competencies in order to achieve late adolescent and young adult outcomes of occupation, social and intimate relationship success (Erickson, 1968). A cross-sectional study by Liau et al. (2003) of 203 Secondary Four students from urban schools in Malaysia found that lower levels of emotional literacy was related to higher psychological distress that included depression and delinquency⁶. Thus, skills to recognize and manage emotions, appreciate the perspectives of others, establish positive goals, make responsible decisions, and handle interpersonal situations effectively are important in the

⁶ This measure of emotional literacy however, while tapping into social competencies, included various other areas such as mood repair and optimism that makes findings difficult to interpret.

life of adolescents as these have the potential in improving emotional well-being and school performance, and preventing or reducing depressive symptoms and risk behaviors in students (Gillham et. al., 1995; Greenberg et al., 2003; National Research Council, & Institute of Medicine, 2002). Prevention curricula in middle schools, such as those based on Bandura's social-cognitive theory, are designed to promote positive youth development as well as reduce adolescent problem outcomes through (a) teaching students developmentally appropriate skills and information, (b) fostering prosocial and health-enhancing values and beliefs, and (c) creating environmental supports to reinforce the real-life application of skills (Botvin, 2000; Caplan et al., 1992; Catalano et al., 2002 ; Tobler et al., 2000; Weisberg & Greenberg, 1998). And though formal prevention curricula have shown effectiveness, it is hypothesized that best practices derived from these models, for example, class discussion of life skills and decision-making, could also promote youth development (Greenberg et al., 2003). In Malaysia, while promoting positive development is a valued objective of the national education system, secondary schools do not yet have a specific curriculum that systematically teaches and builds social skills (World Data on Education, 2004). Moral Education for non-Muslim students (comprised of citizenship education) and religious instruction for Muslim students are currently the closest attempts in inculcating healthy values and beliefs (Ahmad, 1998; Barone, 2004). Work is needed to determine how these subjects have influenced adolescent outcomes (Barone, 2004). In Malaysian schools then, social competency building support could happen through teacher-student informal interactions within the classroom, through the personal efforts of teachers to incorporate skill-building efforts into their classroom instructions (though this does not always happen – see Barone, 2004), or through student-facilitated discussions. Thus, the construct of social competency building in the classroom is somewhat associated to teacher support and Roeser et

al. (2000) highlights how teachers' role in ongoing skill development and feedback can reinforce adolescents' perceptions of competence.

Supportive School Environment

Supportive school environment includes the existence of healthy school boundaries, and a caring and safe environment.

School boundaries refer to the social rules and regulations that address what students can and cannot do and the consequences for breaking these rules. The notion of school boundaries relates to concepts such as shared beliefs, personal regard for others, and social expectations and obligations, much of what is discussed by Bryk & Schneider (2002) in describing relational trust in schools. Adolescents need healthy boundaries just as much as their schools do. Schools need adolescents to conform to their rules in order to work with large number of students and to maintain order (Newman & Newman, 1987). And young people need a clear sense of guidelines and consistently enforced limits in various social settings that support their development (NRC & IOM, 2002). Stewart (2003), working on one wave of the National Educational Longitudinal Study found that a one-unit increase in students' belief in school rules was associated with a 33 percent decrease in school misbehavior. From a stage-environment fit perspective, the match between boundaries in the school environment and the developmental needs of the adolescent leads to healthy outcomes (Eccles et al., 1993). As young people develop, they have an increased need for autonomy and self-regulation (Scales & Leffert, 1999). Thus, healthy boundaries should allow for age-appropriate levels of autonomy (NRC& IOM, 2002). Adolescents' perceptions of rules that are clear and fair are important both in terms of their awareness that healthy boundaries do exist in their school environment and that there are acceptable guidelines for them to follow.

In Malaysia, Barone (2004) found that it was important for adolescents that school rules were legitimate and not excessive or unfair. The existence of such boundaries and the perception that they are fair help young people internalize school norms and standards (Scales & Leffert, 1999). Generally, in Asian societies like Malaysia, the importance of the group is promoted over the individual, and Asian children are more willing to conform to social boundaries (Khoo, 2002).

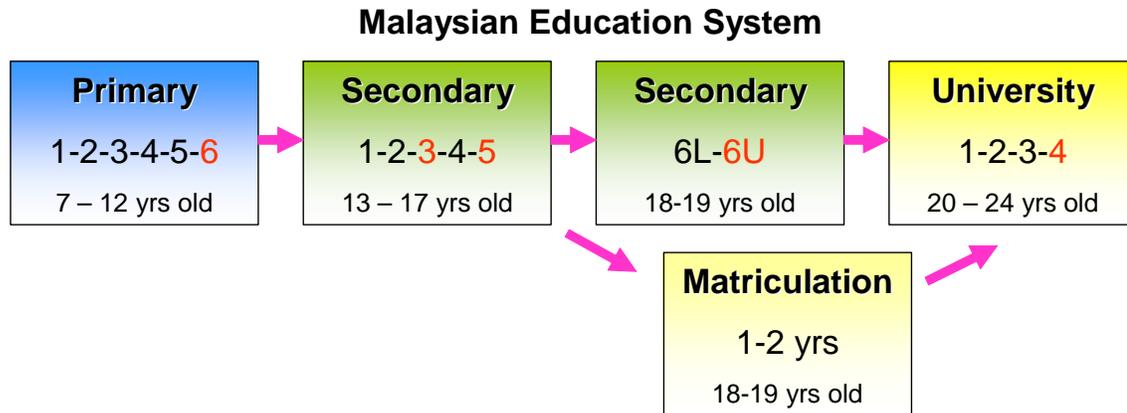
A safe and caring environment is an important asset for schools. Such an environment provides the opportunity for healthy development to occur. Safety is one of the most basic developmental needs in Maslow's hierarchy of needs. Young people who feel unsafe or who are victimized suffer emotionally, socially and academically (Scales & Leffert, 1999). Safety in schools includes both physical and emotional safety, for example, through the school's management of aggression and bullying. The perception of safety is also associated with how much students feel cared for by their school. A caring school environment reduces problem behaviors in school (Battistich et al., 1997; Payne et al., 2003; Solomon, Battistich, Watson, Schaps, & Lewis, 2000). Further, students' perceptions of being cared about and valued in the school play a major role in promoting school connectedness, a key protective factor in adolescent development (Resnick et al., 1997). The construct of caring could be viewed as an outcome of experiencing teacher and peer support, and in this study it is measured as an item of broader school environment support.

School system in Malaysia. Almost 46% of Malaysia's 22 million population is below the age of 22 (Kaur, 2000). Schools in Malaysia provide a readily available catchment area in reaching the widest possible population of adolescents. In 2003, school participation (enrollment) rates in Malaysia were 98.5%, 84.4% and 73.5% for primary, lower-secondary and upper-secondary levels respectively (Ministry of Education, 2004). School drop-out rates for

students are low as students in Malaysia are not allowed to drop-out till completion of secondary school (high school) in spite of their poor academic performance (Maria, 2002). Those who do drop out are usually the very poor that take on part-time employment (Maria, 2002). While Malaysia is a democratic country driven by market economy, there is minimal autonomy of local schools and students. Instead, a national education system exists that provides uniform administration and curriculum throughout the country (see Figure 3.2). Malaysia's education system follows the British. There are 6 years of primary school, 5 years of secondary school. Those intending to apply to public universities have to also complete an additional 2 years of university preparatory classes (either Secondary 6 or Matriculation). The Malay language is the primary medium of instruction for most subjects in Malaysian schools, while English is taught as a second language and also used to teach science subjects. An important element of the Malaysian National Education policy is the development of adolescents with high personal well-being. However, many schools in Malaysia are still caught up in daily issues of curriculum coverage, grading, examination readiness, administration, discipline, behavioral management, and compulsory extra-curricular activities. With much of the focus of education on examination readiness, many Malaysian students feel a great deal of pressure to do well in school (Barone, 2004; Haris, 1997). Little energy has been allocated in the school system to understanding the importance of and the development of developmental assets in young people. While there has been some movement in developing a Training Module on Mental Health Life Skills for children and adolescents as a result of the Healthy Lifestyle Campaign 2000 (Community Health Bulletin, 2000), further efforts in moving beyond policies and written goals towards constructive intervention efforts in schools have yet to be reported. Finally, the Malaysian school culture is one where conformity is encouraged and individualism is discouraged (Barone, 2004). An

example of this is where all students in Malaysia are required to wear similar uniforms across the country, and the existence of similar guidelines from hairstyle to the color of one's socks.

Figure 3.2: The Malaysian Education System



Specific Aims. The specific aim of this paper is to determining the association between adolescents' perception of school supportiveness in Malaysia and perception of their psychosocial well-being while taking into account economic sufficiency and grade level (see Figure 3.2). The hypothesis is that these supports would be positively associated with psychosocial well-being after controlling for economic sufficiency and grade level. I also explore if perceived school supports function differently by gender.

3.2 METHODS

Sample. The MCAW 2003 dataset includes 1818 students from three schools in Kuala Lumpur Malaysia. One was a co-educational school, the other was a girls' school, and the third was a boys' school⁷. All three were urban schools situated in the same regional area in Malaysia. Schools were recruited through personal contacts, and after obtaining permission from the relevant authorities in Malaysia and human subjects approval from the Penn State University Institutional Review Board. Passive parental consent and active student consent was obtained.

⁷ School as a variable was controlled for in the regression model

Boys and girls were about equally represented in the sample (49.4% and 49.9% respectively). Each grade-level made up about one-third of the sample, i.e., Secondary 1 at 30%, Secondary 2 at 35% and Secondary 3 at 35%. In general, Secondary 1 students are 13-years of age, Secondary 2 are 14-years of age, and Secondary 4 are 16-years of age. In terms of race, the sample of 45.2% Malays, 40.9% Chinese, 9.8% Indians and 3.7% Other races⁸ closely resembles the general urban population in Peninsular Malaysia (Malaysian Department of Statistics, 2004). In terms of economic indicators, this sample is believed to resemble the urban middle to high income population in Malaysia.

Instrument. A paper-and-pencil self-report instrument for classroom administration was developed by utilizing and modifying items from commonly used adolescent measures including, Middle School Student Questionnaire Measure (MSSQM) from the Child Development Project (Battistich, 2000; Battistich et al., 1997), and Search Institute's Developmental Assets Profile (DAP; Search Institute, 2003). The principal investigators gave careful consideration to the cultural context of adolescents in Malaysia and where needed adapted items to suit the culture. Items were then translated into Malay and back-translated into English. Note that most urban middle income students in Malaysia speak and write both Malay (as the primary language taught in schools) and English (as a second language widely taught and used in schools). However, the investigators decided to use Malay to ensure all students were able to complete the survey without language being a barrier. Translation of items into Malay was done by the investigators on the project who are Malaysians and bi-lingual. Back-translation was done with support obtained from the Malaysian-American Center for Educational Exchange (MACEE) and a Malay native speaker who currently resides in the United States. Items were then checked for their

⁸ For analysis purposes in this paper, Ceylonese, Eurasians, Natives (Orang Asli) and those of mixed parentage are grouped as one category of "Other".

comprehensibility with the help of a Malay native speaking student at Penn State University. Items for most scales are rated from 1 = Not at all or Rarely to 4 = Extremely or almost always.

