

Social and Psychological Factors in L2 Learning that Influence Indigenous Students' Academic Achievement: A Structural Equation Modeling Analysis

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Factors that contribute to the performance gap between underserved and mainstream students deserve special attention. Different underserved students are faced with different sets of challenges that could significantly hinder them from performing to their fullest potential in formal assessments. In this study, we sought to determine the relationships between social and psychological aspects of second language (L2) learning and their overall academic achievement with a sample of 200 fourth and fifth grade indigenous Malaysian students learning Malay as L2 in the states of Perak and Pahang, Malaysia. Using structural equation modelling, we found that Orang Asli students' home literacy activities and L2 learning motivation contributed significantly to their L2 proficiency and overall academic performance. The major finding of this study is that home literacy activities have a significant and important role in the model established. This variable has significant correlations with both the confidence to speak in Malay and motivation to learn the Malay language, and has contributed significantly to the variances of students' Malay language results and overall academic achievement. Given the importance of L2 proficiency in improving students' overall academic outcomes, these results altogether indicate that parents can help provide the much-needed support for a more encouraging home literacy environment.

Key words: *Home environment, academic outcomes, L2 literacy skills, learning motivation, communicative confidence, indigenous children, Orang Asli, structural equation modelling.*



Introduction

In Malaysia, children of the peninsular, the Orang Asli (hereinafter referred to as OA) suffer greatly from poor literacy outcomes, lower academic achievement, and higher drop-out rates than do non-indigenous children. Data from UNICEF (2007) shows that 80% of OA children do not complete their education at the secondary school level where the drop-out rate is disproportionately high compared to the national level. Only six OA children are expected to graduate from high school out of every 100 who enrolled in first grade (Nicholas, 2006). In terms of educational outcomes, pass rate among OA schoolchildren has been very discouraging. Like other indigenous communities throughout the world, they suffer from very low levels of educational attainment.

It is hypothesised that the critical lack of literacy knowledge and practices among OA students particularly in the early stages of childhood has become a crucial barrier for learning. This is most possibly because the Malay language – which is the primary medium of instruction and communication in school – is not the OA's first language. Most of these children have no other exposure or use of the Malay language outside of the school environment. Most of the teachers neither speak nor understand the OA native languages. Since classroom instruction involves reciprocal communication between teachers and students and among the students themselves, it is very crucial for the children to have the necessary attainment of language skills. Failure in communication will lead to declining motivation and ineffective learning where oftentimes teachers will have to struggle in trying to maintain students' attention. Research shows that children from socially and culturally diverse homes are at-risk of difficulties in learning to read (Lonigan, 2004; Zubrick, 2006).

It is believed that the family and home environment could also play an important role in OA children's acquisition of language skills. There is a "strong link between home environment and children's acquisition of school-based literacy" (Morrow et al., 1993, p. 194) but the growing body of research in this area has suggested that the OA children's home environments do not provide strong foundation for the development of their literacy skills (Abdullah, 2011; Ma'rof, Redzuan, Anderson, & Ma'rof, 2012; Mohd Nor, 1997; Nicholas, 2006; Shaari, Yusoff, Ghazali, & Dali, 2011; and Talib & Muslim, 2007).

Therefore, the primary objective of this study was to extend our prior work with OA families to examine OA children's academic outcomes in elementary school and to investigate the pattern of association among the outcome and their home language and literacy practices, their proficiency in the L2, as well as the conative factors of L2 learning motivation and communicative confidence. Specifically, we were interested in understanding the experiences young OA children bring to the school setting from their homes. We used a model that integrated the parental involvement, that is, the home language and literacy activities the



children engage in with their parents at home and children's overall academic achievement, taking into consideration the significant contributing factors of Malay language achievement, motivation to learn Malay, and the confidence to speak Malay. We focused on parental factors that may possibly demonstrate effects on children's academic achievement, such as their reading habits and involvement in literacy-related activities. It is hypothesised that these four variables – home literacy practices (i.e. parental involvement), Malay language proficiency, L2 learning motivation, and L2 communicative confidence – could contribute to the explanation of OA children's overall academic achievement, particularly during their early years of learning.

The Home Literacy and Language Environment

Family involvement and educational outcomes. A growing body of research has demonstrated that there is a positive relationship between family involvement and educational outcomes. A study by Barnard (2004) showed there was a positive long-term effect between parental involvement in elementary school and students' success in high school, and that early parental involvement in a child's education promotes positive long-term effects. Bronstein et al. (2005) found fifth grade students' poor academic achievement to be related to the lack of guidance by parents at home. Unquestionably, indigenous children from literate families display higher literacy skills than their peers from illiterate backgrounds as a result of being immersed in an environment that is richer in literacy experiences. Though conventional mainstream literacy experiences may be uncommon for indigenous children prior to school, those with more supportive and literate parents engage in literacy practices within the context of activities that are familiar within their environment. These exercises may include storytelling, quizzing, describing techniques, and deciphering the hunting traditions common to the indigenous community (Rennie, 2006). Predictors of a child's learning outcomes are exclusive to each child, thus focusing on how the interplay between early childhood experiences and the quality of caregiving influences literacy achievement in school is warranted.

