

**DEVELOPMENT AND VALIDATION OF
PARENT ACTION MEASUREMENT MODEL**

by

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PEMBINAAN DAN PENGESAHAN MODEL PENGUKURAN TINDAKAN IBU BAPA

ABSTRAK

Kajian bertumpu pada pembinaan dan pengesahan instrumen SPAQ yang bertujuan untuk mengesan konstruk tindakan ibu bapa yang mempunyai impak terhadap pencapaian akademik dan disiplin pelajar di Malaysia. Kaji selidik ditadbirkan kepada 3425 pelajar berbilang kaum daripada 24 sekolah menengah di Kedah, Pulau Pinang dan Perak. Kajian ini dijalankan dalam dua peringkat. Peringkat pertama, melibatkan proses pembinaan SPAQ (“*Student’s Parents-Actions Questionnaire*”) yang mencakupi penggubalan dan pengoperasian konstruk, pengolahan dan pemurnian item serta penterjemahan instrumen. Model pengukuran SPAQ disahkan daripada segi konten dan konstruk. Kesahan struktur model dan ‘kesetaraan’ merentasi tiga kumpulan etnik iaitu Melayu, Cina dan India turut diuji. Dalam bahagian kedua pula, struktur model digunakan bagi melihat pengaruh konstruk tindakan ibu bapa terhadap pencapaian akademik dan disiplin pelajar menengah. SPAQ memaparkan nilai koefisien kebolehpercayaan Alfa Cronbach, $\alpha = 0.93$ dan koefisien rho, $\rho = 0.94$. Kesahan konten dinilai daripada hasil purata ‘*rating*’ bagi setiap item oleh penilai pakar manakala kesahan konstruk ditentukan melalui muatan faktor item, $\lambda > 0.60$ (kesahan konvergen) dan gabungan indeks ‘*goodness-of-fit*’ seperti AGFI, RMR, IFI, TLI, PNFI, CFI dan RMSEA. Pekali korelasi di antara konstruk, $r < 0.85$ digunakan untuk kesahan divergen. Struktur model pengukuran yang bersifat multidimensi diuji dengan menggunakan indeks ‘*goodness-of-fit*’ seperti χ^2/df , CFI, TLI, SRMR dan RMSEA daripada analisis “*Structural Equation Modelling*” (SEM). Semua indeks ‘*goodness-of-fit*’ memaparkan nilai yang memuaskan dengan nilai $\chi^2/df < 5.00$, CFI > 0.90 , TLI > 0.90 , SRMR < 0.10 dan RMSEA < 0.05 . SPAQ turut mematuhi kriteria ‘*measurement invariance*’ merentasi ketiga-tiga kaum dengan nilai perubahan minima,

$\Delta CFI \leq 0.01$. Struktur model dalam SEM bagi model pengukuran SPAQ dan pencapaian akademik serta disiplin menunjukkan kesepadanan data-model yang memuaskan dengan nilai CFI, NNFI ≈ 0.90 dan nilai RMSEA < 0.05 bagi ketiga-tiga kaum. Dapatan menunjukkan konstruk tindakan ibu bapa tertentu memberi sumbangan yang signifikan kepada pencapaian akademik dan disiplin kaum tertentu. Konstruk *COND* (kondusif) merupakan penyumbang positif yang signifikan manakala konstruk *HWK* (kerja rumah) merupakan penyumbang negatif yang signifikan bagi pencapaian akademik merentasi ketiga-tiga kaum. Konstruk *ASP* (aspirasi) hanya signifikan bagi kaum Melayu dan konstruk *CONF* (konflik) pula signifikan bagi kaum India dalam pencapaian akademik. Kelapan-lapan konstruk tidak memberikan sumbangan yang signifikan terhadap disiplin pelajar bagi kaum Cina dan India. Walau bagaimanapun, lima daripada konstruk terlibat mempunyai hubungan signifikan dengan disiplin pelajar untuk kaum Melayu. Konstruk yang menyumbang secara negatif ialah *ASP* (aspirasi), *COND* (kondusif) dan *WARM* (kemesraan) dan konstruk yang menyumbang secara positif terdiri daripada *HWK* (kerja rumah) dan *REL* (keagamaan). Justeru itu, adalah diharapkan ibu bapa dapat menghayati dan mempraktikkan konstruk-konstruk yang memberi manfaat dalam menangani masalah disiplin dan meningkatkan pencapaian akademik anak-anak remaja. Selain itu, pihak Kementerian Pelajaran dan sekolah-sekolah turut boleh mengambil ikhtibar dari dapatan ini untuk dimanfaatkan demi kepentingan bersama.