Procedures. The surveys were administered in each classroom during school hours. In general, each class was assigned two research assistants (RA) that were recruited from an undergraduate psychology program in Malaysia and provided with survey administration training. The principal investigators coordinated the overall administration of data collection at the school level. Students in a class received a briefing prior to taking the survey that included thanking them for their willingness to participate, assurance of confidentiality, emphasizing honest responses, and the need to maintain a conducive atmosphere for this survey. On average, surveys took between one class period to one and a half class period (i.e., 40 to 60 minutes) to be administered and completed by students.

Measures. Cronbach's alphas for all measures are listed in Table 3.1.

Perceived School Supportiveness. The *School Teacher Support* scale assesses seven primary markers of perceived teacher support including providing help, showing care, openness to students talking to them about problems, is attentive to students work and affirming, and communicates how well the student is doing to parents. The items refer to teachers in the school in general. This scale was developed with items drawn from the Pennsylvania Youth Survey (adapted from the Communities That Care Youth Survey; Arthur, Hawkins, Pollard, et al., 2002), and Battistich's Middle School Student Questionnaire Measure (MSSQM; Battistich, 2000; Battistich et al., 1997). The *School Peer Support* scale has 3 items drawn from the MSSQM, and assesses three aspects of peer support i.e., providing help, showing care, and is dependable for positive support and advice. Participants in the survey are asked to respond in relation to students in their classroom and school. The *Social Competency Building Support in the Classroom* scale

examines the degree to which students report that ten life skills are discussed in class either through instruction or classroom interactions. Items include discussion of the following “How to build friendships with peers and adults”, “How to express your feelings in appropriate ways”, and “How to make your school or community a better place”. Items were selected to correspond to topic areas in The Life Skills Training Program and to the Social Competencies scale of the DAP. The *Supportive School Environment* scale consists of 4 items from the DAP. Two items were selected from the Empowerment and from the Support scale i.e., “I feel safe at school” and “I feel that I have a school that cares about kids and encourages them”. And two other items were adapted from the Boundaries & Expectations scale that assesses the degree to which students perceive clear and fair rules in the school environment, i.e., “I feel that I have a school that gives students clear rules” and “I feel that I have a school that enforces rules fairly”.

Psychosocial Well-being. The three scales of Psychosocial Well-being in this study are drawn from items in three internal assets scales of the Developmental Assets Profile (DAP; Search Institute, 2003). Scale construction and validation is described elsewhere (see Gomez, 2005a). The 5 items that make up *Positive Sense of Self & Personal Control* include “I feel good about myself”, “I stand up for what I believe in”, and “I take responsibility for the things I do”. The 11 items that make up *Prosocial Orientation & Competence* include “I build friendships with peers and adults”, “I resolve conflicts without anyone getting hurt”, “I think it is important to help other people”, and “I am interested in helping solve social problems”. And the 3 items that make up *Avoidance & Resistance Skills* include “I say no to things like tobacco, alcohol and drugs”, and “I resist bad influences from other kids”.

Table 3.1: Descriptive statistics of predictors and outcomes in this study

	Scale Psychometrics					Total Sample		Boys (B)		Girls (G)		Mean Difference (B - G)
	# of items	Scale range	Alpha	Skewness ^a	Kurtosis ^a	Mean	SD	Mean	SD	Mean	SD	
<i>School support variables</i>												
School Teacher Support	7	1-4	.84	0.16	-0.23	2.41	0.61	2.37	0.61	2.45	0.61	-0.08
School Peer Support	3	1-4	.76	-0.31	-0.43	2.84	0.71	2.69	0.71	3.00	0.69	-0.30 [†]
Competency Support in Classroom	10	1-4	.83	-0.14	0.05	2.61	0.55	2.55	0.54	2.66	0.55	-0.10
Supportive School Environment	4	1-4	.78	-0.23	-0.55	2.78	0.72	2.70	0.73	2.86	0.70	-0.15
<i>Well-being indicators</i>												
Positive Sense of Self	5	1-4	.70	-0.04	-0.33	2.81	0.57	2.83	0.56	2.79	0.58	0.03
Pro-Social Orientation	11	1-4	.83	-0.06	-0.18	2.88	0.50	2.82	0.50	2.94	0.49	-0.12
Avoidance Skills	3	1-4	.73	-1.38	1.35	3.42	0.70	3.29	0.76	3.55	0.62	-0.26**
Economic Sufficiency	3	1-3	.52	-0.37	4.01	2.32	0.26					

a. For all variables, SE for Skewness = .06, and SE for Kurtosis = .11

** t-test shows significance at $p < .01$; [†] t-test shows significance at $p < .10$

Comparative Economic Sufficiency. This scale is used as a proxy for socioeconomic status. In Malaysia, determining the economic sufficiency of adolescent is complex for a number of reasons. Firstly, there is no clear economic indicators that can be measured at the school level. ‘Free lunches’ is a relatively unknown concept in schools in Malaysia. Aid to poor children may be available in some schools, but determining cut-offs for those who qualify are arbitrarily determined by school personnel, usually the principal, and only when requested by parents or chanced upon by teachers or the school counselor. Such aid also differs by school depending on resources they have and sponsors. Malaysia’s Ministry of Education undertakes textbook loan schemes to alleviate financial difficulties (Maria, 2002). Not all students and families know of the availability of such assistance. Nonetheless, public education is accessible and affordable for most adolescents as education is free in Malaysia. Secondly, there is no clear indicator economic indicators that can be measured at the family level. Given that Malaysia is a developing country, factors such as maternal education level cannot be used to distinguish one level of SES from another as many parents with just a high school-level of education can still find work opportunities that afford them basic needs for their families. More importantly, given the culture of families in Malaysia, most children are usually unaware of their parents’ income and often time educational-level as well. Due to the complexities of measuring economic indicators in Malaysia, the principal investigators had to develop new items that they believed could tap into three indicators of adolescents’ perception of their economic sufficiency. This includes their perception and awareness of their own and their family’s ability to afford basic daily needs, the condition of the neighborhood they live in, and how they compare their economic status to other students in their school. Items include “I live in a neighborhood that is generally considered by most people as...”(response options range from 1 = poor to 3 = rich) , “My family can afford

paying for food, clothes and other daily needs...” (response options range from 1 = almost none of the time to 3 = all the time), and “Compared to most others in my school, I would say I am...” (response options range from 1 = very poor to 5 = very rich). Cronbach’s alpha for this scale is .52. Using adolescents’ perceptions of their economic sufficiency has its merits. Conger et al. (1999) found that the perception of family economic hardship was more important in positively predicting adolescent mastery and negatively predicting adolescent distress than the adolescent’s actual hardship experience. And, adolescents’ perception of economic hardship was very much reflective of the economic stress experienced in the family (Conger et al., 1999).

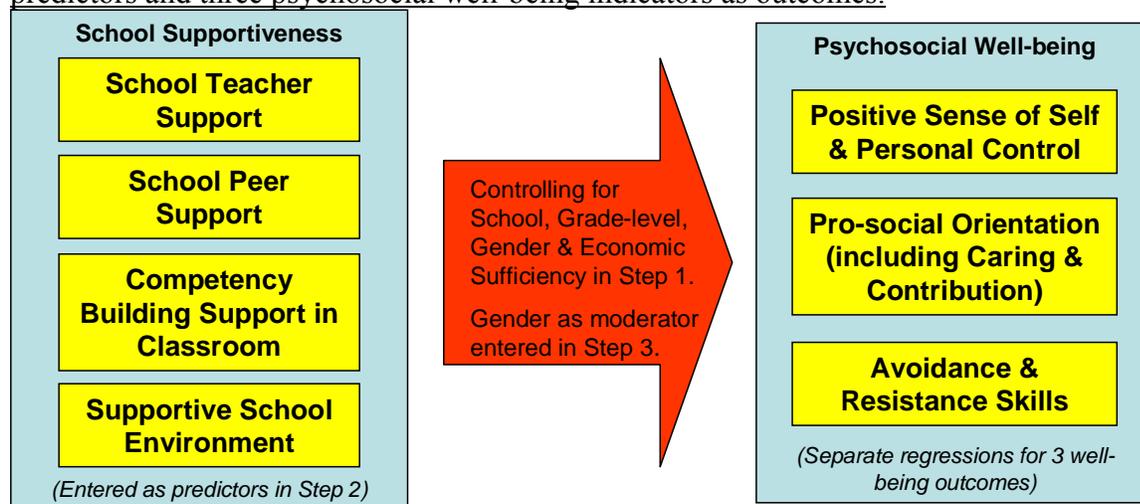
Data Cleaning and Missing Data. The dataset was checked for errors and cleaned after running univariate descriptive statistics. Missing data (i.e., for gender and grade level) were replaced with known values using specific codes within the assigned participant ID. Misses for each section of the survey were counted. Where misses totaled to over half of survey items in two or more sections of the survey and with sporadic misses in other sections, these participants were removed from the dataset. This resulted in 6 cases being removed. Finally, a missing value analysis was performed. No scales had missing values above five percent. Thus, no further action was deemed necessary to address missing values.

Analysis. Association between perception of school supports and markers of adolescent psychosocial well-being were tested using hierarchical regressions. The conceptual model, based on a Type I hypothesis, is given in Figure 3.3. Economic sufficiency and grade level (secondary level) were controlled by including these in Step 1 of the regression. Gender was dummy coded with boys assigned to 0 and girls to 1 and entered in Step 1. School as a variable was also dummy coded and entered into Step 1 to control primarily for school-gender confound⁹. For example, School CZ as a variable was created using 1 to represent School CZ, and 0 to represent

⁹ Note that the third school is accounted when the first two schools are added to the model.

the other two schools (i.e. School JZ which is a boys school, and school DZ which is a co-educational school). Similarly, School JZ as a variable was created using 1 to represent School JZ, and 0 to represent the other two schools. Variation in outcomes due to school-level influences is not expected given that a national education system exists in Malaysia and similar schools were selected, though what may exist would also be controlled for by the above. School support variables were centered to the mean and added to the regression analysis in Step 2. These school variables were also used to create interaction variables with gender and added in Step 3. Centering the school predictors helps avoid issues of multicollinearity between these variables, and between the school predictors and interaction variables in the regression model (Neter, Kutner, Nachtsheim, & Wasserman, 1996). The interpretation of results are based on values of F, R^2 and β ¹⁰.

Figure 3.3: Conceptual framework used to construct regression models using school supports as predictors and three psychosocial well-being indicators as outcomes.



¹⁰ The R^2 will show us how much the regression equation predicts the dependent variable. To determine that an R^2 value is significant, we refer to the F test that is generated

3.3 RESULTS

From Table 3.1, we see that most predictors and outcomes are normally distributed with high Cronbach alphas. Given that schools in this sample are urban middle-to-high income, and that there are very few students who are low in economic sufficiency, generalizability of findings is limited to middle-to-high income adolescents. The skew and kurtosis in resistance skills is not unusual as it is expected that there would be significantly more adolescents who have higher resistance skills in this population than those who report otherwise. However, this does call forth caution in interpreting regression analysis for Avoidance & Resistance Skill. Most mean differences by gender are not significant. Avoidance & Resistance skills was significantly higher in girls (mean=3.55) than boys (mean= 3.29)¹¹. A small and approaching significance difference was seen in school peer support with girls reporting slightly higher means.

Correlations of measured variables are given in Table 3.2 and all are in the hypothesized direction. Given that competency support in the classroom and school environment support depends to some extent on teacher functioning in the school, it is not surprising to find correlations between the first two variables with teacher support at .45 and .52 respectively.