Home literacy activities and language learning outcomes. It has been reported that the "family as educators" model to be significantly related to child language and literacy outcomes (Bennett, 2002). Parents with higher reading and writing skills who read together with their children saw improved understanding of critical written language concepts in their kids during the formative literacy instruction (Purcell-Gates, 1994). The availability of books and computers in homes has also been associated with better educational achievement among the school-going children (Weinberg, 1996). Moreover, reading activities at home positively influence student's reading skills as well as his or her attitudes towards reading and attentiveness in the classroom (Rowe, 1991), while low reading frequencies to be associated with low literacy attainment (Brooks et al., 1997).



L2 Learning Motivation and Communicative Confidence

Integrative motivated students, that is, students motivated by a genuine interest to learn the L2 to come closer to the target language community are less anxious in second language learning contexts than students who are instrumentally motivated i.e. when pragmatic reasons such as getting a better job are given priority (Gardner, Day and MacIntyre, 1992, p. 212). Unfortunately, most OA students are low in both types of motivation (Shaari et. al, 2011). OA children are not only different from their Malay-speaking peers in their language background, but in their cultural, family and personal characteristics as well. We believe that limited language proficiency and cultural factors (i.e. the lack of home literacy support) may hinder a student's ability to fully understand the instructional materials and do well on standardised assessments.

The Current Study

The first goal of the current study was to determine a) the extent of Orang children's home language and literacy practices, b) their levels of communicative confidence and c) L2 learning motivation, as well as d) their academic performance in four core subjects: Malay language, English, Mathematics, and Science. Second, we sought to determine if the proposed model of relationships between home literacy activities (i.e. parental involvement), Malay language proficiency, communicative confidence, L2 learning motivation and overall academic achievement fit the data well. A third goal of this study was to determine the potential influence the four factors – home literacy, Malay language proficiency, communicative confidence and L2 learning motivation – may have on OA students' academic achievement, when enrolled in public elementary schools where interaction with the mainstream population is likely and immersion in the L2 environment is typical. Data relevant to the study was gathered through face-to-face interviews based on a structured set of questions and the cognitive measures i.e. test scores obtained from school records.

Methods

Participants

The participants were 200 (76 boys, 124 girls) fourth and fifth grade OA children who were enrolled in 10 different public elementary schools – with majority enrolments of OA children who as groups typically do not succeed in school – in the states of Perak and Pahang, Malaysia. Also, one or both of the parents of the participants self-identified as OA from the Semai or Temiar sub-tribes. Families were primarily two-parent households (89%), with three to eleven individuals in a single home, and were of low socioeconomic status. More than half of the mothers had no schooling experience, and over 85% of them did not work outside of the home.



40.5% of the fathers had never attended school, 39% had completed elementary school but did not continue secondary education, while 14.5% of them had completed high school. Only one father had a diploma-level education. Most fathers worked full time in unskilled (i.e. truck driver, factory worker, oil palm plantation worker) or semi-skilled (i.e. park ranger, technician) positions.

Measures

Overall academic achievement. Students' performance in their midyear examination was obtained from school records. The measure consisted of students' aggregated scores on four core subjects – Malay language, English, Mathematics and Science – in which each of these subjects is based on a 100-point scoring system. Students regarded as high-performing are those scoring 80 points and above for each subject (i.e. equivalent to an A grade) and those who fail (i.e. an F grade) are those who scored lower than 40 points. These averaged scores – usually taken by schools as a reflection of students' overall academic performance – are also typically used as “placement” tests to regroup students into same-ability classrooms, with the high-performing students gathered in one class, subsequently followed by the average and poor performing students grouped in other separate classes.

Malay language performance. Students' Malay language scores were obtained from their performance on the Malay language test from the same midyear exam described above. The measure consisted of students' individual performance on two separate tests: Paper 1, a 40-item multiple-choice test eliciting students' comprehension and grammar knowledge of the language to be completed within 50 minutes, and Paper 2, a writing test requiring students to a) interpret a graphic stimulus or transfer given information into written form (10 points), b) compose an essay based on a given question (30 points), and c) compose a review (20 points), with all three sections to be completed within a 1 hour 15 minutes time frame. The first paper carries 40 points and the second paper carries 60 points making the total possible score of 100 points for the test.

L2 learning motivation. Gardner's Attitude/Motivation Test Battery (AMTB) (Gardner, 1985) was adapted to measure levels of L2 learning motivation of the students. The instrument assessed students' integrative and instrumental motivation as reasons for learning the Malay language. Among others, the specific reasons included in the test emphasize such goals as improved understanding of the other community, desire to continue studying the language, and interest in learning other languages. Based on the needs of the current study, only 11 items (out of 25 items) were included in the questionnaire. All items were translated into the Malay language and crosschecked by Malay language teachers for readability by these students.