DEVELOPMENT AND VALIDATION OF PARENT ACTION MEASUREMENT MODEL

ABSTRACT

The present research is aimed at developing and validating an instrument (SPAQ) to measure the impact of parents' actions on students' academic achievement and discipline in Malaysia. A survey using SPAQ was administered to 3425 secondary school students of various races from 24 schools in Kedah, Penang and Perak. This study was conducted in two stages. The processes in the development stage of the "Student's Parents-Actions Questionnaire" (SPAQ) included the formulation and operationalisation of constructs, formulation and refinement of items and translation of the instrument. The content validity and construct validity were established. The model factor structure and SPAQ measurement model invariance were validated across the Malay, Chinese and Indian ethnic groups. The second part of this study explored the impact between the various constructs of parents' actions on students' academic achievement and discipline by utilising the structural model. SPAQ exhibited high reliability with Cronbach's Alpha, $\alpha = 0.93$ and coefficient rho, $\rho = 0.94$. It also exhibited sufficient content validity and construct validity. Content validity was evaluated from the average rating for each item by the experts. Item loadings with $\lambda > 0.60$ and acceptable values of goodness-of-fit indices such as AGFI, RMR, IFI, TLI, PNFI, CFI and RMSEA indicated convergent validity. The correlation coefficient between constructs, $r < 0.85$ indicated the existence of divergent validity. The multidimensional factor structure was established using model-data fit indices such as χ^2/df , CFI, TLI, SRMR and RMSEA from Structural Equation Modelling (SEM) analysis. All the values of the indices fulfilled the stipulated criteria with $\chi^2/df < 5.00$, $CFI > 0.90$, $TLI > 0.90$, $SRMR < 0.10$ and $RMSEA < 0.05$. SPAQ has also fulfilled the various measurement invariance tests as indicated by the minimal change in CFI index,

$\Delta CFI \leq 0.01$. The structural model for academic achievement and discipline also indicated good model-data fit. This was indicated by the various indices such as CFI, NNFI ≈ 0.90 and RMSEA < 0.05 for the three ethnic groups. The findings showed that certain constructs of parents' actions had contributed significantly to the academic achievement and discipline of particular ethnic groups. The COND (conduciveness) construct contributed positively and the HWK (homework) construct contributed negatively towards academic achievement. Both constructs contributed significantly in each ethnic group. Parents' aspiration (ASP) was the sole construct which contributed significantly to the Malay's academic achievement whereas the CONF (conflict) construct was the only construct which contributed negatively and significantly to the Indian's academic achievement. All the eight constructs did not have any significant contribution to discipline for the Chinese and Indian ethnic groups. Only five constructs were significant in the Malay ethnic group. The aspiration (ASP), conduciveness (COND) and warmth (WARM) constructs had contributed negatively whereas parental involvement in homework (HWK) and religiosity (REL) had positively contributed to the child's discipline. As such, it is hoped that parents can exploit the findings to reduce their children's discipline problems and increase their academic achievement. The Education Ministry and schools may utilise these findings for the benefit of all.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The society today places great importance in academic achievement. Educators and parents struggle to provide the best to the young in the hope that they will be successful academically. The involvement of parents in their children's education has attracted vast research overseas and locally as it can easily be found in numerous educational journals and articles. Many researchers have looked at the parental involvement from two perspectives. The first perspective is the family demographic aspects such as socioeconomic background which is normally operationalised as family income or education level (Heyman & Earle, 2000; Mehan, 1992; Shumow, Kang, & Vandell, 1996), race (Desimone, 1999), family structure, and gender (Fuligni, 1997; Shumow, Kang, & Vandell, 1996). The second perspective is parenting practices such as parental supervision and monitoring, support, communication (Florsheim, Tolan, & Gorman-Smith, 1998), high level of educational expectations (Desimone, 1999; Kaplan, Xiaoru, & Howard, 2001; Zellman & Waterman, 1998), consistent encouragement by parents (Catsambis, 2002), assistance in homework (Balli, 1998; Callahan, Rademacher, & Hildreth, 1998; Cooper, Lindsay, & Nye, 2000; Epstein, Simon, & Salinas, 1997) and parents' religiosity (Loury, 2004; Regnerus & Elder, 2003).

In Malaysia, many steps are taken by school authority in order to achieve the targeted curriculum and co-curriculum results. Extensive research had been done particularly on students and school administration. Unfortunately, there is a lack of research on parents-students dimensions.

Research on parents-students dimensions and their relations with academic achievement and discipline are important as research showed that students who have strong parental support would have strong positive feelings toward the benefits of education, exhibited less behaviour problems, enjoyed schooling and performed better academically than those students who are lacked of parental support (Hinds, Richardson, Ernest, Kishchuk, & Sproul, 1999).

Academic underachievement and disciplinary problems are serious problems afflicting a large number of children and adolescents nowadays (Reinke, Herman, Petras, & Ialongo, 2008). In addition, academic and disciplinary problems have been associated with substantial costs to families and society as well (Reinke et al., 2008). Much has been written about the deleterious outcomes associated with life course persistent or early starter pathways to antisocial behaviour problems (Moffitt, 1993; Patterson, Capaldi, & Bank, 1991).

Youngblade and Theokas (2006) noted that adolescents would have positive outcomes when there is a suitable fit between individual developmental needs and contextual resources. Thus, a rich external environment suitably embedded with positive stimuli is beneficial to their psychology, social and intellectual development. Numerous studies have been carried out to search for key constructs which may have effect on academic achievement and discipline problems. Many researchers have concluded that parental involvement played an important role in students' academic achievement and discipline. However, it is found that there is scarcely any investigation on the type of parental involvement in Malaysia. It is beneficial to investigate how parental involvement can benefit students' academic achievement and discipline in the Malaysian context.