¹¹ Mean values in themselves do not provide sufficient information given subjectivity of measures

Table 3.2: Correlation table that includes predictors and outcomes

	Economic Sufficiency	Grade Level	Gender	School Teacher Support	School Peer Support	Competency Support in Classroom	Supportive School Environment	Positive Sense of Self	Pro-Social Orientation	Avoidance Skills
Economic Sufficiency	1.00	0.05*	0.03	0.01	0.14**	0.03	0.01	0.15**	0.13**	0.07**
Grade Level		1.00	0.00	-0.23**	0.02	-0.18**	-0.21**	-0.04	-0.03	-0.11**
Gender			1.00	0.06**	0.21**	0.09**	0.11**	-0.03	0.12**	0.18**
School Teacher Support				1.00	0.27**	0.45**	0.52**	0.30**	0.33**	0.14**
School Peer Support					1.00	0.27**	0.26**	0.22**	0.36**	0.19**
Competency Support in Classroom						1.00	0.35**	0.27**	0.41**	0.23**
Supportive School Environment							1.00	0.33**	0.41**	0.26**
Positive Sense of Self								1.00	0.53**	0.27**
Pro-Social Orientation									1.00	0.35**
Avoidance Skills										1.00

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Hierarchical regression results are presented in Table 3.3. As gender, economic sufficiency, and grade-level are significantly correlated with psychosocial well-being (see Table 3.2), they are controlled for in Step 1 of the regression model. In Step 1, we observe gender has a negative main effect on positive sense of self ($\beta = -.16, p < .01$), a positive main effect on avoidance skills ($\beta = .11, p < .01$), and no significant association with pro-social orientation. Economic sufficiency is an important independent variable with beta-weights of .12 ($p < .01$) for positive sense of self, .08 ($p < .01$) for pro-social orientation, and .12 ($p < .01$) for avoidance skills. Grade level has a small influence on well-being with beta-weights of .05 ($p < .05$) for positive sense of self, .08 ($p < .01$) for pro-social orientation, and -.06 ($p < .01$) for avoidance skills. School entered into the regression to account for between school effects do not show significant values on outcomes.

In Step 2, perceived school supports account for about 15% of the variance for positive sense of self, 28% of the variance for pro-social orientation, and 7% of the variance for avoidance skills. All school support variables have β -weights that are significant at Step 2 reflecting the important relationship between school supportiveness and adolescent psychosocial well-being, with values ranging from .10 to .21 for positive sense of self, .05 to .26 for pro-social orientation, and -.08 to .19 for avoidance skills.

For all three indicators of psychosocial well-being, there is very little variance explained by interaction variables entered in Step 3 of the regressions ($\Delta R^2 = .01, .00, \text{ and } .01$ for positive sense of self, pro-social orientation, and resistance skills respectively). Meaning, gender does not moderate much the relationship between school supportiveness and the above three well-being markers.

Table 3.3: Regression of Psychosocial Well-being Variables on School Support Variables (Three separate regressions)

Step		Positive Sense of Self			Pro-social Orientation			Avoidance Skills		
		B	SE	β	B	SE	β	B	SE	β
1	School CZ	0.14	0.04	0.12**	0.10	0.03	0.10**	0.12	0.05	0.08**
	School JZ	0.00	0.04	0.00	0.02	0.04	0.02	0.07	0.05	0.05
	Grade Level	-0.02	0.01	-0.04	-0.01	0.01	-0.03	-0.06	0.01	-0.11**
	Gender (G)	-0.13	0.05	-0.12**	0.06	0.04	0.06	0.21	0.06	0.15**
	Economic Sufficiency	0.33	0.05	0.15**	0.24	0.05	0.12**	0.20	0.06	0.07**
		$R^2 = .03^{**}, F = 11.22$			$R^2 = .03^{**}, F = 12.81$			$R^2 = .05^{**}, F = 20.31$		
2	School CZ	0.07	0.04	0.06	0.02	0.03	0.02	0.04	0.05	0.03
	School JZ	-0.03	0.04	-0.03	-0.01	0.03	-0.01	0.03	0.05	0.02
	Grade Level	0.02	0.01	0.05**	0.03	0.01	0.08**	-0.04	0.01	-0.06**
	Gender (G)	-0.18	0.04	-0.16**	0.00	0.03	0.00	0.17	0.06	0.12**
	Economic Sufficiency	0.28	0.05	0.12**	0.16	0.04	0.08**	0.15	0.06	0.05*
	Teacher Support	0.11	0.03	0.11**	0.04	0.02	0.05*	-0.09	0.03	-0.07**
	Peer Support	0.08	0.02	0.10**	0.13	0.01	0.19**	0.09	0.02	0.09**
	Classroom Competency Support	0.14	0.03	0.13**	0.23	0.02	0.26**	0.18	0.03	0.14**
	School Environment Support	0.17	0.02	0.21**	0.18	0.02	0.26**	0.18	0.03	0.19**
		$R^2 = .18^{**}, F = 43.91$			$R^2 = .31^{**}, F = 89.47$			$R^2 = .12^{**}, F = 27.68$		
3	School CZ	0.06	0.04	0.05	0.02	0.03	0.02	0.06	0.05	0.04
	School JZ	-0.03	0.04	-0.03	-0.02	0.03	-0.02	0.01	0.05	0.01
	Grade Level	0.02	0.01	0.05*	0.03	0.01	0.08**	-0.03	0.01	-0.06**
	Gender (G)	-0.18	0.04	-0.16**	-0.01	0.04	-0.01	0.15	0.06	0.11**
	Economic Sufficiency	0.27	0.05	0.12**	0.16	0.04	0.08**	0.15	0.06	0.05*
	Teacher Support	0.05	0.04	0.06	0.02	0.03	0.02	-0.09	0.05	-0.08*
	Peer Support	0.08	0.03	0.09**	0.12	0.02	0.17**	0.06	0.03	0.06
	Classroom Competency Support	0.11	0.04	0.10**	0.26	0.03	0.29**	0.20	0.05	0.16**
	School Environment Support	0.18	0.03	0.23**	0.19	0.02	0.28**	0.23	0.04	0.24**
	G x Teacher Support	0.10	0.05	0.08*	0.04	0.04	0.04	0.01	0.06	0.01
	G x Peer Support	0.01	0.04	0.01	0.03	0.03	0.03	0.05	0.05	0.03
	G x Class Competency Support	0.05	0.05	0.04	-0.06	0.04	-0.05	-0.03	0.07	-0.01
	G x School Environment Support	-0.02	0.04	-0.02	-0.03	0.03	-0.03	-0.11	0.05	-0.07*
		$R^2 = .19^{**}, F = 31.19$			$R^2 = .31^{**}, F = 62.18$			$R^2 = .13^{**}, F = 19.61$		

* $p < .05$, ** $p < .01$; Three separate regressions are presented in this table.

3.4 DISCUSSION

The hypothesis that perceived school supports would positively associate with adolescent psychosocial well-being after controlling for economic sufficiency, school, grade level and gender was confirmed. It suggests that in urban middle-income schools in Malaysia, school environment support and competency building support in the classroom contributes significantly to adolescent psychosocial well-being indicators, followed by school peer support, and school teacher support.

School Teacher Support. Stronger associations between teacher support and well-being indicators were expected than what was found. However, Furman & Buhrmester (1985) for example, found that teacher support was rated lower than all other significant relationships identified by school children to be important for self-worth. In the present study, possible reasons for the strength of the associations found include that teacher support is not as crucial as other school support variables, that teacher support works through school environment support and competency building in the classroom, or the measure of teacher support may require a more specific point of reference. In the latter, given that the measure of teacher support has a good alpha, future studies will improve upon this scale in distinguishing between teachers in the classroom and teachers in the school in general, and require respondents to provide more details of the teacher he/she is referencing. It also cannot be ignore if it is really normative for teachers in Malaysian schools to provide the kind of support discussed in this study that includes showing care and affirmation, openness to students talking about problems, and communicating how well students are doing to parents. While these characteristics may be expected by the education system and parents, if such efforts are not the norm within the social environment of the school, then adolescents may find other supports more important in their positive development and

everyday functioning. For example, Barone (2004) found that while many of the 400 Malaysian secondary students studied felt that teachers did influence their thoughts about what was right or wrong, they were unlikely to approach their teachers for advice on moral issues, and most reported receiving neither much positive affirmation nor scolding from Malaysian teachers. There remains hope that teachers who are warm and supportive likely contribute towards healthy social and emotional development of students (Zaff, Smith, Rogers, Halle & Bornstein, 2003).

School peer support. Findings in the present study confirm that adolescents who perceive higher presence of helpfulness, caring and supportiveness from their peers show higher sense of self, pro-social orientation and avoidance skills. The literature describes how peers as co-equals provide necessary socialization experiences critical for basic functioning such as prosocial behaviors, conflict resolution, and perspective-taking (Bukowski, 2003). “Without adequate *and supportive* relationships with peers, the development of a positive self-concept, the acquisition of social and cognitive skills, and the formation of a competent behavioral profile would be impossible” (Bukowski, 2003). Rosenfeld, Richman & Bowen (2000) found that teacher support alone in American adolescents was not effective in predicting outcomes such as school satisfaction, self-efficacy, and avoiding problem behaviors, but instead it was adolescents who perceived high teacher support along with high peer support and/or parent support that made the difference. It is also likely that school children seek out specific types of social support in their relationships with different individuals (Furman & Buhrmester, 1985) and act as gatekeepers, determining which individuals are given access to formation of outcomes such as self-esteem (Hoffman, Levy-Shiff & Ushpiz, 1993). Further research is necessary to determine if the type of support adolescents seek out from their peers differs from the type of support they seek out from their teachers.

In the current study, I measured support of peers within the classroom and school. I did not specify the closeness of the peer relationship. It is noteworthy that Harter (1990) found that perceptions of support from classmates in adolescence are more predictive of adolescent's self-esteem than is perceived support from close friends. It is possible that acceptance from the broader peer network in school is viewed as more objective than what is afforded by close friends (Zaff & Hair, 2003).

Finally, the association between supportive social relationships and student adjustment is possibly bi-directional where well-adjusted (including better behaved and higher-achieving) adolescents may more likely bond with teachers and peers able to provide positive support (Crosnoe et al., 2004). The cross-sectional data in this study sets limits in testing directionality, though given what is known from literature it is likely that within the fluidity of bi-directional influences, healthy support from individuals more strongly predicts healthy psychosocial functioning than vice-versa.

Social competency building support in the classroom. This study presents evidence for significant associations between social competency building support in the classroom and psychosocial well-being with beta-weights at .13, .26 and .14 (see Table 3.3). It is suggestive that more structured programming in the classroom where social competencies are taught and discussed may be one way of increasing positive adolescent outcomes. A key effective approach to school-based programming that promotes positive outcomes is teaching students to apply social-emotional skills through interactive classroom instruction (Greenberg et al., 2003). Literature reviewed by Catalano et al. (2002a) found that classroom-based social competence-promotion programming represent the most commonly implemented and evaluated school-based approach focused on promoting positive mental health. An example of such a program is

Botvin's Life Skills Training that includes skill training such as decision-making and problem-solving, cognitive skills for resisting interpersonal and media influences, skills for increasing personal control and enhancing self-esteem, adaptive coping strategies for managing stress and anxiety, assertive skills, and general social skills (Botvin, 2000).