L2 communicative confidence. To assess students' confidence to communicate in Malay, a translated version of the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz (1983) was used in this study (see also, Horwitz, Horwitz and Cope, 1986). It is important to note that the instrument was designed to measure language anxiety, however, in the current study we adapted it to measure L2 communicative confidence based on research findings that higher language anxiety levels reflect one's confidence in ability to communicate in the second language (Lian & Budin, 2014). The items presented in the FLCAS were reflective of communicative apprehension, test anxiety and fear of negative evaluation. The items were measured on a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5). For purposes of analysis, scores on negatively-worded items were reversed. Out of 33 items, only the nine items that were relevant to the current study objectives were included.

Home language and literacy practices. This measure was adapted from the survey developed by University of Illinois's Center for the Study of Reading. It has been used in previous studies of the Center to elicit the home language and literacy practices of underserved populations in the United States and the OA community in Malaysia (see Ma'rof et. al, 2012; Zhang, Anderson, & Nguyen-Jahiel, 2013). For the home literacy activities, six items were included in the questionnaire to gather information regarding the frequency of reading activities with family members, library trips with family members, family involvement with homework, the frequency of family members telling stories, and the frequency of reading books and magazines among members of the household. The questionnaire also elicited demographic information to establish background of the participants of the current study.

Procedure

The involved schools were informed that we wanted to learn about OA children's overall achievement in school, and how it was influenced by their proficiency in the Malay language, their levels of communicative confidence and motivation to speak in the language. Participation was voluntary and limited to students who were not in the special education classes. 4th – 5th grade students were chosen as potential respondents as younger children often do not have the full capacity to respond accurately to survey questions. Data was collected by the researcher along with a team of trained graduate students. The Malay language result was obtained from the students' performance on their Malay language midyear exam and their overall academic achievement was obtained from each classroom teacher based on the students' individually-averaged midyear examination score of the four major subjects – Malay language, English, Mathematics, and Science. Information regarding home language and literacy practices, children's self-reported motivation and communicative confidence was elicited in a quiet area of the schools (i.e. at the library or a private room) through a face-to-face interview. Students were individually interviewed because a majority of them were unable to read fluently in the



Malay language. Altogether, there were 221 students but only 200 students completed the interview.

Results

Preliminary Analyses

Over 40.0% of the students reported to have only one fully literate family member in the household and much fewer of them have three or more family members who were able to read Malay fluently. A significant fraction (36.5%) of the students reported that only their siblings knew how to read Malay indicating that their parents and other adults in the household were all illiterate. Only a small percentage (10.0%) of the students have mostly literate family members at home. Consistent with their lower educational attainment, predictably, none of the students reported that only their mothers were the only literate person in the household. The OA's low literacy rate is also directly reflected on the number of literacy resources they own. A majority of these homes have extremely limited reading materials. Excluding school textbooks, 86% of the homes have less than ten children books. The same was reported for adults where 87.5% of the students claimed their homes to have only up to five items of reading materials for adults.

In terms of home language use, children of the current sample tended to speak with their parents, siblings, and with other adults mostly in their native Asli language or an equal combination of Malay and their native Asli language, i.e. Bahasa Temiar and Bahasa Semai. Likewise, the same pattern is observed when parents, siblings and other adults speak to the children where the Asli language is frequently used instead of Malay. The current findings support previous findings with the Temuan and Mahmeri OA sub-tribes (Ma'rof et. al, 2012) in that the Asli language is preferred at home regardless of family member.

Most children in the current sample had limited home literacy resources and did not receive optimal home literacy support. None of the parents were reported to be reading with their children every day. 31.5% of the parents read books with their children 2-3 times a week, 46.0% read with their children once a week and nearly 20.0% of them read stories to their children only once a month. 3.0% of the parents were reported to have never read anything to their children. 21.0% of the parents helped their children with homework only once a month, 41.0% helped their children once a week, and 32.0% helped their children 2-3 times a week. Although insignificant, 4.5% of the parents did help their children with homework every day. A majority of the parents do not read on a daily basis (98.5%). But on the other hand, 20.0% of the children reported to be engaged in some kind of reading material every day, and many of them (43.0%) spent some time for leisure-reading at least once a week. 40.0% of the parents were reported to have never brought their children to the local library. However, 43.0% of the parents did tell stories at least once a week to their children in their native Asli languages.

Table 1 shows students' performance in overall academic achievement, Malay language test, L2 learning motivation, and L2 communicative confidence. Averaging the test scores of each individual student in Malay language, English, Science and Mathematics, the mean score of overall academic achievement for our current sample was 48.6 points out of a possible score of 100 points. The highest score recorded for the Malay language test was 72.1 but most students scored 47.7 points on average. The 5-point motivation items were all positively worded hence a higher total score indicates higher levels of motivation. The communicative confidence measure consisted of both positively and negatively worded items and therefore the scoring was later revised accordingly for the negative items. The total possible score for motivation and communicative confidence was 55 points and 45 points respectively. Scores closer to the possible full points indicate higher levels of L2 learning motivation and higher confidence to communicate in the L2. However, on average, the current sample scored 25.8 for motivation and 19.3 for communicative confidence, both indicating that OA students generally have low motivation to learn to speak Malay and similarly, have low confidence to use the Malay language as a tool for communicative purposes.

