Relations of Authoritative Parenting Style to Student Outcomes: The Mediating Role of Self-Efficacy and Task Value

Khin Maung Aye
National Institute of Education, Singapore

Shun Lau
National Institute of Education, Singapore

Youyan Nie
National Institute of Education, Singapore

Please address all correspondence to:
Shun Lau
Centre for Research in Pedagogy and Practice
National Institute of Education
Nanyang Technological University
1 Nanyang Walk, Singapore 637616.
Email: shun.lau@nie.edu.sg

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This study examines whether the relation between authoritative parenting and student outcomes is mediated by students’ self-efficacy and task value, using a structural equation model. Our study was based on adolescents’ self-report data of 2090 Grade-9 students from 39 schools in Singapore. The results of the study confirm the mediating role of self-efficacy and task value in the relations between authoritative parenting and student outcomes. In addition, some direct associations were also found between authoritative parenting and student engagement and disengagement in the classroom. Students with warm, firm, and democratic parents tended to have better school performance and stronger engagement in school.

Objectives

During the past four decades, there have been many studies on how the emotional climate in which parents raise their children influence the development of a child’s motivation. Children who describe their parents as treating them warmly, firmly, and democratically are more likely to develop positive attitudes toward and beliefs about their achievement (Steinberg, Elmen & Mounts, 1989). This is known as authoritative parenting which is one of the parenting styles identified in Baumrind’s (1967, 1971) seminal studies of the socialization of competence. The process through which parenting style may influence a person’s development especially at adolescence stage is of great interest, as it is a particular period in which the interaction between school and home context becomes of critical importance (Paulson, 1994).

In this study, our objective is to examine the role of self-efficacy and task value in mediating the relations between authoritative parenting style and adolescents’ behavioral and achievement outcomes in school environment using structural equation modeling. The Asian context in this study could be of special interest given that the effect of authoritative parenting may differ depending on the ecology in which the adolescent lives (Steinberg, Dornbusch & Brown, 1992).
Theoretical Framework

Baumrind (1967, 1971) postulates that, there are three types of family parenting styles which are linked to child’s self-reliant and explorative behavior. They are: (1) authoritarian parents emphasizing obedience, conformity, and respect for authority with little affection or support; (2) permissive parents with few demands and do not enforce rules but warm and accepting; and (3) authoritative parents with firm control in enforcing rules but encouraging child’s individuality, warm and nurturant. She suggested that, for pre-school children, children with authoritative parents were more sociable and self-motivated compared to children with authoritarian and permissive parents.

Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh (1987) applied Baumrind’s typology of parenting styles to adolescents and related to their academic performance. They found that authoritative parenting style was positively associated with grades, whereas both authoritarian and permissive parenting styles were negatively associated with grades. But, it is interesting to note that among Asians, authoritarian parenting was associated with lower grades but there was no significant relation between other two parenting styles and grades.

In another major survey by Steinberg, Dornbusch & Brown (1992), they found that high school students from authoritative homes performed better in psychological development and had less behavior problems than their counterparts from non-authoritative homes, in all ethnic groups. However, when we looked at the child’s school performance, within the African-Americans and Asian-American groups, children whose parents are authoritative did not perform better than those with non-authoritative parents. They suggested that the effects of authoritative parenting on achievement might be depending on where the family lives and youngsters develop.

These findings seem to be consistent across gender and social class. Steinberg, Lamborn, Dornbusch, & Darling (1992) examined the impact of parenting style on adolescent achievement in a large, ethnically and socioeconomically heterogeneous population of youngsters. As in previous studies, authoritative parenting – warm, firm, and democratic - again was found to be leading to better adolescent school performance and stronger school engagement. Another study by Steinberg, Mounts, Lamborn & Dornbusch (1991) also provided evidence that positive correlation between parental authoritativeness and positive adolescent psychological and behavioral adjustments exists regardless of ethnicity, socioeconomic status, and family structure.