In view of the importance of academic achievement and the lack of investigation of parents' actions towards students' academic achievement and disciplinary problems in the Malaysian context, this research is forwarded to fill the gap of parental knowledge in actions which would be beneficial to their adolescence schooling children. As findings in the western countries have shown that certain kinds of parental involvement played a vital role in enhancing students' academic achievement and reducing disciplinary problems, it would be beneficial to explore this issue in the Malaysian context. This is in line with the Malaysian government's effort to achieve the status of a fully developed nation by the year 2020 – also known as Vision 2020 (Mahathir, 1991).

Vision 2020 was initiated in 1991 to achieve the status of an industrialised and developed country in terms of its economy, national unity, social cohesion, social justice, political stability, system of government, quality of life, social and spiritual values, national pride and confidence (Mahathir, 1991). Under Vision 2020, education is positioned as the key engine to drive the nation from an economy based on labour-intensive and lower-end manufactured products to an economy based on knowledge by the year 2020. It is also aimed to transform and inculcate good values among its citizens. Subsequently, the need for high achievers in the academic arena increases. Thus with this vision, school authorities, policy makers and researchers push to look into various ways to uplift the standard of academic achievement. Hence, various strategic steps focusing on school reforms such as the concept of cluster schools, the usage of technology as pedagogical tools (Ministry of Education Malaysia, 2003), reform in the curriculum, upgrading of teachers through courses and many more have been implemented to achieve this vision. However, the environment outside of schools

particularly the parents' aspects may have been neglected. As mentioned by Schickedanz (1995),

Efforts to increase academic achievement typically focus on "school reform". School days are lengthened, standards are tightened, qualification for teachers are increased. It is argued that even though school and teacher efforts are important, conditions outside schools hold the key to increase academic achievement, substantially (p.19).

Conditions outside the schools encompass a range of variables such as the family socioeconomic background, family characteristics and school choice (Shumow et al., 1996), family relationships (Florsheim et al., 1998), home environment (Gottfried, Fleming, & Gottfried, 1998), parenting styles and parental practices. These imply the importance of parental involvement. Inevitably, parents' roles have become more challenging. A number of studies have also indicated that parenting styles and practices with children and adolescents are related to students' academic motivational beliefs (Aunola, Stattin, & Nurmi, 2000; Leung & Kwan, 1998) and academic grades (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997; Lee, Daniels, & Kissinger, 2006). Subsequently, research were carried out to investigate the psychological factors that affect the students such as students' academic self motivation and academic self-concept (Joseph, 1994; Marsh, Byrne, & Shavelson, 1988; Wigfield, Lutz, & Wagner, 2005).

1.2 Parental Roles and Challenges with Adolescents

In the Asian context, parents are considered as important figures in a family. Parents play a very important role as breadwinners of the family and in the upbringing of their children. Present-day psychologists often identify parenting as an important tool of children's growth and development. Parents' involvement in education has been

identified as a way to improve students' school success (Christenson, Rounds, & Gorney, 1992).

According to Mowder, Harvey, Pedro, Rossen, and Moy (1993), there exist six parenting characteristics. These include bonding (such as feeling love for and demonstrating affection to children), discipline (such as imposing rules and ensuring adherence to the rules), education (such as guiding, teaching and educating children), protection and general welfare (such as protecting children from harm and providing them with their basic needs), responsivity (such as responding to children and their needs), and sensitivity (such as matching parent response to children's needs). In the Malaysian context, parents interact with their children in concordance with how they conceptualise the meaning of being a parent and generally act according to those parenting ideas.

Furthermore, with the rapid economy advancement in developing countries such as Malaysia, the changes in the lifestyles of families may interfere with parents' role as well. For instance, with the increasing demand of labour force in the Malaysian economy, the number of families with both working parents is increasing. This phenomenon has changed the traditional culture of Malaysia where the men are usually the sole breadwinners of the family and the women are fulltime housewives. The labour force for female has increased from 2.51 million in 2000 to 3.79 million in 2006. There is also an increase in the number of registered female professionals from 24,860 in 2006 to 26,299 in 2007 (Department of Statistics Malaysia, 2008). As reported in the Ninth Malaysian Plan (2006-2010), the labour force participation rate for male and female have increased from year to year. From the year 2000 to 2010, the labour force participation rate of male is projected to increase from 85.7% to 87.4% and for female

from 44.7% to 46.3% (Department of Statistics Malaysia, 2008). Generally, more and more parents are spending less time with their children at home. In order to compensate the time loss, parents will have to utilise fully whatever time they have with their children; using effective ways which will boost their children's academic achievement and reduce their disciplinary problems. Unfortunately, many parents are confused of what their children really needs (Wolfendale & Einzig, 1999) and thus unable to fulfill their children's need. Time changes and the need of the adolescents may varies as well.

According to Hushim (2007):

The way parents deal with their children has to be different and suitable according to age and most importantly parents need to find time and space to be with their children especially when they are growing up in the adolescent phase. During this phase they are psychologically more sensitive and very rebellious (p.12).

Huge number of juvenile cases (adolescents involve in crime) were reported over the years which were at 5,284 cases in 2000; 5,182 cases (2001); 5,319 cases (2002); 4,998 cases (2003); 6,056 cases (2004) and 7201 cases in 2005. It has increased (though not consistently over the years) to approximately 36.28% over a period of five years (Department of Social Welfare Malaysia, 2006).