School environment support. Findings in the present study suggest significant associations between the broader supportiveness of the school environment and markers of psychosocial well-being ($\beta = .21, .26$ and $.19$ for positive sense of self, pro-social orientation, and avoidance skills respectively). A key environmental input for positive youth development identified in the literature is positive places, i.e., places that are safe, supervised, structured, stimulating, and provide a sense of belonging (Blum, 2002; Pittman, 2000). Samdal et al. (1998) concur on the importance students place on feeling safe, fairly treated, and supported in their school environment. Schools that provide climate and programs that have clearly defined rules for behavior, consequences for infraction, fosters prosocial norms, and communicates expectations for positive behavior, convey a belief in adolescents as capable individuals and promotes youth autonomy and belonging (Roth & Brooks-Gunn, 2002).

Gender, economic sufficiency, and grade-level. Published studies on gender issues in Malaysia are limited. One report does suggest that boys and girls receive rather similar treatment in Malaysian schools (Pong, 1995) and in the present study the author has observed this in his experience in Malaysia as well. In this paper I measured more than one marker of psychosocial well-being, and was able to show how gender means are more similar on positive sense of self and pro-social orientation, but differ significantly on avoidance skills with girls reporting higher means. Regression analyses however suggest that gender (where boys are coded as 0 and girls as 1) has main effects on positive sense of self and avoidance skills, but no significant effect on pro-

social orientation. From regression analysis it can postulate that in similar groups of adolescents, boys are more likely to experience higher positive sense of self than girls, while girls are more likely to experience higher avoidance skills than boys. Both boys and girls are likely to experience similar levels of pro-social orientation. Given that almost negligible additional variance explained is observed by adding gender as a moderator of school supports (ΔR^2 at Step 3 is .01, .00 and .01 for PS, PO and RS respectively) there is little evidence to show that school supports influence psychosocial well-being indicators differently for boys versus girls.

Finally economic sufficiency as a proxy for SES, and grade-level as a proxy for age are worthy considerations as we study the predictive nature of school supportiveness on adolescent psychosocial outcomes.

Limitations and future studies. The reader is cautioned that there are limitations in this study, and recommendations for future studies are discussed. One, a more complete model of adolescent psychosocial well-being requires exploring other primary social systems beyond school, and the associations between them (Crosnoe & Elder, 2004). Adolescents live in a larger social environment where families, religious affiliations, involvement in extracurricular activities, and “tuition classes” (i.e., coaching classes outside of the school system) are examples of other areas of social involvement that likely has substantial influence on adolescent development in Malaysia. Future studies need to include family variables (e.g. parent supportiveness of healthy adolescent development, unrealistic expectations for examination achievement), and the association between school and family variables (e.g. parent-teacher communication, parent involvement in school-related activities) in accounting for variance in markers of psychosocial well-being.

Two, mono-method (i.e., self-reports) suffer from limitations that include how reliable adolescents are in reporting on their own psychosocial outcomes, how much such self-perceptions reflect actual functioning, and social desirability issues. Studies such as that of Chen, He & Li (2004) show how the young person's perception (of well-being and competence) and actual performance in his or her social environment is known to affect each other in a reciprocal manner. Meaning, adolescents self-reporting on their psychosocial well-being sufficiently reflects actual functioning. However, studies such as that of Hughes et al. (1997) found that children who are aggressive were more likely to inflate ratings of their personal competence and quality of relationship with others compared to non-aggressive children. It could also be debated if how adolescent perceived supports, accurately reflect availability of supports in schools. However, a review of the literature by Zaff & Hair (2003) found that an individual's perceptions of support are more predictive of outcomes such as self-esteem than more objective measures of support. Future studies may want to include teacher and parent reports on both adolescent outcomes and availability of supports in school and the broader social environment, and make comparisons between multiple reporters.

Three, how students respond to questions on positive sense of self, for example, may partly reflect their temporal state of emotions rather than a characteristic more stable in the life of the individual. This could also lead to temporal relationships between perceptions of support and psychosocial variables (Brooks, Harris, Thrall, et al., 2002). Nonetheless, even when these variables reflect subjectivity, standardized beta-weights provide an acceptable way of reporting on the relationship between perceptions of support and psychosocial outcomes.

Four, I address the concern of how individual traits could influence interpretation of results. If children's attitudes, temperament, state of mind, or personality do indeed influence

how they respond to both predictors and outcomes, then solely relying on self-reports could in itself generate modest correlations between predictors and outcomes. Given, however, that fairly substantial variance explained is observed in the regression analyses (see values for R^2), the above concern is somewhat minimized. Further, if it was all due to the attitude of the student, then attitude should influence both predictors and outcomes to an extent where little unique prediction would be observed. However, many of the beta-weight values in this study provide sufficient confidence on results obtained. Common biases is also partly controlled for by beta-weights (i.e., the unique predictions after other areas are controlled for in the model) that at the very least provide relative contributions of predictors to outcomes.

Finally, future longitudinal studies in Malaysia involving a much larger sample of schools, classrooms and grade-levels will allow more sophisticated methods such as multilevel modeling to tease out dynamics at school and classroom levels.

3.5 CONCLUSION

An important feature of psychosocial well-being is that its elements can be targeted for promotion and intervention activities (Zaff et al., 2003). Economic sufficiency, gender and age (or grade-level) may influence psychosocial well-being to some extent, but there may be little most of us can do to change these even if we wanted to. Instead, we have observed how school as a social environment can provide supports associated with the development and expression of all three markers of psychosocial well-being. Feeling safe, cared for, and existence of clear and fair rules in the school environment, and the building of life skills for functioning in one's social environment through classroom activities are some key ways schools could channel their energy in promoting positive development for both adolescent boys and girls. At the same time,

ensuring teachers and students are knowledgeable on ways to be supportive can create a positive social culture likely to nurture both the psychosocial and academic functioning of adolescents. Within a framework of positive psychology, the degree to which schools function as psychologically healthy environments can provide the context for positive human development given the amount of time people spend in school, both within a day of a life as students, and within one's lifetime (Baker et al., 2003).

CHAPTER 4

School Supportiveness and Adolescent Functioning in Malaysia:

Psychosocial Maladjustment and Educational Outcomes

CHAPTER 4

School Supportiveness and Adolescent Functioning in Malaysia: Psychosocial Maladjustment and Educational Outcomes

4.1 INTRODUCTION

In an earlier paper, I demonstrated that perception of school supportiveness is associated with psychosocial well-being in Malaysian school-going adolescents (Gomez, 2005c). The current paper explores the relationships between students' perception of school supports and two important indicators of psychosocial maladjustment i.e., depression and delinquency, as well as two indicators of educational outcomes i.e., commitment to learning and overall academic grade. The hypothesis is that greater perceptions of support at school would be negatively associated with depression and delinquency and positively associated with better educational outcomes for both boys and girls.

From a developmental perspective, early adolescence is known as a time of intense physical and psychological change. While adolescence may not always be a time of storm and stress, some adolescents do appear more or less quietly distressed (Roeser, Eccles & Sameroff, 2000). Young adolescents are known to experience a three-fold increase in depressed mood as well as elevation of other mental health problems (Compas, Ey, & Grant, 1993; Kazdin, 1989). For example, mental health problems among adolescents are as high as 13 percent in Australia and 12 percent to 22 percent in the United States (National Advisory Mental Health Council, 1990; Sawyer et. al., 2000). A 1996 report described 10.7 percent of Malaysians as suffering from some kind of mental illness (Sennyah, Chow, & Mohamad, 2000). Estimates suggest a 13 percent prevalence rate of mental health problems among Malaysian children between the ages

of 5-15 (Community Health Bulletin: Special Issue, 2000). Some have gone as far as to report one in five Malaysian adolescents as suffering from some form of mental illness (New Strait Times, September 18, 2004). However, key national leaders agree that children and youth mental health is still under-diagnosed, unrecognized or mislabeled and under-treated in Malaysia (New Strait Times, June 7, 2000). Nonetheless, recent media reports indicate a rise in depression and delinquency among Malaysian adolescents (Chok, 2005; National Office for Human Development, 2000). Depressive symptoms and delinquent behavior are seen as two areas of psychosocial maladjustment in themselves as well as in problems associated with them, creating challenges for adolescents to function optimally in their social environment. In this study, depression and delinquency is discussed as two distinct and key indicators of maladjustment among Malaysian adolescents.

Depression. Depression is known to be a major cause of distress in young people worldwide (Costello, Pine, Hammen, et al., 2002). In some cases depressive symptoms are transient, reflecting the developmental stage of adolescence (Takakura & Sakihara, 2001). However, many adolescents may express levels of depression that fall short of diagnostic criteria, but impact significantly on the quality of their lives (Burns & Hickie, 2002). For example, frequent emotional distress can impair adolescents' ability to effectively learn in school and such adolescents are more likely to get involved in problem behaviors (Roeser et al., 2000). Further, not attending to depressive symptoms at early stages could lead to elevated levels known to significantly increase the risk for a depressive disorder (Aalto-Setala et al., 2002). Depression is also reported to be higher among girls than boys (Carnegie Council on Adolescent Development, 1995; Kubik et al., 2003; Overbeek et al., 2001). However, Takakura & Sakihara (2001) found that controlling for psychosocial variables such as social support and self-esteem,

gender differences in depression become non-significant for Japanese school-going adolescents. In this paper, the term “depression” is broadly used to refer to depressive symptoms and is not a clinical diagnosis of major depression.

Delinquency. Juvenile delinquency is rising in Malaysia, just as it is in other areas of Southeast Asia. Criminal cases involving juveniles increased by sixty-two percent from 2,408 cases in 1980 to 4,012 cases in 1995 (Malaysia, 1997). Adolescent delinquency is often associated with increased presence of risk factors and insufficient protective factors both within the individual (e.g., poor judgment, distorted beliefs, and aggressive personality) and his or her social environment (e.g., weak bonding to social institutions, association with delinquent peers, poor parental monitoring, and low SES; Coie & Jacobs, 1993; Hawkins, 1999; Lerner & Galambos, 1998; Pollard et al., 1999). In Malaysia, delinquency is rising most quickly in urban areas and this is believed to be the result of disrupted support functions of traditional social institutions (Maria, 2002). It is important to note that delinquency, particularly in individuals whose behaviors are associated with disconnection, alienation, and boredom may not be signs of psychopathology, but rather signs of deficiency in positive development (Larson, 2000). Whatever the cause, it remains challenging at times to distinguish between occasional experimentation versus enduring patterns of behavior, problems that have their onset in adolescence versus those that begin in childhood, and problems that are relatively transitory in nature (Moffitt, 1993; Steinberg & Morris, 2001). Further, in Malaysia, as group cohesion is promoted over individualism in most social institutions, children are taught to get along well with others, and any expression of aggression is discouraged (Maria, 2002). This may suggest that while delinquency is on the rise in Malaysia, incidences are likely to still be quite low in the school population.

The literature is mixed on the association between gender and delinquency. For example, Overbeek et al. (2001) found evidence through longitudinal data that delinquency is higher in Dutch boys than girls. Nonetheless, findings on gender are difficult to interpret given its unknown influence in Malaysia and mixed results in the literature (e.g., delinquency was found higher in early maturing girls in mixed-sex settings in New Zealand; Caspi et al., 1993). What is known for sure is that problem behaviors, such as delinquency, inevitably interferes with the ability of the young person to stay on task in school and elsewhere (Coie & Jacobs, 1993).