After finding the association between authoritative parenting style and children’s outcomes, we need to understand how these links occur. Steinberg, Elmen & Mounts (1989) found that authoritative parenting facilitates school success and it is mediated through children’s attitudes concerning work, self-reliance, and identity. They suggested that adolescents with warm, firm, and democratic parents are more likely than their peers to develop positive attitudes toward, and belief about, their achievement, and as a consequence, will perform better in school.

Eccles (2005) proposed that achievement-related outcomes are mostly related to two sets of beliefs: the person’s expectation for success and the task value one attaches to that option. In her general expectancy-value model of achievement choices, influence of parents’ beliefs, expectations, attitudes, and behaviors, on children’s achievement-related outcomes are mediated
by the self-concept of their abilities and subjective task value on academic matter. Parenting style over time influenced children’s beliefs and attitudes towards academic matter and those beliefs in turn contributed to the child’s behavior on achievement-related choices. Again, in parental influences on child’s motivation and achievement model, Wigfield, Eccles, Schiefele, Roeser & Davis-Kean (2006) suggested that parents’ beliefs and behaviors are important in setting the climate for the child’s achievement motivation development.

Based on the literature reviewed, the model presented in this study examines the direct relations between the authoritative parenting style, where parents are warm, firm, and autonomy-granting, and the child’s behavioral and achievement outcomes, as well as indirect relations through the mediation of the child’s self-efficacy and task value. In this study, we hypothesized that the relation between authoritative parenting and student behavioral and achievement related outcomes is mediated by students’ self-efficacy and task value.

Method and Data

Participants

The sample comprised 2090 Grade-9 students recruited from 39 schools in Singapore. The participants were 979 (46.8%) boys and 1111 (53.2%) girls. The mean age of the participants was 15.52 years (SD = 0.57). With regard to ethnicity, the sample consisted of 1490 (71.3%) Chinese, 417 (20.0%) Malay, 130 (6.2%) Indian, and 53 (2.5%) categorized themselves as other races.

Procedure

The data analyzed and reported in this paper were based on a larger study of students’ psychological processes and learning environment in Singapore. Data were collected by an online survey in which students gave responses about their motivational beliefs and achievement-related behaviors in learning math. About one month after the survey, a math achievement test was administered to the students.

Measures

All items on the surveys were rated on 5-point Likert scales (1 = never to 5 = always; or 1 = completely disagree to 5 = completely agree).

A confirmatory factor analysis (CFA) was conducted to examine the factor structure of the constructs used. The fit of all CFA models and the SEM model in this study, was evaluated by the following indices: the ratio between chi square and degree of freedom ($\chi^2/df$), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the Tucker-Lewis index (TLI). Values of $\chi^2/df$ that fall below 5.00 (Marsh & Hocever, 1985), CFI above .90 (Bentler, 1990), TLI values close to .95 for large samples (Tucker & Lewis, 1973), and RMSEA below .08 (Browne & Cudek, 1993) are indicative of good fit.
Authoritative Parenting

Based on the previous work of Steinberg, Lamborn, Dornbusch, & Darling (1992), three scales reflecting authoritative parenting were used in this study – acceptance/warmth, supervision, and psychological autonomy-granting. The acceptance/warmth scale (five items, $\alpha = .92$) measured the extent to which the student perceive his or her parents as loving, responsive, and involved. Sample items include “My parents really care for me” and “My parents help me solve the problems that I have”. The supervision scale (four items, $\alpha = .84$) measured the student perceived extent of parental monitoring and supervision. Sample items include “My parents know where I am after school” and “My parents know what I do with my free time”. The psychological autonomy-granting scale (five items, $\alpha = .89$) assessed the student perceived extent to which parents employ non-coercive, democratic discipline and encourage the child to express individuality within the family. Sample items include “My parents give me reasons why rules should be obeyed” and “My parents encourage me to think for myself”.