Parents face a variety of social problems related to their adolescents such as drug addiction, unwanted babies, 'Mat Rempit', illegal racing and committing suicide cases. News on robbery, cheating, and blackmailing involving adolescents always made the headlines on the newspaper (Zaleha, 2007). There was an incident where police have rounded up nearly 500 'Mat Rempit' consist of students and dropouts with ages ranging from 13-19 years old in an operation at Dataran Merdeka, Kuala Lumpur ("115 m-cycles," 2009). This incident, once again shows that parents have to play a crucial role in nurturing their children. Hence, it is timely that parents should be more responsible for their adolescent children's well-beings.

Disciplinary issues of the secondary school students in Malaysia include behaviours that contain element of crime, pornography, impoliteness, destructive behaviour, messy dressing, truancy and naughtiness (See, 2010; Malaysia Ministry of Education, 2008a). In order to reduce these disciplinary issues, proactive steps need to be taken to address the social problems faced by the adolescents. This is vital as the number of young people keeps on increasing and they are the future composition of population who are going to be the next line up of the Malaysian generation. The population of the Malaysian adolescents age 13 to 20 (as shown in Table 1.1) keeps increasing over the years from 2005 at 3.93 million to 4.07 million in 2009 (Department of Statistics Malaysia, 2010).

Table 1.1

Adolescents (age 13-20) Population of Malaysia ('000)

Ethnic	2005	2006	2007	2008	2009
Malay	2,265.3	2,295.5	2,322.8	2,347.6	2,371.0
Bumiputera lain	505.8	513.9	520.9	527.0	531.7
Chinese	826.2	826.7	826.1	824.9	824.1
Indian	275.1	275.7	276.0	276.0	276.2
Others	57.0	59.1	61.1	63.3	65.4
Total	3,929.5	3,970.8	4,006.9	4,038.8	4,068.4

From Department of Statistics, Malaysia (2010). *Teenagers population of Malaysia by ethnic from 2005-2009*. Retrieved September 14th 2010 from http://www.malaxi.com/population_size_age_structure2001_2010.html

Hence, proper and good guidance particularly from the parents are of much importance. However, due to the fact that many parents are confused of what their children need (Wolfendale & Einzig, 1999), it is vital to investigate the various parenting aspects particularly the parents' actions which will be beneficial to the adolescents in Malaysia.

Parenting can affect the way in which children develop and results in various outcomes (Bornstein & Bradley, 2003; Magnuson & Duncan, 2004). Hence, the right decisions and practices of parents are undoubtedly vital in forming a 'good' child. Many researchers have looked into the impact of parents' roles on adolescents' academic achievement and behaviour development (Donnelly, 2008; Hedges, 1996; Krueger, 1999; Lane, Wehby, Robertson, & Rogers, 2007). This magnifies the importance of parent role on adolescents' academic achievement and discipline.

1.3 Importance of Academic Achievement

Academic achievement is an essential component for young people's successful development in today's society. Children and adolescents who do well in school are more likely to make a successful transition to adulthood (Redd, Cochran, Hair, & Moore, 2002). In Malaysia, a good academic result will be assumed as a passport or gateway to a better employment (Marina, 2004). Parents and the society tend to measure success and failure in academic achievement through the students' grades in examinations. In short, an individual's success in post-secondary education and consequently in the labour market is determined primarily on how well he or she does in primary and secondary school (McIntosh, 2008). Hence, good grades in the public examinations in Malaysia namely the *Ujian Penilaian Sekolah Rendah (UPSR)*, *Penilaian Menengah Rendah (PMR)*, *Sijil Pelajaran Malaysia (SPM)* and *Sijil Tinggi Pelajaran Malaysia (STPM)* will be of advantage in determining the chances of getting into the paths of higher education institutions and later into the job market. Outcomes promoted by successful academic performance include attainment of a higher institution qualification, enhanced social and emotional well-being, avoidance of unhealthy

behaviour and improved socio-economic status in adulthood (Murnane, 1994). Research has shown that students who do well in school are more capable to make the transition into adulthood and to achieve occupational and economic success (Redd et al., 2002). In Malaysia, high academic achievement is assumed to be the prerequisite to higher occupational attainment and socioeconomic status as well.

1.4 Discipline Problem and Parental Influence

In the process towards achieving successful academic achievement, discipline always serves as one of the important factor. Student who is prone to flouting the rules or norms is categorised as having disciplinary problems. Disciplinary problems which include delinquent acts and violent crime have been linked to the quality of parent-child relationship (Hair et al., 2004). According to Jessor and Jessor (1975), the parent-child relationship appears to be positively related to adolescents' behaviour and outcomes in the academic setting. Lower levels of parental support are linked with higher levels of adolescents' deviant behaviour and lower levels of socially approved normative behaviour, such as religious involvement and academic achievement (Jessor & Jessor, 1975). A study on 12,000 adolescents has found that there is a link between positive parent-child relationships and committing fewer disciplinary problems, for both older and younger adolescents (Blum & Rinehart, 1997; Resnick et al., 1997). This is also in coherent with Hirschi (1969) suggestion that individuals who have developed a strong bond to society such as the family, the schools and the peer in terms of attachment, commitment, involvement and belief are less likely to commit delinquency or disciplinary problems. This is the social control theory which claimed to apply across racial, gender and social class boundaries (Junger & Marshall, 1997). The problems of

violent and deviant behaviours are widely viewed as harmful in the context of the consequences they may bring about, which lead to school suspensions, expulsions and poor peer relations (Capaldi & Stoolmiller, 1999; Rodney, Crafter, Rodney, & Mupier, 1999).