Depression and delinquency. It is known that problem behaviors tend to cluster within the same person, to reinforce one another, and that many problem behaviors have common antecedents (Carnegie Council on Adolescent Development, 1995; Dryfoos, 1998). While it is common to find that depression and delinquency co-occur in adolescence (Heaven et al. 2004), this co-occurrence may be more a result of associated but separate psychopathological processes (Overbeek et al., 2001). It is difficult to determine the direction of causality for both depression and delinquency. In some adolescents, delinquency could represent an attempt to escape feelings of depression, while in others, problem behaviors in childhood may predict later depression (Heaven et al. 2004; Rutter, 1997; Werner, 1993). In short, causality of the two maladjustments and their association with each other are complex and requires further investigation beyond what can be offered in this paper.

Educational outcomes. Educational outcomes are seen as equally important to school personnel as psychosocial functioning. Commitment to Learning and School and Overall Grade for Most Recent Examination are used as two indicators of educational functioning.

Commitment to Learning and School as a construct includes reading for pleasure, interest in school, homework completion, actively engaging in learning, and eager to do well in school

(Maddox & Prinz, 2003; Scales & Leffert, 1999). This construct is believed to be a useful indicator of positive adolescent development in reflecting the intrinsic motivation of school-going adolescents towards positive developmental goals (Scales & Leffert, 1999).

School supports. Features of Malaysian schools that potentially protect against depression and delinquency are discussed at length in Gomez (2005c). Current literature suggest that teacher support (Crosnoe et al., 2004; Crosnoe & Elder, 2004; McNeely & Falci, 2004), peer support (Baker et al., 2003; Battistich et al., 2000; Brown et al., 1997; Crosnoe & Elder, 2004; Crosnoe et al., 2003; Tobler et. al., 2000; Wang, Haertel, & Walberg, 1999; Werner, 1995), social competence support (Carnegie Council on Adolescent Development, 1995; Gillham et. al., 1995; Greenberg et al., 2003; NRC & IOM, 2002), and a school environment that is safe, caring and has healthy boundaries (Battistich et al., 1997; Bryk & Schneider, 2002; Payne et al., 2003; Solomon et al., 2000; Scales & Leffert, 1999) helps promote healthy development including good educational outcomes while lowering problem behaviors. The various theoretical perspectives supporting the association between school supportiveness and adolescent psychosocial outcomes are described elsewhere (see Gomez & Ang, 2005) and summarized in Figure 4.1. In short, broad-based social support can act as a powerful buffer and protective factor in adolescents, while a lack of supportive relationships or the disconnectedness from people and institutions within the social environment have implications in various adolescent problem behaviors (Clark, 1991; Coie et. al., 1993; Crosnoe et al., 2004; Richman & Bowen, 1997; Takakura & Sakihara, 2001).

Figure 4.1: Perspectives supporting the association between school supportiveness and adolescent psychosocial outcome



Malaysian school system. In Malaysia, a national education system exists that provides uniform administration and curriculum for public schools throughout the country. There are 6 years of primary school and 5 years of secondary school. Malay is the primary language of instruction while English is taught as a second language and for certain subjects. Secondary school enrollment is high at 84.4% and 73.5% for lower-secondary and upper-secondary levels respectively in 2003 (Ministry of Education, 2004), while drop-out rates are low (Maria, 2002). Students in Malaysian public schools are not allowed to drop-out till completion of 5 years of

secondary school and those who do are usually the very poor that take on part-time employment (Maria, 2002). With much of the focus of education on examination readiness, many Malaysian students feel a great deal of pressure to do well in school (Barone, 2004; Haris, 1997). Schools too have much lesser time left to develop students' personal well-being. And, the Malaysian school culture is one where conformity is encouraged and individualism is discouraged (Barone, 2004). An example of this is where all students in Malaysia are required to wear similar uniforms across the country, and the existence of similar guidelines from hairstyle to the color of one's socks. Finally, a student in general is assigned the public school one will attend by the Ministry of Education based on proximity of where one stays in relation to the closest available public school.

4.2 METHODS

Sample. The MCAW 2003 dataset includes 1818 students from three urban public schools in Kuala Lumpur, Malaysia. One was a co-educational school, the other was a girls' school, and the third was a boys' school¹². All three schools primarily serve middle-to-high income neighborhoods. Schools were recruited through personal contacts, and after obtaining permission from the relevant authorities in Malaysia and human subjects approval from the Penn State University Institutional Review Board. Passive parental consent and active student consent was obtained.

This sample closely resembles the middle-to-high income population and is representative of major ethnic groups in Malaysia i.e., Malays, Chinese and Indians. Minority races such as Ceylonese, Eurasians, Natives and those of mixed parentage are grouped under one

¹² School as a variable was controlled for in the regression model

category of “Other” for analysis purposes. There are almost equal number of boys and girls in the sample (49.9% are girls); and almost equal representation of three grade levels, i.e. Secondary 1 (13-year-olds) 30%, Secondary 2 (14-year-olds) 35%, and Secondary 4 (16-year-olds) 35%.

Procedures. The surveys were administered in each classroom during school hours. In general, each class was assigned two research assistants (RA) that were recruited from an undergraduate psychology program in Malaysia and provided with survey administration training. The principal investigators coordinated the overall administration of data collection at the school level. Students in a class received a briefing prior to taking the survey that included thanking them for their willingness to participate, assurance of confidentiality, emphasizing honest responses, and the need to maintain a conducive atmosphere for this survey. On average, surveys took between one class period to one and a half class period (i.e., 40 to 60 minutes) to be administered and completed by students.

Measures. This paper investigates the relationship between school supports in Malaysia and: (a) adolescent psychosocial maladjustment, and (b) educational outcomes. A paper-and-pencil self-report instrument for classroom administration was developed to include the above purpose. The principal investigators of the MCAW Study gave careful consideration to the cultural context of adolescents in Malaysia and where needed made minor modifications to items to suit the culture. Items were then translated into Malay and back-translated into English. Note that most urban middle income students in Malaysia speak and write both Malay (as the primary language taught in schools) and English (as a second language widely taught and used in schools). However, the investigators decided to use Malay to ensure all students were able to complete the survey without language being a barrier. Translation of items into Malay was done

by the investigators on the project who are Malaysians and bi-lingual. Back-translation was done with support obtained from the Malaysian-American Center for Educational Exchange (MACEE) and a Malay native speaker. Items were then checked for their comprehensibility with the help of another Malay native speaker.

School support. Measures of school teacher support, school peer support, competency building support in the classroom, supportive school environment, and comparative economic sufficiency were developed in reference to Battistich's Middle School Student Questionnaire Measure from the Child Development Project (MSSQM; Battistich, 2000; Battistich et al., 1997), Search Institute's Developmental Assets Profile (DAP; Search Institute, 2003), and the Pennsylvania Youth Survey (PAYS; Channing Bete, 2001), and are discussed in detail elsewhere (see Gomez, 2005c). School Teacher Support assesses amount of help, care, approachability, and affirmation of teachers in the school. School Peer Support assesses amount of help, care and dependability of students in respondent's classroom and school. Social Competency Building Support In The Classroom examines the degree to which life skills are discussed in class either through instruction or classroom interactions. Supportive School Environment assesses feeling safe and cared for by the school, and school rules are clear and fair. Psychometrics of the above scales are summarized in Table 4.1.

Table 4.1: Descriptive information on school support, maladjustment and educational scales

	Scale Psychometrics					Total Sample		Boys (B)		Girls (G)		Mean Difference (B - G)
	# of items	Scale range	Alpha	Skewness ^a	Kurtosis ^a	Mean	SD	Mean	SD	Mean	SD	
<i>School support variables</i>												
School Teacher Support	7	1-4	.84	0.16	-0.23	2.41	0.61	2.37	0.61	2.45	0.61	-0.08
School Peer Support	3	1-4	.76	-0.31	-0.43	2.84	0.71	2.69	0.71	3.00	0.69	-0.30 [†]
Competency Support in Classroom	10	1-4	.83	-0.14	0.05	2.61	0.55	2.55	0.54	2.66	0.55	-0.10
Supportive School Environment	4	1-4	.78	-0.23	-0.55	2.78	0.72	2.70	0.73	2.86	0.70	-0.15
<i>Psychosocial Maladjustment</i>												
Depression	7	1-4	0.84	1.11	1.11	1.80	0.59	1.75	0.57	1.85	0.60	-0.10**
Delinquency	4	1-4	0.67	2.44	8.09	1.28	0.42	1.39	0.49	1.18	0.29	0.21**
<i>Educational Outcomes</i>												
Commitment to Learning	5	1-4	0.67	-0.22	-0.04	2.93	0.49					
Overall Recent Grades	1	1-4	-	-0.57	-0.13	3.53	1.00					
Economic Sufficiency	3	1-3	.52	-0.37	4.01	2.32	0.26					

a. For all variables, SE for Skewness = .06, and SE for Kurtosis = .11

** t-test shows significance at p<.01; [†] t-test shows significance at p<.10

The description of the two scales of maladjustment, i.e., depression and delinquency, is given below. Factor analysis of maladjustment items provides a two-factor structure as expected.

Depression. This scale assesses seven primary symptoms of depression that include feeling sad, lonely, unloved, loss of enjoyment, lack of confidence in one's ability, self-blame/guilt, and self-hatred. Items in this scale were drawn from a measure developed by Ridneour in reference to the Child Depression Inventory (Ridneour, T; personal communication). There are four response options of items in this scale, from "I never feel this way", "Some days", "Most days", and "Every Day". This seven item scale showed high internal consistency (Cronbach's alpha = .84).

Delinquency. This scale assesses delinquent acts believed to be more common among Malaysian school students who express problem behaviors, i.e., cheating on exams, damaging property, theft, and threatening someone. Response options for items in this scale are frequency of behaviors ranging from never, once or twice, three or four times, and five or more times. Items on this scale were developed in reference to the MSSQM and the PYS. The Cronbach alpha for this 4-item scale is .67. The literature on delinquency in Malaysia is limited and this self-report of delinquent behavior may not be fully accurate in a society where fear exists in confessing to delinquent behavior. The distribution of the delinquency scale (see Table 4.1) is not unusual given that rates of delinquency are expected to be relatively low. However, given the high skew and kurtosis, caution is suggested when interpreting results involving the measurement of delinquency.

Two other outcome variables that reflect educational outcomes were included, i.e., commitment to learning and overall academic grade.

Commitment to Learning and School. This 5-item scale adapted from a similar scale from Search Institute's Developmental Assets Profile (DAP; Search Institute, 2003) examines adolescent commitment to learning. It includes items such as "I care about school", "I enjoy learning", and "I am eager to do well in school and other activities". Cronbach's alpha for this scale is .67.