Table 1: Students' Performance on Overall Academic Achievement, Malay Language Test, L2 Motivation, and Communicative Confidence

Variables	Min	Max	Mean(SD)
<i>Overall Academic Achievement Average Score</i>	31.0	61.1	48.6(17.2)
<i>Malay language test result</i> (Full score: 100 points)	34.0	72.1	47.7(19.1)
<i>Motivation in Learning L2</i>	15.0	42.0	25.8(9.3)
<i>L2 Communicative Confidence</i>	13.0	38.0	19.3(7.6)

In general, students have reported negatively on all of the items in both the motivation and communicative confidence measures. Items 1-5 in the motivation scale sought to elicit the integrative aspect of motivation in learning Malay among OA students. It can be inferred that in general, OA children do not have a positive attitude towards speakers of the Malay language. For instance, the statement "The Malays are kind and friendly" received the lowest average score ($M=2.0$, $SD=.88$) among the five integrative-motivation items. Items 6-11 sought to elicit students' instrumental reasons for learning Malay. Although the items were also rated negatively by the students, there is an indication that they feel encouraged to learn the Malay language for entertainment purposes as the statement "I learn the Malay language so that I can understand Malay-language films, videos, TV or radio" although still negatively-rated,

received the highest rating score above other items, $M=2.9$, $SD=1.0$. This is corroborated by the findings of Shaari et. al (2011) in that the OA people enjoy entertainment activities above other things.

Students generally disagreed with most of the statements regarding the confidence to communicate in the target language. OA students do not feel confident to speak Malay ($M = 2.2$; $SD = .86$) and were anxious about making mistakes during Malay lessons ($M = 2.5$; $SD = .80$). They feel scared when they do not fully understand what their teacher says ($M = 2.2$; $SD = .95$) and become anxious when called on by their teacher in class ($M = 2.0$; $SD = .88$). They are also anxious about being laughed at by other students when they try to speak Malay ($M = 2.1$; $SD = .84$). Most importantly, OA students feel very nervous and confused when they have to speak Malay during Malay language lessons ($M = 1.9$; $SD = .95$) and were most nervous about having to speak the language with Malay speakers from the mainstream community ($M = 1.8$, $SD = .82$).

Structural Equation Modelling

Structural equation models were constructed using Analysis of Moment Structured (AMOS) program. We first conducted confirmatory factor analyses (CFA) to test the fit of measurement model of family literacy practices, L2 learning motivation and L2 communicative confidence variables. The second process was to investigate the direct and indirect influences among the five variables – family literacy practices, L2 learning motivation, L2 communicative confidence, Malay language proficiency and overall academic achievement. In the final step, we used structural equation modelling to examine the contribution of individual and a collective set of predictor variables in relation to the outcome variable.

Confirmatory factor analysis (CFA) was applied to test the convergent validity of each construct in the questionnaire by assessing their factor loading. Table 2 illustrates findings of the CFA where items below the cut-off point of 0.5 were eliminated from the path diagrams. It appears that all 6 family literacy items (F) have factor-loadings greater than 0.5. For L2 communicative confidence (C) and motivation to learn Malay (M), only 7 items remained from the original 9 and 11 items respectively following the analysis.

Table 2: Confirmatory Factor Analysis (CFA) for Validity of Constructs

CONSTRUCTS	ITEMS	Factor-Loading ≥ 0.5	
		1st Order CFA	2nd Order CFA
<i>Family literacy practices (F)</i>			
I read book with family members	F 1	.75	–
My family member(s) help me in doing my homework	F 2	.63	–
My family member(s) tell stories to me	F 3	.65	–
My family member(s) read book, magazines, and newspapers	F 4	.53	–
I read books, magazines, or newspaper at home	F 5	.55	–
My family brings me to public / mobile library	F 6	.51	–
<i>L2 communicative confidence (C)</i>			
I don't worry about making mistakes in the Malay language class	C 1	.75	.76
I tremble when I know that I'm going to be called on in Malay language class.	C 2	.53	.54
It frightens me when I don't understand what the teacher is saying in the Malay language.	C 3	.77	.78
I am usually at ease during tests in my Malay language class.	C4	.74	.74
I would not be nervous speaking the Malay language with Malay speakers.	C5	.63	.64
I feel confident when I speak in Malay language class.	C6	.47	–
I get nervous and confused when I am speaking in my Malay language class.	C7	.65	.61
I get nervous when I don't understand every word the Malay language teacher says.	C8	.43	–
I am afraid that the other students will laugh at me when I speak the Malay language	C9	.52	.49
<i>L2 learning Motivation (M)</i>			
To be more at ease with other people who speak Malay	M 1	.34	–
To participate more freely in the activities of Malay groups	M 2	.67	.64
To know Malay cultures and peoples	M 3	.66	.70
To keep in touch with Malays and other friends and acquaintances	M 4	.73	.74
The Malays are kind and friendly	M 5	.70	–