Malaysia is not an exception in this discipline issue. In order to overcome this problem, the Ministry of Education of Malaysia has come up with various means such as counselling, mentor-mentee programme and the demerit system in schools. There is even a special hotline for the public to complain directly to the Ministry about bullying in school (Malaysia Ministry of Education, 2009). In order to tackle this problem, a substantial amount of RM 6.11 million is allocated for the various activities and programmes to be carried out (Malaysia Ministry of Education, 2008a).

A number of family factors have been linked to the development and exacerbation of adolescent disciplinary problems. Of these family-related risk factors, ineffective parenting practices, especially poor parental monitoring (Pettit, Bates, Dodge, & Meece, 1999), disorganised family management strategies (Swadi, 1999), coercive and manipulative attempts to control the adolescent (Loeber & Stouthamer-Loeber, 1998), and low levels of involvement and autonomy granting (Gray & Steinberg, 1999) have been implicated as among the most important predictors of the severity of adolescent disciplinary problem. Underachievement and various types of social problems such as not interested in their studies, creating disciplinary problems in school and worse still, getting involve with negative activities such as drugs, “Mat Rempit” (Rashitha, 2009), rape and robbery gang (“Schoolgirls linked to gang may be expelled,” 2009) are on the rise. This is a worrying phenomenon.

In Malaysia, 66,528 delinquency cases in school are reported in 2006 and 59,000 cases in 2007 (Malaysia Ministry of Education, 2008b). Though there is a slight decrease of 11%, continuous effort need to be implemented for the benefit of the society and nation building in Malaysia. From the statistics reported in the *Pelan Induk Pembangunan Pendidikan (PIPP)* (Malaysia Ministry of Education, 2006), primary school pupils do not create much disciplinary problems in school as compared to secondary students. The consequence is clearly shown in the *PIPP* (Malaysia Ministry of Education, 2006) report which stated that a total of 26% of dropout occurs in the secondary schools as compared to 3.1% in the primary level. It is also reported by the police that there is rising number of crimes such as house-breaking, motorcycle theft, drugs, rape and other serious crime involving students mostly from national secondary schools (Fadillah, 2009). These are not isolated cases, as almost every week disciplinary problems are seen reported in the media. These incidents had shocked the nation particularly the educators. As reported, a Form Three student was scalded using a hot iron in SMK Lepar, Pekan because he refused to buy cigarettes for his seniors ("Pelajar diseterika enggan beli rokok", 2009). Even the Minister of Education has stated that disciplinary issues are a continuous matter and need to be handled and tackle with no compromy ("Isu disiplin pelajar tiada penghujung", 2009). The Malaysian Crime Prevention Foundation has suggested that parents need to learn parenting skills to overcome various youth social ills in Malaysia and efforts must go beyond direct "fire-fighting" and the root cause has to be identified ("Do more", 2009). Chiam has also stressed the importance of identifying the root cause of the problems as any ineffective rehabilitation programmes undertaken will only be wasting taxpayers' money ("Do more", 2009).

The government's ideal goal to produce a holistic and balance individual has been discredited by the various disciplinary and even juvenile cases happening throughout the country. Therefore, more comprehensive measures involving parents are needed to be undertaken in order to achieve the goal of producing high academic achievers who are highly discipline as well.

1.5 Instruments to Measure Parental Involvement

There are numerous instruments overseas of various studies related to the parental involvement with their children academic achievement and discipline which can be used as references.

Instruments developed overseas which are related to parental involvement are "Family Involvement Questionnaires" (FIQ) which consists of parental aspects of influence to their children academic achievement (Fantuzzo, McWayne, Perry, & Childs, 2004; Fantuzzo, Tighe, & Childs, 2000), "Student Report of Parent Encouragement Scale" (Martinez-Pons, 1996), "Student Self-Report of Academic Self-Efficacy and Parents' Involvement in Homework" (Hoover-Dempsey et al., 2001; Hoover-Dempsey & Sandler, 1995), "Children's and Parents' Perception of Parents' Involvement in Doing Homework" (Bareno, 1997) and "Perception of Parental Involvement Scale" (PPIS) (Galal-El-Dean, 1994). Besides academic achievement, a wide range of factors had been identified as being associated with the development and persistence of disciplinary problems. Instruments related to parents' involvement and disciplinary problems of students are "The Child's Report of Parental Behaviour Inventory" (CRPBI)(Schaerfer, 1965) and the "Alabama Parenting Questionnaire" (APQ) (Frick, 1991) which includes items that assess the parent's ability to monitor and

supervise their child. Studies on family factors that are associated with adolescents disciplinary problems (Maguin et al., 1995) are also available. From these studies, it was found that ineffective parenting is an important factor that causes disciplinary problems (Dadds, 1995; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Frick, Christian, & Wootton, 1999). These parenting practices include harsh and inconsistent discipline practices, poor monitoring and supervision of offspring, low levels of positive involvement with offspring and excessive use of corporal punishment (Frick et al., 1999).