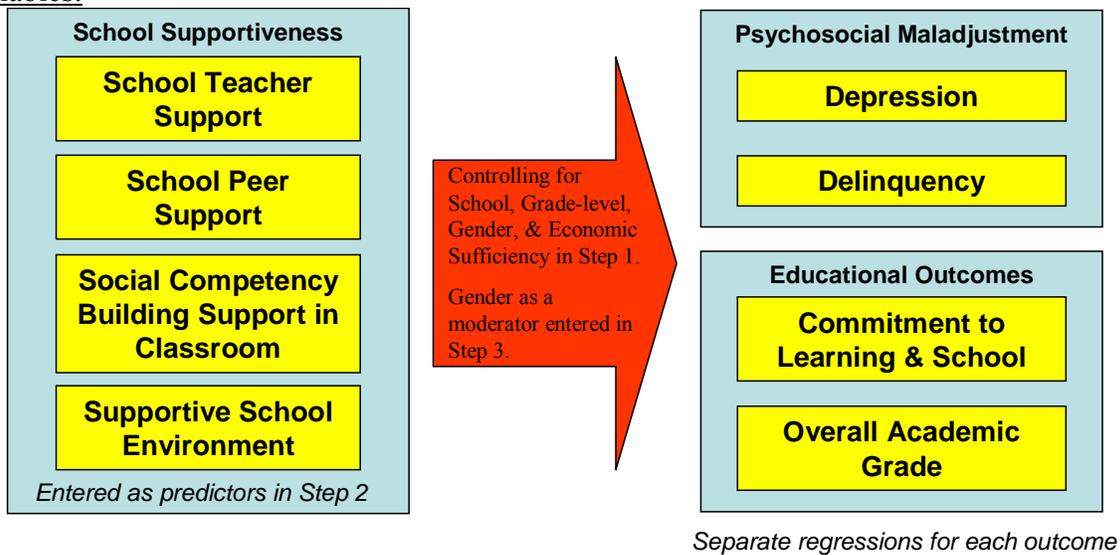
Overall Academic Grade in Recent Examination. The item used to measure overall academic grade was worded as follows: "This year most of my grades in my subjects for the semester examination that just passed were in the range of..." There were 5 response options with the highest being "80 – 100" to the lowest being "39 and below".

Comparative Economic Sufficiency. Given challenges in measuring socioeconomic status (SES) in Malaysian students, Comparative Economic Sufficiency was used as a proxy for SES to include respondent's perception and awareness of their own and their family's ability to afford basic daily needs, the condition of the neighborhood they live in, and how they compare their economic status to other students in their school.

Analysis. Gender differences for depression and delinquency were examined using t-test. Association between school supports and markers of adolescent psychosocial maladjustment and between school supports and educational outcomes were examined using hierarchical regressions. The conceptual model, based on a Type I hypothesis, is given in Figure 4.2. As correlational analysis (see Table 4.2) show significant correlations between dependent variables and economic sufficiency, grade-level and gender, these variables are controlled by including them in Step 1 of the regression model. Gender was dummy coded with boys assigned to 0 and girls to 1 and entered in Step 1. School as a variable was also dummy coded and entered into

Step 1 to address the school-gender confound¹³. For example, School CZ as a variable was created using 1 to represent School CZ and 0 to represent the other two schools, i.e. School JZ which is a boys school, and school DZ which is a co-educational school. Similarly, School JZ as a variable was created using 1 to represent School JZ and 0 to represent the other two schools. To minimize multicollinearity, school support variables were centered to the mean and added to the regression analysis in Step 2 (Neter, Kutner, Nachtsheim, & Wasserman, 1996). Step 3 examined interaction effects between gender and the school support variables. The interpretation of results are based on values of F, R² and β ¹⁴.

Figure 4.2: Conceptual framework used to construct regression models using school supports as independent variables and psychosocial maladjustment and educational outcomes as dependent variables.



¹³ Note that the third school is accounted when the first two schools are added to the model.

¹⁴ The R² will show us how much the regression equation predicts the dependent variable. To determine that an R² value is significant, we refer to the F test that is generated

Table 4.2: Correlation table of independent and dependent variables

	Economic Sufficiency	Gender	Grade Level	Teacher Care & Affirmation	School Peer Support	Competency Support in Classroom	Supportive School Environment	Depression	Delinquency	Commitment to Learning	Overall Present Grades
Economic Sufficiency	1.00	0.03	0.05**	0.01	0.14**	0.03	0.01	-0.10**	-0.06**	0.06**	0.15**
Gender		1.00	0.00	0.06**	0.21**	0.09**	0.11**	0.09**	-0.25**	0.04	0.19**
Grade Level			1.00	-0.23**	0.02	-0.18**	-0.21**	0.10**	0.08**	-0.20**	-0.41**
School Teacher Support				1.00	0.27**	0.45**	0.52**	-0.25**	-0.18**	0.43**	0.17**
School Peer Support					1.00	0.27**	0.26**	-0.17**	-0.13**	0.25**	0.15**
Competency Support in Classroom						1.00	0.35**	-0.10**	-0.13**	0.38**	0.16**
Supportive School Environment							1.00	-0.20**	-0.23**	0.51**	0.17**
Depression								1.00	0.18**	-0.20**	-0.22**
Delinquency									1.00	-0.22**	-0.20**
Commitment to Learning										1.00	0.30**
Overall Present Grades											1.00

** Correlation is significant at the 0.01 level (2-tailed)

4.3 RESULTS

T-test analysis for gender differences are included in Table 4.1. Gender differences for depression were significant ($t = -3.8, p < .01$) with girls showing higher mean values than boys (means of 1.75 for boys and 1.85 for girls). Significant differences were also found for delinquency ($t = 10.9, p < .01$) with boys showing higher mean levels than girls (means of 1.39 and 1.18, respectively).

Correlations of measured variables are given in Table 4.2 and all are in the hypothesized direction. We observe that depression and delinquency are correlated at .18 ($p < .01$). And, depression and delinquency are associated with commitment to learning and school and overall present grades at -.2 for all correlations.

Hierarchical regression results are presented in Table 4.3. The hypotheses that school supports would be positively associated with adolescent psychosocial maladjustment and with educational outcomes (after controlling for economic sufficiency, school, grade level and gender) is confirmed.

Table 4.3: Regression of Psychosocial Maladjustment & Educational Outcome Variables on School Supports

	Depression			Delinquency			Commit to Learn & Sch			Overall Present Grades		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Step 1												
School CZ	0.14	0.04	0.12**	-0.01	0.03	-0.02	0.13	0.04	0.12**	0.01	0.06	0.01
School JZ	0.07	0.04	0.06	0.04	0.03	0.04	0.22	0.04	0.20**	-0.17	0.06	-0.08**
Grade Level	0.05	0.01	0.11**	0.03	0.01	0.09**	-0.08	0.01	-0.19**	-0.34	0.02	-0.42**
Gender	0.06	0.05	0.05	-0.17	0.03	-0.21**	0.10	0.04	0.10**	0.26	0.07	0.13**
Economic Sufficiency	-0.24	0.05	-0.11**	-0.08	0.04	-0.05*	0.15	0.05	0.08**	0.64	0.08	0.16**
	$R^2 = .04**$, $F = 13.71$			$R^2 = .07**$, $F = 28.11$			$R^2 = .07**$, $F = 27.29$			$R^2 = .24**$, $F = 110.20$		
Step 2												
School CZ	0.17	0.04	0.14**	0.02	0.03	0.02	0.03	0.03	0.03	-0.01	0.06	0.00
School JZ	0.08	0.04	0.07*	0.06	0.03	0.07*	0.17	0.03	0.15**	-0.18	0.06	-0.08**
Grade Level	0.03	0.01	0.05*	0.01	0.01	0.04	-0.03	0.01	-0.06**	-0.33	0.02	-0.41**
Gender	0.10	0.05	0.09*	-0.16	0.03	-0.19**	0.06	0.04	0.05	0.22	0.07	0.11**
Economic Sufficiency	-0.20	0.05	-0.09**	-0.07	0.04	-0.04	0.10	0.04	0.05**	0.59	0.08	0.15**
School Teacher Support	-0.17	0.03	-0.17**	-0.04	0.02	-0.05	0.12	0.02	0.14**	0.03	0.04	0.02
School Peer Support	-0.10	0.02	-0.12**	-0.01	0.01	-0.01	0.06	0.02	0.08**	0.11	0.03	0.08**
Competency Support in Classroom	0.04	0.03	0.04	-0.01	0.02	-0.02	0.16	0.02	0.16**	0.05	0.04	0.03
School Environment Support	-0.09	0.02	-0.11**	-0.10	0.02	-0.17**	0.24	0.02	0.33**	0.04	0.04	0.03
	$R^2 = .12**$, $F = 26.45$			$R^2 = .12**$, $F = 25.68$			$R^2 = .34**$, $F = 103.14$			$R^2 = .25**$, $F = 65.28$		
Step 3												
School CZ	0.17	0.04	0.14**	0.00	0.03	0.00	0.03	0.03	0.03	0.02	0.06	0.01
School JZ	0.09	0.04	0.07*	0.07	0.03	0.08**	0.17	0.03	0.15**	-0.19	0.06	-0.09**
Grade Level	0.03	0.01	0.06*	0.01	0.01	0.03	-0.03	0.01	-0.06**	-0.33	0.02	-0.41**
Gender	0.11	0.05	0.09*	-0.14	0.03	-0.17**	0.05	0.04	0.05	0.19	0.07	0.10**
Economic Sufficiency	-0.20	0.05	-0.08**	-0.07	0.04	-0.04	0.10	0.04	0.05**	0.59	0.08	0.15**
School Teacher Support	-0.17	0.04	-0.18**	-0.04	0.03	-0.05	0.10	0.03	0.11**	0.05	0.06	0.03
School Peer Support	-0.07	0.03	-0.08*	0.02	0.02	0.04	0.09	0.02	0.12**	0.08	0.04	0.06
Competency Support in Classroom	0.08	0.04	0.08*	-0.02	0.03	-0.02	0.13	0.03	0.14**	0.08	0.06	0.05
School Environment Support	-0.11	0.03	-0.13**	-0.14	0.02	-0.24**	0.25	0.02	0.35**	0.10	0.05	0.07*
Gender x School Teacher Support	0.02	0.05	0.01	0.00	0.04	0.00	0.05	0.04	0.04	-0.05	0.08	-0.02
Gender x School Peer Support	-0.07	0.04	-0.06	-0.06	0.03	-0.07*	-0.06	0.03	-0.05	0.07	0.06	0.03
Gender x Competency Support in Class	-0.09	0.06	-0.06	0.00	0.04	0.00	0.04	0.04	0.03	-0.05	0.09	-0.02
Gender x School Environment Support	0.03	0.04	0.03	0.09	0.03	0.10**	-0.02	0.03	-0.02	-0.12	0.07	-0.06
	$R^2 = .12**$, $F = 18.85$			$R^2 = .12**$, $F = 18.82$			$R^2 = .34**$, $F = 71.92$			$R^2 = .25**$, $F = 45.82$		

*p<.05, **p<.01; Four separate regressions are presented in this table.

Psychosocial maladjustment. In Step 1 of the regression, gender, economic sufficiency, grade-level and school do not account for much variance for depression and delinquency. However, the above variables do show some significant main effects at Step 2. As expected, depressive symptoms are higher among girls ($\beta=.09$), students with lower comparative economic sufficiency ($\beta=-.09$), and students at higher grade levels ($\beta=.05$). Depressive symptoms are also clearly higher in the girls school (CZ) compared to the other two schools ($\beta=.14$) as one would expect given the association with gender. As, expected, delinquency is higher in boys ($\beta=-.19$) and in the boys school (JZ; $\beta=.07$), with no significant differences among economic sufficiency levels and grade-levels.

School support variables account for 8% of the variance in depression (ΔR^2 in Step 2). Beta weights in Step 2 indicated that teacher support (-.17), peer support (-.12), and school environment support (-.11) all negatively relate to depression. For delinquency, 5% of the variance is predicted, but only school environment support is negatively associated with delinquency, i.e., at -.17. For both depression and delinquency there is very little variance explained by gender interactions in Step 3.

Educational outcomes. As is for maladjustment, in Step 1 of the regression, gender, economic sufficiency, grade-level and school do not account for much variance for commitment to learning. In Step 2, gender showed no relation to commitment to learning, while economic sufficiency and grade level showed modest relationships. The boys school (JZ) reported higher commitment to learning ($\beta =.15$) compared to the two other schools.