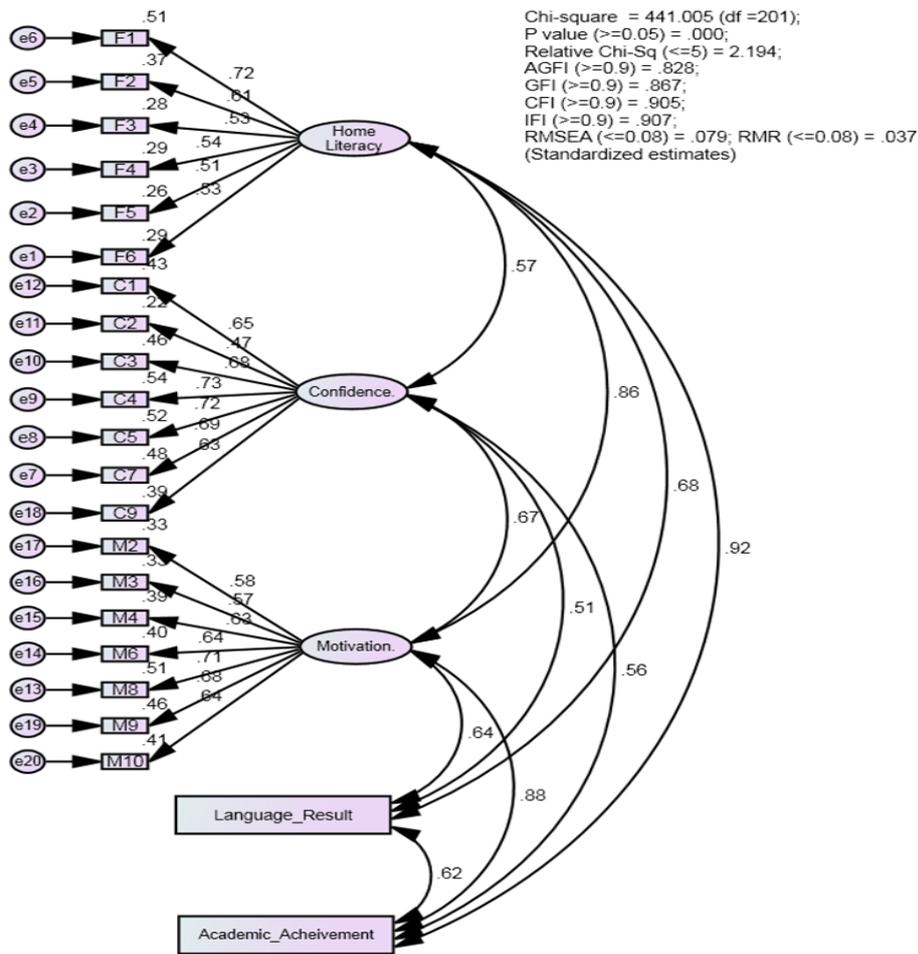


I'll need it for my future career.	M 6	.62	.56
it will make me a more knowledgeable person	M 7	.48	–
I will be able to search for information and materials in Malay	M 8	.71	.74
An educated person is supposed to be able to speak Malay	M 9	.62	.64
I can understand Malay-speaking films, videos, TV or radio.	M 10	.65	.64
I can read Malay books and learn other subjects easier	M 11	.58	–

Next, the normality of the measurement instruments were assessed and the relationships between latent variables and their observed measures were evaluated. Factors exceeding 0.5 factor loading in CFA were selected for further inspection in the measurement model. Figure 1 depicts the measurement model of the current study following CFA. The Goodness-of-Fit indices were as follows: Chi-square (χ^2) = 441.005; df = 201, relative χ^2 (χ^2/df) = 2.194; p = 0.00, Adjusted Goodness-of-Fit Index (AGFI) = .828, Goodness-of-Fit index (GFI) = .867, Comparative Fit Index (CFI) = .905, Incremental Index of Fit (IFI) = .907, and Root Mean Square Error of Approximation (RMSEA) = .079. For the model to have acceptable fit, it is suggested that the relative χ^2 should be < .5, while the AGFI, GFI, CFI, IFI should be > .9 (Bentler & Yuan, 1999; Byrne, 2010). Additionally, RMSEA should be < .08 (MacCallum et al. 1996; Browne & Cudeck, 1989). Results showed that the measurement model has an adequate fit, although two of the indices (AGFI & GFI) were less than .9. Hair et al. (2009) has suggested that if any 3 or 4 of the Goodness-of-Fit indices meet the criterion, then the model can be considered satisfactory.

Test of normality was conducted to assess data distribution and we found that most latent constructs and measured variables have kurtosis values of less than 5, that is, most of them achieved normality. The kurtosis for Overall Academic Achievement was = .641, and the Malay Language Test Result = -.980. The kurtosis for family literacy items on the other hand were as follows: F1 = .689, F2 = -.815, F3 = -.376, F4 = -.367, F5 = .263 and F6 = -.472; for L2 communicative confidence items: C1 = 1.015, C2 = 3.872, C3 = .277, C4 = -.695, C5 = -1.287 and C7 = -.778, and C9 = .282, and for L2 Motivation items: M2 = 1.864, M3 = .258, M4 = .473, M6 = -.188, M8 = .866, M9 = .053, and M10 = .362. The overall multivariate kurtosis was not large (78.770) which implies that the sample was normally distributed after taking each and every variable into account.