The measurement model tested was constructed by three latent factors representing three dimensions of authoritative parenting. These items loaded significantly onto their hypothesized factors, with factor loadings ranging from .72 to .90 for acceptance/warmth scale, from .69 to .85 for supervision scale, and from .73 to .82 for psychological autonomy-granting scale items. As correlations among these three factors were high ($r = .64$, .67, and .73), second-order factor CFA model, in which these three scales loaded onto the higher-order factor of authoritative parenting, was constructed, and it provided a good fit for the data, $\chi^2/df = 13.95$, $p<.001$, CFI = .95, TLI = .94, RMSEA = .08.

Self-efficacy and Task value

The self-efficacy scale (five items, $\alpha = .85$) measured students’ confidence in mastering the skills taught in their math class. This scale was adapted from the Motivated Strategies and Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1993). Sample items include “Even if the work in math is hard, I can learn it” and “I am sure I can learn the skills taught in math class well”. The task value scale (four items, $\alpha = .85$) asked students to describe how important, interesting, and useful math or learning math (adapted from Eccles & Wigfield, 1995). Sample items include “Compared to other subjects, math is useful” and “I find math is interesting”. These items loaded significantly onto their hypothesized factors, with factor loadings ranging from .68 to .78 for the self-efficacy items and from .72 to .84 for the task value items. Our data fitted the CFA model reasonably well as indicated by the following values of indices: $\chi^2/df = 13.76$, $p<.001$, CFI = .96, TLI = .94, and RMSEA = .08.

Engagement

The engagement scale (four items, $\alpha = .87$) measured the extent to which students paid attention to their teacher focused on their work during the math class. Sample items include “I keep my attention on the work during the entire lesson” and “I listen carefully when the teacher explains something”. This scale was adapted from the Rochester Assessment Package for Schools-Students Report (RAPS-S; Wellborn & Connell, 1987). The result indicated that all factor loadings were significant ranging from .63 to .89. The fit statistics suggested that our data fitted the engagement scale quite well: $\chi^2/df = 18.81$, $p<.001$, CFI = .99, TLI = .96, and RMSEA = .09.
Disengagement

The disengagement scale (five items, $\alpha = .83$) measured students’ misbehavior in the classroom. Sample items include “I look out of the window” and “I refuse to follow my math teachers’ request or rules”. Fit indices, $\chi^2/df = 7.42$, $p<.001$, CFI = .99, TLI = .98, and RMSEA = .05 indicated that our data fitted the model well. All factor loadings were statistically significant, ranging from .62 to .80.

Achievement

A multiple-choice math achievement test was developed for this study. The test was intended to assess students’ knowledge and skills in math at the Grade 9 level. A panel of researchers and school teachers who had experience in teaching math constructed and reviewed the items to ensure the content validity, clarity, and grade-level appropriateness of the assessment instrument in the local context. A pilot study was conducted to select items from the item pool on the basis of their psychometric quality such as item difficulty, item discrimination, and functioning of distracters. Items that had item discrimination index less than 0.2 were dropped. A final set of 28 items that were used for final scoring had high reliability ($\alpha = .85$).

Data

As missing data could affect our results, the extent of missing data was accessed first. Originally, out of 2090 cases, Math Test Score was found to be 10.6% missing, which is remarkably higher than corresponding values for other variables. So, 222 cases with Math Test Score missing were deleted from the sample to avoid any artificial increase in relationships with other predictor variables. This left with 1868 cases available for the analysis.

Mean scores, standard deviations, number/percentages of missing values, and Cronbach’s alphas of constructs used are shown in Table 1. No noticeable patterns of missing were observed in the data. We could not conclude whether values are missing randomly as Little's MCAR test with EM estimation method was found to be significant. But due to the fact that percentage of missing values ranges from 0.2% to 1.7% only and the listwise missing is not more than 2.5%, missing data mechanism is not so crucial for our data. We computed mean subscale scores for each construct used and bivariate correlations among them are shown in Table 2.