School support variables account for 27% of the variance in commitment to learning and school. All school support variables have β -weights that are significant; teacher support at .14,

peer support at .08, competency support in the classroom at .16, and school environment support at .33 (see Step 2).

As for overall examination grades, gender, economic sufficiency, grade-level and school do account for a substantial variance seen, i.e. 24% (see Step 1). In Step 2, higher overall examination grades in girls ($\beta=.11$), in those with higher comparative economic sufficiency ($\beta=.15$), and at lower grade levels ($\beta=-.41$) are observed. Lower examination grades are reported for the boys school (JZ) compared to the other two schools ($\beta= -.08$). In contrast to findings for commitment to learning, only 1% of the variance in overall present grades was explained by school supports. Among school supports, only peers were significantly associated with overall grades ($\beta=.08$).

Finally, in Step 3, gender does not moderate the relationships between school supports and educational outcomes.

4.4 DISCUSSION

Gender differences in depression and delinquency

Both t-test and regression analysis show gender differences for depressive symptoms and for delinquency. In general, depressive symptoms are higher in girls while delinquency is higher in boys. Similar gender differences for depression have been found in the literature. For example, Brooks, Harris, & Thrall et al. (2002) found that adolescent females have threefold increased odds of experiencing depression. Costello et al. (2002) reported that after age 13, the rate of depression doubles or triples in females where prior to this age depression is equally common in both boys and girls. Some explanations for this difference have been given, but little data exist to provide answers as to why adolescent girls are more likely to manifest depressive symptoms than

adolescent boys (Steinberg & Morris, 2001). As for delinquency, Gomes et al. (2003) found that at high levels of delinquency, boys were twice more likely than girls to engage in such behaviors. While Seals and Young (2003) found that there were significantly more adolescent males students than adolescent females students that were involved in bullying. It is possible that girls tend to express psychosocial distress in internalizing ways which could lead to depressive symptoms, whereas boys express distress through externalized behaviors that could tend to be viewed as delinquent (McLeod & Owens, 2004). However, more information needs to be collected before attempting to provide some explanation on gender differences in psychosocial maladjustment in Malaysia.

Relationship between school supports and psychosocial maladjustment

Though cross-sectional data in this study does not allow testing of cause-effect relationships, results are suggestive that perceptions of key supports in the school environment have the potential of preventing or reducing incidences of psychosocial maladjustment in adolescents.

School teacher and peer support. In this paper, we have seen how perception of teacher support and peer support are negatively associated with depression, and may hold the potential in lowering depressive symptoms in adolescents. The literature discusses extrafamilial social support such as teacher and peer support as serving as protective factors (Crosnoe, Johnson & Elder, 2004; Dubow et al., 1997). A study by McNeely & Falci (2004) using the Ad Health dataset found that teacher support was protective against health-risk behaviors, particularly suicidal attempts and weapon-related violence. However, more work is needed in determining

why teacher support and peer support in this Malaysian study did not associate with delinquency given what has been mentioned in the literature on the effects of social support in reducing delinquency (Rosenfeld et al., 1998). One possibility is that measurement of delinquency in this study captured specific characteristics that are not necessarily malleable through social support, but instead require clear and fair rules and boundaries. However, Rosenfeld et al. (2000) showed that positive school outcomes are more likely when teacher support is perceived in combination with perceived support from other sources such as parents and/or friends. Future studies that include measures of parent supportiveness may help better explain findings in this Malaysian study.

Broader school environment support. Findings in this study also show that perception of school environment support is negatively associated with depression and delinquency, and may hold the potential in lowering depressive symptoms in adolescents. Samdal et al. (1998) concur on the importance students place on feeling safe, fairly treated, and supported in their school environment (Samdal et al., 1998). Schools that do not provide a safe and encouraging climate can exacerbate psychosocial maladjustment (Wilson, 2004).

Competency-building support in the classroom. While students do report the presence of competency building efforts in their classrooms (see Table 4.1), there was little evidence in this study for its influence on depression and delinquency (see Table 4.3). Weissberg & Greenberg (1998) have forwarded the promise of enhancing competence such as social problem solving skills in preventing deleterious outcomes such as delinquency. The literature is mixed with some highlighting social problem solving skills as protective against psychosocial maladjustment (e.g., depression; Blechman et al., 1986; Gillham et al., 1995), while others suggesting little change in problem behaviors despite improvements in skill level (Kazdin, 1993).

A previous paper showed that competency building efforts in the classrooms was associated with pro-social orientation, i.e., a marker of psychosocial well-being reflecting the integration of pro-social competencies required for successful functioning in one's social environment (Gomez, 2005c). It is possible then that competency building efforts measured in this study, while potentially promoting psychosocial well-being, is rather limited in its potential to protect against psychosocial maladjustment. It is also possible that while students may gain pro-social skills through efforts in the classroom, they may not view these skills as applicable in meeting real-life challenges they are facing.

Finally, measures in MCAW 2003 do not allow for making distinctions between the different types of depression (for example, between temporal symptoms resulting from time-limited situations, and those expressed as a result of clinically-defined disorders; Costello et al., 2002) and different groups of delinquent adolescents (for example, those who only engage in problem behaviors in adolescence as occasional experimenters, and those with enduring patterns that persist into adulthood; Moffit, 1993; Steinberg & Morris, 2001). These distinctions may provide greater clarity in mapping more clearly the relationship between the indices of school support and psychosocial maladjustment

Relationship between school supports and educational outcomes

Before discussing my findings here, I briefly clarify two areas of measurement. One, the literature includes a variety of definitions that reflect school supportiveness (i.e., school attachment, school bonding, school climate, school connection, etc.) that does not make it easy to compare findings across studies or even among research that use the same dataset (e.g. The Ad Health Dataset) given multiple ways different scales are combined (Libbey, 2004). Some

researchers include commitment to learning and school, and teacher support (considered as attachment) within a single measure (e.g. school bonding; Catalano et al, 2004), while others make the distinction between these constructs (Baker et al., 2003; Libbey, 2004; Rosenfeld et al., 2000). In this study, the distinction between measures of commitment to learning and school versus teacher support and peer support are clearly outlined in the methods section. Two, to some degree supportive school environment may reflect in part both teacher and peer support. Table 4.2 shows that the correlation between supportive school environment and teacher support is high, but not as high with peer support. Researchers using the Ad Health dataset have measured school connectedness by including both sense of caring and closeness to teachers and to overall school environment within the same scale (Wilson, 2004). However, as Wilson (2004) points out, each statement measured within school connectedness reflects an important and unique dimension of connectedness and social bonding. The hope is that this paper has contributed in some ways in making this distinction clear.

Results show that all four school supports characteristics are positively associated with commitment to learning and school. From a developmental-ecological perspective, school supports can influence an adolescent's appraisal of the school environment, which in turn can affect school-related outcomes such as satisfaction and commitment to school (Baker et al., 2003). Crosnoe et al (2003), for example, found that adolescents in the Ad Health study who had friends who liked school, and especially those who did well in school were an important resource for good educational outcomes. Students with caring and supportive interpersonal relationships in school report more school engagement (commitment to learning & school) which are likely to result in higher grades and test scores (Klem & Connell, 2004). Supportive teacher and peer relationships, from a developmental ecological perspective, provide opportunities for adolescents

to meet their developmental need for connectedness to others, thus enhancing positive adjustment and commitment to school (Baker et al., 2003). As for the broader school environment, the Child Development Project Battistich et al. (1997) discusses how schools as caring communities can result in students becoming committed to school and learning. Roeser, Eccles & Sameroff (2000) too report that adolescents who perceive their schools as supportive show increased value for school. Finally, findings from both the Seattle Social Development Project and Raising Healthy Children confirm that teaching children social and emotional competence is critical for achieving academic success (Catalano et al, 2004).

However, the above supports may not necessarily bear much impact on overall examination grade. School supports explained only 1% of the variance in overall examination grades measured in this study, with school peer support showing a small positive association. In contrast, grade-level, economic sufficiency, gender, and school accounted for 24% of the observed variance in overall examination grade. Given the literature, for example on effects of economic sufficiency on child development and educational outcomes (McLoyd, 1998), the above relationships are expected. Nonetheless it does not explain the lack of significant associations between school supports and overall examination grade. It is possible that grades for specific subjects (not measured in this study) may reveal associations with school supports worthy for consideration.

Relationship between school supports, maladjustment, and educational outcomes

In this study, positive associations between school supports and psychosocial maladjustment were found (see Table 4.3). Substantial and negative correlations between psychosocial maladjustment and educational outcomes were also discovered (see Table 2)

suggesting that higher levels of maladjustment are associated with poorer educational outcomes. The directionality of the relationship between the above constructs however, remains to be studied. According to the social development model and findings from the Seattle Social Development Project and Raising Healthy Children, if a school is well organized with good teacher support and a peer culture that supports academic achievement, commitment to school is likely to produce positive outcomes (e.g. higher academic achievement) and reduce problem behaviors (e.g. delinquency) (Catalano et al., 2004). However, using the Ad Health data, McNeely and Falci (2004) was not able to find support for the hypothesis that teacher support generates a sense of belonging (commitment to school) which in turn reduces involvement in health-risk behaviors. This may be partly due to how sense of belonging was measured by McNeely and Falci and their inability to distinguish between pro-social peer connectedness and unhealthy peer connectedness.

Limitations and future studies

Study limitations include the use of cross-sectional data, mono-method bias, the exclusion of variables in the social environment beyond school, and school-gender association. Mono-method bias for example, includes perception of social support that could possibly be influenced by temporal changes in attitude or mood, as well as personality traits (Procidano & Heller, 1983). From an ecological perspective, identifying and measuring the broader social network beyond school is a way of better capturing the web of settings in which adolescent development occurs (Bronfenbrenner & Morris, 1998; Dubow & Ullman, 1989; NRC & IOM, 2002). School-gender association includes for example the boys school in the present study reporting higher commitment to learning ($\beta = .15$) compared to the two other schools. Future

studies will be planned to collect longitudinal data that includes teacher reports on adolescent adjustment, interviews with school personnel on structure and levels of support available and utilized by students, parent reports on adolescent adjustment and educational and psychosocial supports provided at home and in the community, and school characteristics such as size, organization, and ratio of teachers to students. Future studies may also want to include a measurement of sense of community in exploring this as a mediating process between school supportiveness and adolescent outcomes. Payne et al. (2003) and Battistich et al. (1997) have shown that schools organized as caring communities show promising effects in reducing psychosocial maladaptation and promoting positive outcomes.

It is probably essential to have a better sense of the developmental needs of adolescents within their cultural and societal context so as to determine the kind of educational environment that would be developmentally appropriate and provide promise in supporting positive psychosocial development (Eccles et al., 1993). Such a “sense” can take the form of periodical needs, risk and protective factor assessment to keep abreast of continual changes in the adolescents’ environment and to develop matching psychosocial educational strategies in meeting these changes. Schools, with a captured audience of adolescents and vast linkages to the larger community, make ideal places to continually measure needs, risks and protective factors working in the lives of adolescents.