Figure 1. Measurement Model of Independent and Dependent Variables



Correlations between variables

Table 3 displays the correlation matrix between students' Malay language result, home literacy activities, communicative confidence to speak in Malay, and motivation to learn Malay with their overall academic achievement. The correlation values were derived from the measurement model in Figure 1 and reported at $\alpha = .05$ significance level for a 2-tailed hypothesis test. The results showed that the variables were significantly intercorrelated. Notably, there was a strong positive relationship between the Malay language result and overall academic achievement ($r = .617, p = .00$).

There was also a strong relationship between home literacy activities and academic achievement ($r = .916, p = .00$). These findings are in agreement with the findings of Barnard (2004), Cairney (2000), Fan and Chen (2001), and Hill and Tyson (2009). This relationship implies that the home literacy activities contribute to better academic achievement of the

students. Thus, family members' involvement in these activities and the presence of educational and literacy resources i.e. books, computers, magazines and newspapers at home are significant predictors of academic achievement.

The relationship between confidence to communicate in the Malay language and overall academic achievement was also significant ($r = .563, p = .00$), which corroborates previous findings (Horwitz, 2001; Aida, 1994; MacIntyre & Gardner, 1991). Students with high communicative anxiety – hence low communicative confidence – tend to have lower scores on oral and written vocabulary tests (MacIntyre & Gardner, 1989). Thus, lack of confidence might lead to deficits in learning and academic performance. A longer-term policy implication is that increasing OA students' participation in home literacy activities with their family members may help build confidence to communicate in the second language in school as a result of improved language proficiency.

A significant relationship was also present between motivation to learn the Malay language and academic achievement ($r = .877, p = .00$). This is consistent with Schreiber's (2002) findings that non-cognitive factors such as motivation are related to student achievement. Our current findings suggest that higher levels of motivation to learn the L2 leads to better proficiency in the language, which in turn, is reflected in their ability to understand better subjects taught in school and perform better on tests. Higher motivation leads to higher understanding of the language, which leads to higher academic outcomes (O'Brien & Dillon, 2002). As the OA do not care much about their language learning given the overall lower motivation scores of the current sample, they were likely to not care about how they perform on the academic tests, either.

Table 3: Relationships between independent variables and Academic Achievement

<i>Variable</i>	<i>Y</i>	χ_1	χ_2	χ_3	χ_4
<i>Y (Overall Academic Achievement)</i>	<i>1</i>				
χ_1 (<i>Malay Language Result</i>)	.617**	<i>1</i>			
χ_2 (<i>Family Literacy Activities</i>)	.916**	.678**	<i>1</i>		
χ_3 (<i>L2 Communicative Confidence</i>)	.563**	.511**	.568**	<i>1</i>	
χ_4 (<i>L2 Learning Motivation</i>)	.877**	.638**	.863**	.699**	<i>1</i>

Structural equation modelling (SEM) was used to assess the contribution of three predictors – home literacy practices, L2 communicative confidence and L2 learning motivation – to the Malay language achievement and overall academic achievement among the OA students. The analysis of SEM shows that the model has good fit as illustrated by the following Goodness-of-Fit indices: χ^2 (CMIN) = 441.005 (df = 201), relative χ^2 (CMIN/df) = 2.194, AGFI = .828, GFI = .867, CFI = .905, IFI = .907, and RMSEA = .079. To recap, for acceptable fit, CMIN/df

and RMSEA should be $< .5$ and $< .08$ respectively, while AGFI, GFI, CFI, IFI and Tucker–Lewis Index (TLI) should be $> .9$. It appears that home literacy practices have the highest standardised regression weight ($\beta = .420$), which is the largest contribution in predicting the Malay language test result; followed by L2 learning motivation ($\beta = .145$) and L2 communicative confidence ($\beta = .119$). Together, these three factors explained about 40% of variability (multiple square correlation= .40) in the Malay language result. Similar results were found for overall academic achievement, where home literacy practices showed the highest standardised regression weight ($\beta = .588$), followed by motivation ($\beta = .440$). These two factors explained 90% of variability (multiple square correlation= .90) in academic achievement. L2 communicative confidence on the other hand, did not contribute significantly to students’ overall academic achievement given its regression weight of $\beta = -.079$. See Figure 2 and Table 4 for full results.