The existence of vast interest by educationists and social scientists shows that academic achievement and discipline are important aspects in a developing society. Hence, it is crucial to develop an instrument which is a substantial element in the evolution of parental involvement studies in Malaysia.

1.6 Statement of the Problem

Children learn and grow at home as well as at school and in the community (Patrikakou, Weissberg, Redding, & Walberg, 2005). However, Patrikakou et al. (2005) stated that many parents were unclear of how to get involve with their children's education in positive ways that would contribute to their success academically. This has caused a lot of anxiety among parents. Parents do their best in bringing up their children but they often find the task very demanding and exhausting. Most of the time parents will be wondering whether they are doing the right thing in bringing up their children (Wolfendale & Einzig, 1999). Furthermore, research in countries like The United States of America and Hong Kong have shown that parental involvement is vital to the success of their children's academic achievement (Chao & Sue, 1996; Chen & Uttal, 1988;

Cheung, 1997; Trusty, 1999). It is therefore pertinent that a study on the Malaysian parents' influence on their adolescence children academic achievement and discipline be initiated. It may be beneficial if parents know how to deal with their children.

In addition, not much is known regarding the extent of cross-ethnic group variation in the relationships of parents' actions with students' academic achievement and discipline in Malaysia. Studies have shown that ethnic groups' variances in academic achievement may be related to the differences on how parents support their children's learning (Hill, 2001; Ho & Willms, 1996; Hong & Ho, 2005). There is a need for more empirical studies in examining the effects of parental actions at home related to their children's academic and discipline within different ethnic groups to identify the kind of parents' actions contributed to a particular ethnic group of students. Certain parental actions would be more helpful within certain ethnic groups (Moon & Lee, 2009). This is of interest in the Malaysian context since it is a multiracial country. In order to understand and optimise the parents' actions across the different ethnics, a suitable instrument which take into consideration the aspect of measurement invariance has to be developed.

Though there are studies done in Malaysia on parental involvement (Chiam, 1983; Maznah, 1993; Yap, 2000), invariance of findings for the different races were not examined. Therefore, comparisons of results among the various ethnics are inapplicable as invariance is not established. An instrument which takes into consideration the existence of multi-ethnicity in the Malaysian society is needed. According to Vijver and Leung (1997), it is common to find that all items in an instrument are assumed to be equivalent across ethnics without any statistical check to support this claim. The psychometric adequacy of an instrument and its equivalence in cross-ethnics study has

to be addressed appropriately (Vijver & Leung, 1997). This aspect is normally overlooked by researchers.

Searches done manually at various local universities (such as Universiti Malaya, Universiti Utara Malaysia, Universiti Sains Malaysia, Universiti Perguruan Sultan Idris, Universiti Islam Antarabangsa) by going through the various research theses and online sites related to parental involvement with students academic achievement or discipline indicated that none of the researcher had developed or used 'cultural free' instrument which is invariant across ethnics (Marina, 2004; Maznah, 1993; Mohd. Tobat, 2009; Wan Mardziah, 2005; Yap, 2000; Zukina, 2003).

The invariance of parental involvement instruments across the different ethnic groups is important to ensure that the results obtained are based on the same underlying meaning or constructs. Otherwise, different frame of references may cause confusion and inaccurate interpretation. Hence, the utilisation of the same instrument to different ethnic groups is questionable. As stated by Vandenburg (2002) when different groups are to be compared, it is highly important to ensure that the measure had the same meaning or connotation across the groups. In other words, it is vital that the participants understood the questionnaire or items in the same manner. This is also known as conceptually equivalent (Schaffer & Riordan, 2003).

Apparently, investigations into the involvement of parents in students' academic achievement and discipline are not comprehensive in Malaysia. Instrument invariance across ethnic groups has not been looked into. In order to investigate parental actions on students' academic achievement and discipline across different ethnic groups, a parents' actions model with the appropriate items and relevant operational constructs are imperative to develop the instrument.

1.7 Research Aim

The primary aim of the present study is to develop an instrument of parents' actions towards students' academic achievement and discipline. The instrument is evaluated for its items, constructs and measurement model reliability and validity. Refinement of the instrument is carried out based on the reliability analysis, item-total correlation, factor loadings as well as goodness of fit using classical test theory and structural equation modelling techniques.

The instrument will be validated for its invariance (Byrne, Shavelson, & Muthén, 1989) to ascertain that it applies across the various ethnics in Malaysia. This is an important aspect in maintaining validity and reliability across different cultural groups (Vijver & Leung, 1997). Therefore, it needs to be validated before any conclusion or interpretation can be inferred from the obtained empirical analysis.

The instrument would be used to determine parental actions which contribute to academic achievement and discipline. Variations in parental actions and its influence in students' academic achievement and disciplinary problems between the three major ethnics were investigated as well.

In short, the aim of this study consist of three major components. Firstly, it deals with the development of an instrument related to the measurement model of parental actions in students' academic achievement and discipline. Secondly, the factor structure of the measurement model is established prior to measurement invariance testing. The reason is to establish an instrument which operates equivalently across different ethnic groups. Thirdly, the instrument is utilised to determine parents' actions which have impact on secondary students' academic achievement and discipline. Hence, the general issues that were being looked into can be simplified as follow:

1. Systematically develop and improve an instrument meant for determining the influence of parents' actions constructs towards academic achievement and discipline.
2. Examine the factor structure and measurement invariance of the instrument.
3. Determine the contribution of the parents' actions constructs towards academic achievement and discipline.