One other limitation in this study was the possibility of school-level effects and classroom effects within each school, particularly in respect to delinquency and educational outcomes. Given that a national education system exists in Malaysia, and similar schools were selected, not much variation in outcomes due to school-level influences was expected, though what may exist would have been controlled for in the regression analysis. However, likely a

result of gender composition of schools, schools did show some influence on depression (much higher in the girls school and somewhat higher in the boys school compared to the co-ed school) and delinquency (higher in the boys school). The boys school also reported higher commitment to learning and school than the other two, but lower overall examination grades. As for classrooms, the study was not able to discount the possibility of academic tracking as a means of how classrooms were organized within schools in this Malaysian sample. Academic tracking has been shown to correlate with delinquency such as acts of vandalism (Tygart, 1998). However, distribution of delinquent behaviors in our sample performed post-hoc do not reflect classroom effect, with the concern being that lower academically achieving classrooms expressing greater delinquent behaviors as measured in this study. Within a school, there was no clear pattern of more students reporting high delinquent behaviors grouped within the same classroom. For each delinquent behavior (at the item level), on average, there were about one or two from a particular classroom. For example, in the school reporting more cases of delinquent behavior, there were 19 out of 23 classrooms in the study that had at least one student reporting to have seriously threatened or hurt someone five times or more, with only 3 out of these 19 classrooms with three or four students reporting this. Future studies will include more schools and classrooms that will enable multi-level modeling and in determining how much school-level and classroom-level effects influence psychosocial maladjustment and educational outcomes.

Finally, the present study focused on perceived social support, i.e., subjective appraisal of school support. Barrera (1986) suggested that there are three elements of social support, i.e., perceived support, actual (or enacted) support, and social embeddedness or network. Future studies may want to include actual supportive behaviors (Dubow & Ullman, 1989), and social network characteristics (Procidano & Heller, 1983).

4.5 SUMMARY & RECOMMENDATIONS

A key objective of the MCAW Study was in assessing adolescent psychosocial health in Malaysia and highlighting important associations between school supportiveness and psychosocial well-being and psychosocial maladjustment respectively. First, in my validation study, I determined three markers of adolescent psychosocial well-being i.e., positive sense of self, pro-social orientation, and avoidance and resistance skills (Gomez, 2005a). Though exploratory factor analysis, confirmatory factor analysis, Cronbach's alpha and correlational analysis it was confirmed that the three markers of psychosocial well-being are measurable, distinct from each other, and invariant across sub-samples (split-half validation method) and gender. Correlational analysis shows that positive sense of self, pro-social orientation, and avoidance and resistance skills are related but distinct from depression at $-.30$, $-.09$, and $-.11$ respectively; and from delinquency at $-.11$, $-.20$, and $-.28$ respectively (all values for depression and delinquency are significant at $p < .01$). In a subsequent paper, using hierarchical regression, school supports accounted for about 15% of the variance for positive sense of self, 28% for pro-social orientation, and 7% for avoidance skills (Gomez, 2005c). All school support variables had significant β -weights with values as high as $.21$ for positive sense of self, $.26$ for pro-social orientation, and $.19$ for avoidance skills. In the present paper, we see how school supports also account for variance in depression and delinquency at 8% and 5% respectively, and for variance in commitment to learning and overall examination grade at 27% and 1% respectively. School supports had associations (β -weights) as high as $-.17$ for depression, $-.17$ for delinquency (school environment support only), $.33$ for commitment to learning, and $.08$ for overall examination grade (peer support only). Regression analyses in both Gomez (2005c) and the present paper, controlled for economic sufficiency, grade-level, and gender, all of which were significantly

associated with psychosocial well-being, psychosocial maladjustment, and educational outcomes. My findings across papers present evidence that higher school supports are associated with higher psychosocial well-being, lower psychosocial maladjustment and higher commitment to learning and school. At the same time, an appreciation of the influence of gender, grade-level, and economic sufficiency on adolescent psychosocial health is needed.

With much of the focus of education on examination readiness, many Malaysian students feel a great deal of pressure to do well in school (Barone, 2004; Haris, 1997). Many urban children in Malaysia currently lead rather rushed lives, running from one organized activity to another such as “tuition classes” (i.e. coaching classes), art classes, self-defense classes, and music classes (Khoo, 2002). While there are multiple pathways to depression in adolescents (Costello et al., 2002), recent concerns have been raised on how the school environment in Malaysia may be contributing to maladjustment such as depression in adolescents and the subsequent impact such maladjustment may have on educational outcomes (Krishnamoorthy, 2005). Present day adolescents are also faced with decisions they have to make that have serious consequences such as choosing appropriate peers, resolving conflicts, negotiating increased independence from parents, and experimenting with tobacco and alcohol (Weissberg & Greenberg, 1998). In ensuring our young navigate pathways towards successful adulthood, become healthy contributing persons in our society, and minimize personal and societal costs resulting from psychosocial maladjustment, schools as a logical point of prevention and promotion in society must play an important role towards these goals (Carnegie Council on Adolescent Development, 1995; Dubow et al, 1997). Findings presented in this and other MCAW papers, and current literature helps guide the following recommendation for educators.

School teacher and peer support. Keeping in mind that school outcomes are enhanced when students are embedded in a supportive network of individuals, school personnel could first determine from students types of social supports that are lacking in their school, how dissatisfied are they with present lack of support, and do they see these supports as important for their psychosocial and educational functioning (Rosenfeld et al, 2000; Rosenfeld et al., 1998). Some considerations for intervention could include attempting to increase size of support network, training members of the school to provide specific supportive behaviors, and focusing on the adolescent's perception of support (Dubow & Ullman, 1989). Rosenfeld discusses eight important social support needs of adolescents, for example listening support and emotional support (Rosenfeld et al., 1998). Teachers and counselors could be made aware of these types of support and provided with training on how to enhance them in their classroom and school. However, efforts in building support in school will work only to the extent that students recognize and access the support available to them (Rosenfeld et al, 2000). Students would need to be made aware and understand how utilizing the social support in school can help, and their own role as an important provider of social support to their peers (Rosenfeld et al, 2000).

Broader school environment support. Establishing research-based training and technical assistance for school personnel may be important in promoting broad-based supportiveness in schools that has the potential in promoting psychosocial well-being and reducing psychosocial maladjustment (Greenberg et al., 2003). Two models that school personnel could reference include the Comer's School Development Program, and the Child Development Project (Kupermine et al, 2001). Comer's School Development model focuses on creating overall school climate where students feel safe and valued by adults and each other, and supported in their learning and development (Haynes et al., 1996, chap. 6). The Child

Development Project developed by Battistich et al. for elementary school has strategies such as cooperative learning and cross-age buddy system that secondary schools could use in creating a caring climate of peers (Battistich et al., 2000; Battistich et al., 1997). Further, school personnel and researchers working together could use theoretical models such as the social development model in efforts towards organizational changes that could enhance school connections (Hawkins et al., 1992). Finally, the Wingspread Declaration on School Connection could be a useful checklist for educators that include creating a safe and supportive environment, and one built on fair and consistent discipline (Blum & Libbey 2004).

Classroom-based competency-building efforts. Classroom-based social competence-promotion efforts represent the most commonly implemented and evaluated school-based prevention approach that educators could consider integrating into standard curriculum (Catalano et al., 2002a). Competency building support in the classroom, in combination with efforts in creating a supportive school environment that are developmentally appropriate, and supportive teachers and peers are likely to increase positive student functioning (Carnegie Council on Adolescent Development, 1995; Greenberg et al., 2003). Combining general competency-building efforts with attempts to affect student knowledge, attitudes and behavioral competence in specific domains are more likely the promising approach for preventing specific areas of psychosocial maladjustment (Weissberg & Greenberg, 1998).

4.6 CONCLUSION

In conclusion, there is growing concern in Malaysia that increasing numbers of adolescents are having difficulties managing the challenges of development, and growing awareness that schools can play an important protective role in adolescent psychosocial functioning. Broadly, programming in schools and teacher training institutions, while taking into account student's gender, economic sufficiency and grade-level, need to focus on ecological methods in increasing social support of teachers and students, developing competencies in students, and providing a safe and structured environment for positive adolescent development. In the above recommendations for greater ecological support, educators and researchers alike are reminded that using empirically-proven and sustained long-term school programs have a better likelihood for achieving success for targeted adolescent outcomes, particularly where efforts have been made to adapt them to the culture and specific needs of the school and larger community.

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Education

2000-05 Ph.D. in Human Development & Family Studies, Pennsylvania State University

1996-98 M.A. in Counseling Psychology Lewis University, Illinois (GPA=4.0)

1990-94 B.Sc. (First-class Hons) in Molecular Biology The University of Malaya

Awards

Prevention Fellowship 2002-2003, Fulbright Scholarship 2000-2002, The Associated Colleges of Illinois Scholarship 1997, The Faculty of Science Book Prize 1994

Professional Experience

2000-05 Doctoral Research Assistant (CTC & PROSPER), Penn State Prevention Research Center

2001-05 Principal Investigator, The Malaysian Child & Adolescent Wellbeing (MCAW) Project

1999-00 Counseling Psychologist & Faculty, Center for Psychology, HELP College, Malaysia

1990 Lecturer in Psychology, Graduate Program in Counseling, DeLaSalle Institute, Malaysia

1997-98 Psychology Intern, Child & Adolescent Unit, Provena St. Joseph Medical Center, Illinois

Professional Membership

2003-05 Society for Research on Adolescence; 2003-05 Society for Prevention Research; 2000-04

Malaysian Mental Health Association ; 2000-02 Malaysian Psychiatric Association ; 1997-98

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Selected Publications & Presentations

Gomez, B.J., Greenberg, M.T., and Feinberg, M. (2005). Sustainability of community coalitions: An evaluation of 20 coalitions under Communities That Care. *Prevention Science*.

Gomez, B.J., Ang, M.M., Coatsworth, J.D., Edelbrock, C.T. (2004). The Malaysian Child & Adolescent Well-being Study: Implications in promoting positive youth development in schools. 12th Annual Meeting of the Society for Prevention Research, June 2003, Quebec City, Canada.

Feinberg, M., Puddy, R.W., Gomez, B.J., Greenberg, M.T. (2005, accepted). Evaluation and Community Prevention Coalitions: Validation of an Integrated Web-Based/Technical Assistance Consultant Model

Ridenour, T.A., Maggs, J., Ang, P., Zinn, L., Gomez, B.J., Mulfinger-Miller, A. (2005, manuscript in progress). Early Initiation of Tobacco or Alcohol Use, Impulsivity, Inattention, and the Perception that Substance Use is Safe in Children Experiencing Chronic Stress.

Gomez, B.J. & Ang, P.M.M. (2005, manuscript in progress). Promoting positive youth development in adolescents and creating system-wide change in schools. *Theory into Practice*.

Gomez, B.J., Feinberg, M., Greenberg, M.T., and Spoth, R. (2004, manuscript in progress). Associations between prevention partnership teams early functioning and later team functioning in PROSPER.

Greenberg, M., Feinberg, M., Gomez, B. (2003). Testing a Model of Coalition Functioning and Sustainability: A Comprehensive Study of Pennsylvania Communities That Care. In. *Preventing harmful substance use: The evidence base for policy and practice*. T. Stockwell, P. Gruenewald, J. Toumbourou and W. Loxley (Eds.)

Gomez, B.J., Feinberg, M., and Greenberg, M.T. (2003). The readiness of prevention coalitions in a university extension and school partnership project in implementing youth resiliency programs. 11th Annual Meeting of the Society for Prevention Research, June 2003, Washington D.C..

Gomez, B.J., Feinberg, M., and Greenberg, M.T. (2003). Factors associated with the sustainability of coalitions in addressing adolescent problems. 11th Annual Meeting of the Society for Prevention Research, June 2003, Washington D.C..

Gomez, B.J. (1997). The Movement in Parenting Education Towards an Empowerment Approach . Presented at the Sixth Annual Graduate Education Conference, Lewis University, Illinois.