Figure 2. Structural Equation Model of the Relationships between Home Literacy, Confidence, Motivation and Language Result, and Academic Achievement

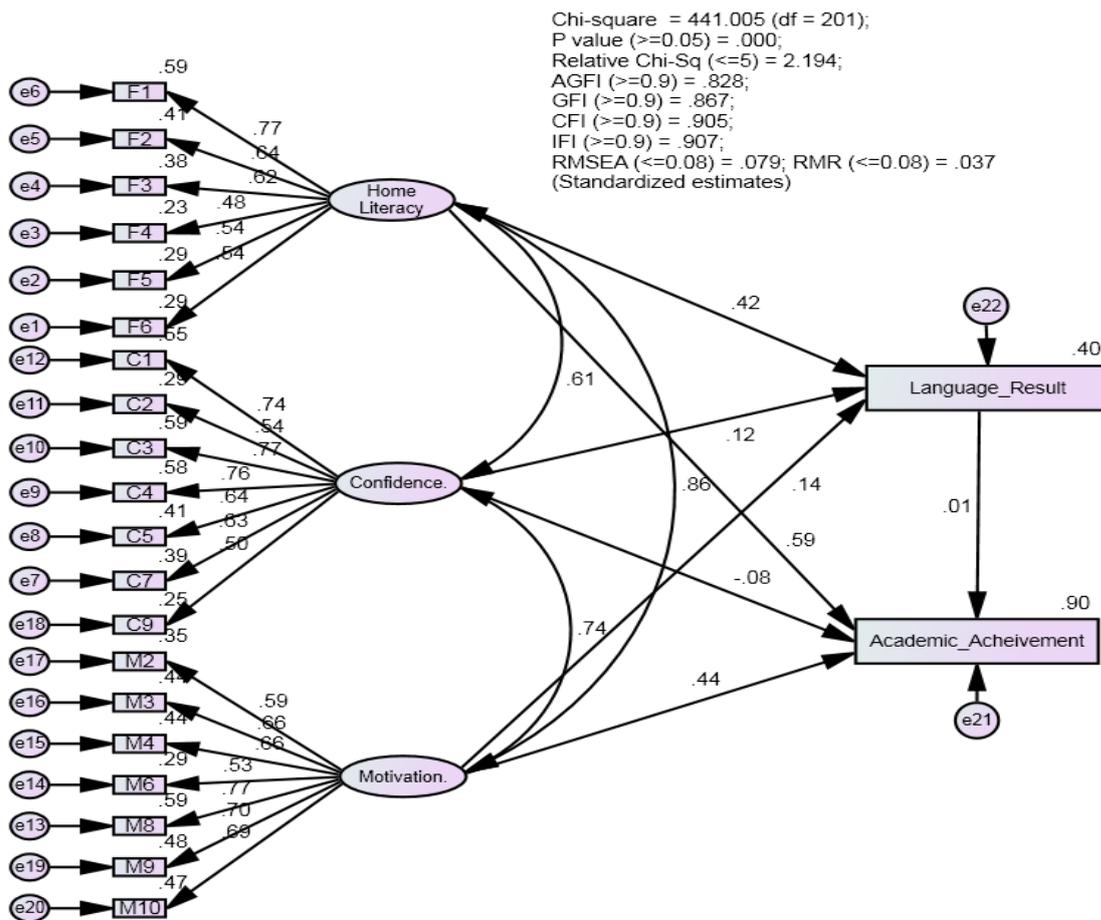


Table 4: Unstandardised and standardised regression weight in the hypothesized path model

Hypothesized relationships	Unstandardised Regression Weight Estimate (B)	S.E	Standardised Regression Weight Estimate (β)	CR	p
Malay Language Result ← Home Literacy Practices	.686	.299	.420	2.298	.000
Malay Language Result ← L2 Communicative Confidence	.173	.157	.119	1.098	.049
Malay Language Result ← L2 Motivation	.140	.203	.145	.690	.022
Overall Academic Achievement ← Home Literacy Practices	6.743	1.518	.588	4.442	.000
Overall Academic Achievement ← L2 Communicative Confidence	-.808	.669	-.079	-1.208	.773
Overall Academic Achievement ← L2 Motivation	2.998	.880	.440	3.405	.000
Overall Academic Achievement ← Malay Language Result	.095	.329	.014	.289	.222

Discussion

This paper focuses on the relationships between home literacy practices, confidence to speak in the Malay language, motivation to learn the Malay language, Malay language proficiency and overall academic achievement among Indigenous students in Malaysia. Structural equation modelling was used to establish these relationships. Studies with the somewhat more



advantaged L2 students (e.g. Latino children, see for example Mena, 2011) have shown that family literacy practices play an important role in the development of children's emergent language and literacy skills. Current findings support previous findings by showing that home literacy activities contributed significantly to the Malay language test result ($\beta=.42$) and overall academic achievement ($\beta=.59$). It is presumed that OA children with literate family members were more likely to have supportive language and literacy experiences at home, which results in more advanced literacy skills than children for who these experiences were absent.

Purcell-Gates (1994) suggested that children whose parents read together with them have a better understanding of critical written language concepts when beginning formal instruction in literacy compared to other children. In the current study, home literacy activities also correlate positively with communicative confidence in speaking Malay ($r=.61$) and motivation to learn the Malay language ($r=.86$). This suggests that home literacy activities improved OA students' confidence and motivation to speak and learn the Malay Language, which can be transferred into a better grasp of the L2 learning experiences at school, leading to higher proficiency levels in the target language. Seeing that most OA parents are still illiterate, literacy programs should therefore focus on them as well.