1.8 Research Objectives

This research is focused on examining the psychometric properties in the development of SPAQ. SPAQ serves as a measurement tool to gauge parental actions and its influence on students' academic achievement and discipline in Malaysia. The objectives of this research are to

1. obtain items with acceptable internal consistency to represent the underlying parents' actions constructs.
2. obtain items which represent the underlying parents' actions constructs.
3. confirm the hypothesised measurement model for SPAQ.
4. establish the a-priori factor structure for SPAQ.
5. establish measurement invariance across three major ethnic groups which are Malay, Chinese and Indian for SPAQ.
6. determine which parents' actions constructs contribute to students' academic achievement according to ethnic groups which are Malay, Chinese and Indian.
7. determine which parents' actions constructs contribute to students' discipline according to ethnic groups which are Malay, Chinese and Indian.

1.9 Research Questions

This research will answer several important questions which are the central notion of this investigation. There are dominantly seven research questions to be addressed in this research. They are presented in point form as follow:

1. Do the items representing the underlying constructs exhibit acceptable reliability?
2. Do the constructs in SPAQ exhibit convergent and divergent validity?
3. Does the hypothesised measurement model of multidimensional parental actions on students' academic achievement and discipline supported by the empirical data?
4. Does the 'a priori' factor structure show acceptable model-data fit for each of the three ethnic groups?
5. Does SPAQ exhibit measurement invariance among the different ethnic groups?
6. Which constructs of parents' actions contribute significantly to students' academic achievement in the Malay, Chinese and Indian ethnic groups?
7. Which constructs of parents' actions contribute to disciplinary problems in the Malay, Chinese and Indian ethnic groups?

1.10 Research Significance

The development of an instrument gauging parental involvement is important for researchers as the instrument can become a tool for further research related to parental involvement issues in the education field in Malaysia. An empirically substantiated measurement model of parental actions which clearly delineates the underlying factor structures of parents' actions would be an initial start off point in attracting more future research in this field to be carried out, particularly in Malaysia.

In this technology savvy era, it is inevitable that children are most influenced by the development of the Internet and the multimedia boom especially in the field of entertainment. Coherently, there are much voices calling for parents to be more authoritative over their children so as to prevent them from getting involve in unethical and wasteful activities. Hence, this study would serve as a starting point for more studies to be initiated.

This study was significant due to the fact that the development of SPAQ took into account the comparability of results among the three major ethnic groups in Malaysia. This is lacking in the local literature which investigated parental involvement with students' academic achievement and discipline. The establishment of SPAQ invariance would ensure that the survey questions connote similar meaning across different ethnic groups (Billiet, 2003; Smith, 2003). By establishing the invariance of SPAQ, it would reflect a culturally appropriate survey instrument which is conceptually equivalent (similar meaning), linguistically appropriate (readable and understandable) and culturally competent (adequately reflecting cultural values and norms) (Weech-Maldonado, Weidmer, Morales, & Hays, 2001). Furthermore, by successfully establishing the measurement invariance of SPAQ, the instrument can be used to make comparison across the relevant ethnic groups. This research takes heed of Vijver and Leung (1997) and Vandenburg (2002) claims that instrument invariance has always been neglected in most studies. Without empirical evidence, assumption of different cultural groups would interpret the survey questions in the same manner cannot be accepted. Hence, it is vital to establish measurement invariance of instrument.

This study also looked at a set of constructs of parental involvement instead of looking at isolated factors per se. For instance, many researchers have looked into the

influence of a single independent factor such as helping out with homework with academic achievement (Balli, 1998; Bareno, 1997; Cooper, Lindsay & Nye, 2000). Others have investigated how motivation by parents contributed to childrens' academic achievement (Galal-El-Dean, 1994; Anderson, 2002; Kellaghan, Sloan, Alvarez & Bloom, 1993). However, the multidimensionality of parental involvement should not be ignored. Koh and Ong (2010a) have looked into the multidimensionality of parental actions on secondary school students in Malaysia. The various constructs pertaining to parents' actions were explored and established through confirmatory factor analysis. Hopefully, this study may provide a more comprehensive picture of parents' actions relationships with academic achievement and discipline by investigating multidimensional parents' actions.

In addition, this study contributes to research that had been previously conducted and strengthened the entire scope of literature on parental involvement. Findings from this study were anticipated to be of greater value to the parents of students. If clear connections could be established between parental actions and students' academic achievement and discipline, then parents could utilised better ways to motivate and assist their children not only to perform better, but also to practice good discipline in life. It is also crucial to note that Garnier and Stein (1998), Cheung (1997), Patterson et al. (1989) and Reynolds (1992) found that parent-child relations appear to be related to positive teen behaviours and outcomes in the academic settings.

The results of this investigation may shed some light on the relevant constructs of parental actions in Malaysia which are found to contribute to the academic achievement and discipline which may be exercised and practiced by parents. Furthermore, the availability of a measurement instrument related to parental involvement with students'

academic achievement and discipline which is applicable across Malaysia's multiethnic society with different cultural background is scarcely available. In other words, the development of SPAQ is essential to further investigate the significance of various parents' actions in different ethnic groups towards their children's academic achievement and discipline.