The study reveals that motivation to learn the Malay language among OA students contributed significantly to their proficiency in the target language as reflected by their performance in the midyear test results ($\beta=.14$) and academic achievement ($\beta=.44$). The importance of motivation to successfully learn a second language (L2) has been emphasized repeatedly by researchers in social psychology and education (Dörnyei, 2001; Dörnyei and Skehan, 2003; Liu, 2007). In this case, the OA children may be motivated to learn the Malay language in order to integrate with the mainstream community since it is the lingua-franca. Motivation levels can also arise by knowing that being fluent in Malay is advantageous for achieving good academic results. In general, motivation increases students' time on a task – an important factor affecting their learning and achievement (Larson, 2000) and students who are most motivated to learn and excel in classroom activities tend to be the highest achievers (Gottfried, 1990). Unfortunately, the levels of L2 learning motivation among the present sample are generally low.

There was also a significant correlation between motivation to learn the Malay language and confidence to speak Malay ($r=.74$) which indicates that OA students with higher levels of motivation to learn the Malay language will also have higher confidence to speak in the language. In contrast, anxiety and motivation to learn the L2 were negatively correlated. This is consistent with Clément, Dörnyei and Noels (1994) who found that students who are more motivated to learn a L2 are usually less anxious – and therefore more confident – to speak the language. Noels, Clément and Pelletier (1999) further added that the more learners feel unmotivated, the less effort they will put on learning and the more anxiety they will feel.



The confidence to communicate in the Malay language among OA students has contributed significantly to their Malay language results ($\beta=.12$), but not on their overall academic achievement ($\beta=-.08$). As postulated by Khan & Zafar (2010), O’Keeffe and McCarthy (2010), and Zhang (2010), communicative confidence plays a significant role in effective communication. Clement (1980) pointed out that the more confident the student is, the more frequently he/she will engage in practicing the second language, thus reaching higher proficiency, and consequently have a better result in the language test. Others have shown that anxious foreign language students are less willing to participate in learning activities, and have lower performance than non-anxious students (Aida, 1994; MacIntyre and Gardner, 1991). This is because anxious students tend to think about negative evaluations from other people, such as teachers and friends. Therefore, future efforts should be directed towards increasing indigenous students’ self-confidence to speak Malay.

Finally, the current paper presents a structural equation model of the contributions of home literacy activities, confidence to communicate in the L2, motivation to learn the L2 and L2 proficiency on OA students’ overall academic achievement. Home literacy activities have significant paths to confidence to speak in Malay and motivation to learn the Malay language. However, the SEM model establishes the significant and important role of home literacy activities on academic attainment, even when these other factors are taken into account.

These results have implications for OA children’s early language and literacy development in the L2 and eventual academic success. OA children are expected to assimilate rather quickly into the mainstream culture. However, as this study shows, many of them lack preschool experiences that support language and literacy development. Compounding the problem is that their native languages are non-written, and the children are living in largely illiterate communities, causing most of them to be far behind mainstream children in Malay language development upon entering first grade. On the other hand, the overall pattern of our SEM findings could also reflect parents’ emphasis on the importance of attaining Malay literacy skills for their children to do well in school. Programs should be developed to encourage parents to take an interest in their children’s schoolwork which – regardless of the parents’ own educational level – can be done through encouragement, sharing the positive value they have for education, setting expectations for children’s achievement, and monitoring their children’s academic activities at home. Students who perceived their parents as providing encouragement to learn Malay and do well in school have stronger positive beliefs about school and the intention to persevere academically (Mena, 2011).

Since early acquisition of literacy skills improves academic achievement, early involvement of family members is therefore necessary as children are only exposed to these individuals before formal school begins. Children who fall behind in literacy not only have a difficult time catching up (La Quinta, 2006), but can fall behind in other subjects, too (Gunn, Smolkowski,



Biglan & Black, 2002). As Gunn et al. (2002, p. 69) pointed out, “students who struggle with reading are especially vulnerable to academic underachievement.” Thus, early intervention is crucial to mitigate reading difficulties (Power, Dowrick, Ginsburg & Manz., 2004) and it can be achieved through family literacy programs, such as shared book-reading, that involve the parents and other family members in laying the foundations for reading (Ma’rof et. al., 2012). However, according to Sheldon (2003), there are limits to what parents can do for their children when their own language and reading skills are low. OA parents often feel they are not able, or have no time, to help with their children’s homework because most of them are illiterate. Thus, literacy and awareness programs for the parents should also be further developed.

Conclusion

The present study explored various social and psychological variables in search of a comprehensive and more systematic picture to explaining OA children’s academic performance. The major finding is the striking role that parents play in the formation of OA children’s language and literacy development and academic outcomes, and whether their children will be motivated and self-confident. Parental and home environment influences may not be visible to schools, but they can, and should, be better understood as contributing factors in children’s success. This study therefore represents an important initial step in understanding the factors in L2 learning that may be largely attributed to what the children bring to school from experiences in their homes.



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