1.11 Limitations and Delimitations

The first limitation is the existence of confounding reporting effects. These effects may have resulted if the students or respondents offered answers which are perceived as socially acceptable (Shavelson, Hubner, & Stanton, 1976). This problem is inherent in self-report instruments in which the researchers have no other choices but to rely on the truthfulness of participant responses.

Acquiescence effect is also another limitation to the survey-response method. Couch and Keniston (1960) defined acquiescence as the tendency to agree (or disagree) with items regardless of their content. This is a threat to the validity of the instrument. There will be some respondents who will be answering to all the questions in the same manner irrespective of what the questions asked. This is rather difficult to detect. The process of excluding such sets of response will be done through visual inspection. In order to minimise the effect, only positive worded items will be used.

Another limitation in the study is that the results depended on students' judgement and interpretation based on their experiences with their parents. This study also requires the students to reflect their past experiences for the past three to four years (from Remove class/Form One to Form Three). In order to minimise the effect of forgetfulness, responses were collected from students at the beginning of the year

(January-May 2010) after their *PMR* results (for *PMR* 2009) were released at the end of December 2009.

One of the delimitation of the study is regarding the sample selection. The respondents selected were only from Form Four classes (mean age \approx 16 years) in three northern states in Malaysia. Firstly, due to the practical constraint of time and cost, only three states were chosen. Though the schools were stratified randomly selected, the selection was bound to the approval of the school concerned. Three schools which were initially selected turned down the application to carry out the research. Due to this reason, nearby schools originally not in the list were substituted instead.

The selection of classes in each school depended on the approval of the school authority as well. Furthermore, not all schools have the same number of classes of Form Four and the number of students in each class was also unequal. Due to this, the number of classes selected in each school was maximised. The maximum number of classes allowed by the schools' authority was adopted. In order to ensure the number of different ethnic groups was sufficient to facilitate the empirical analysis (Chinese and Indian are the minority), all the available Form Four classes in two schools with majority of Chinese and one with majority of Indian were selected.

This research engaged the assistance of teachers in the administration of the SPAQ questionnaire to the classes. Briefing sessions were scheduled and permission from the selected schools was obtained. The researcher administered the SPAQ questionnaire in six schools where the schools' authorities (principals) did not want to trouble the teachers. Though personalized briefing for the teachers involved was supposed to be conducted in the selected schools, 17 schools did not permit briefing to teachers. They cited reasons such as teaching and learning process disturbance,

burdening of teachers and some declined to give any reason. However, the administrators agreed to provide their teachers the briefing themselves later to their convenient. Consequently, only the school authorities (Principals of schools) were briefed on the data collection procedures. It was hoped that the principals would diligently briefed their respective teachers. In order to accommodate the tasks, each compilation of questionnaires for each class was accompanied by a set of standardised instructions (Appendix G).

Another important aspect on administration of the SPAQ was the confidentiality of the respondents. Initially, the form teachers were asked to do some coding to the sets of questionnaire according to the seat positioning in the class. These identification numbers were to be tallied with the class name lists. The sets of questionnaire were to be distributed to the respondents according to their seats position by the teachers. Names of respondents were not supposed to be written on the questionnaire as this may affect the respondents psychologically. The identification was needed because this was necessary for tallying them with the disciplinary rating by the form teachers based on the school discipline records. However, this idea had to be withheld as most of the school teachers were unwilling to carry out those extra burden. As a final resort, the students' names were allowed to be written on the response questionnaires. However, it was stressed that the information will be given high priority of confidentiality and furthermore the researcher did not know any of the students.

Challenges were also faced in obtaining reliable disciplinary rating and record in the actual study. This was not so in the pilot study though. This may be due to the few known schools conveniently selected. But in the actual study, the data collected were from 24 schools scattered in three states; Kedah, Penang and Perak. From personal

communication with the principals, it was discovered that many schools did not utilise the e-discipline computer system that was set up by the Ministry of Education. Consequently, the school disciplinary records were not complete and not standardised as all the schools only recorded very few disciplinary problems. Only five schools used the e-discipline computer system while the rest (19 schools) did not seem to have a proper system. This complicated the discipline rating. Furthermore, most of the class teachers reported very positive or good behaviour for their students. This rating may be superficial as to provide a good image of their school. This was seen as a serious threat to the reliability and validity of the disciplinary rating. Some did not even complete the discipline rating form. They gave excuses such as they have too much work to do and were unable to rate the students' discipline as requested. Despite this, the data collected were utilised in the study.

In the development process of SPAQ, bilingual teachers of three ethnic groups (Malay, Chinese and Indian) were utilised in translating the questionnaire from English to the Malay language (*Bahasa Malaysia*). Though the American Translators' Association (2003) recommended the engagement of professional translators, this suggestion was not adopted. Due to the constraint of cost, this study used proficient bilingual teachers who possessed the qualification and knowledge in both languages.

1.12 Conceptual and Operational Definition of Terms

For the purpose of this research the following terms have to be defined in order to be operationalised in a clear manner:

Students parents action - The definition includes concrete interactions or practices of parents at home with their secondary school children. These actions must be