Approach

A structural equation model (SEM) was built to examine the mediation effect of efficacy and task value between authoritative parenting and child’s outcome measures like engagement, disengagement and achievement. First of all, the relationship between authoritative parenting and child’s outcomes was tested without any mediators and later the mediators were introduced into the model. Our expectation was that, authoritative parenting style will relate positively to child’s engagement in the class, but negatively to disengagement, either directly or mediated through efficacy and task value beliefs of the child. We were also interested in whether authoritative parenting in Singapore context will have positive effect on child’s achievement either directly or through said mediators.
Results

A structural equation model showing the relation between authoritative parenting and student achievement-related outcome measures was built without using any mediators first and shown in Figure 1. All the standardized coefficients for the paths shown are significant at p<.001 level, unless otherwise noted. Data fits the SEM model well as indicated by following values of fit indices: $\chi^2/df = 6.41$, $p<.001$, CFI = .95, TLI = .94 and RMSEA = .05. There is a strong positive effect of authoritative parenting on student’s engagement ($\beta=.34$, $p<.001$) and negative effect on disengagement ($\beta=-.14$, $p<.001$). Authoritative parenting has small but significant impact also on mathematics test score ($\beta=.06$, $p=.021$).

Another SEM model was built to examine the role of efficacy and task value in mediating the relation between authoritative parenting and student achievement-related outcome measures and shown in Figure 2. All the standardized coefficients for the paths shown are significant at p<.001 level, unless otherwise noted. Our data fits the SEM model reasonably well as indicated by the following values of indices: $\chi^2/df = 5.67$, $p<.001$, CFI = .94, TLI = .93 and RMSEA = .05.

Self-efficacy is found to have strong positive impact on student’s engagement ($\beta=.31$, $p<.001$) and the achievement test score in mathematics ($\beta=.20$, $p<.001$). It also has a negative impact on disengagement ($\beta=-.10$, $p=.008$). It means students who have confidence in mastering the skills in mathematics are more likely to be engaged in the math class and also likely to score better in that subject. Those students will also be less likely to misbehave in the classroom.

Task value is found to be positively related with engagement ($\beta=.24$, $p<.001$) and negatively with disengagement in the classroom ($\beta=-.11$, $p=.003$). There is no significant path from task value to math test score. It means the adolescent who finds value in learning math will be more likely to be engaged in the math classroom and less likely to be disengaged or involved in the classroom misbehaviors. Adolescents who have higher task value in math may not have significant advantage in academic achievement compared to others.

Authoritative parenting is found to have no more direct relation with academic achievement, but only indirectly through the self-efficacy as a mediator (authoritative parenting to self-efficacy $\beta=.27$, $p<.001$ and self-efficacy to math test score $\beta=.20$, $p<.001$). So, students with authoritative parents are likely to have stronger self-efficacy compared to those counterparts with non-authoritative parents and this will lead to better academic achievement.

Authoritative parenting style still has significant direct effect ($\beta=.19$, $p<.001$) on engagement, but much reduced compared to the model with no mediators. It also has indirect effects on engagement through self-efficacy ($\beta=.27$, $p<.001$ and $\beta=.31$, $p<.001$) and through task value ($\beta=.27$, $p<.001$ and $\beta=.24$, $p<.001$) as mediators. So, students with authoritative parents will be more likely to be engaged in the academic subject matters. On the other hand, authoritative parenting is found to have some negative (but reduced) impact on disengagement directly ($\beta=-.09$, $p=.003$), and also indirect negative effects through self-efficacy ($\beta=.27$, $p<.001$ and $\beta=-.10$, $p=.008$) and through task value ($\beta=.27$, $p<.001$ and $\beta=-.11$, $p=.003$) as mediators. So, students under authoritative parenting will be less likely to have classroom misbehavior or disengagement.
Discussion & Significance of the Study

The objective of our study was to examine the role of self-efficacy and task value in mediating the relation between authoritative parenting and student achievement-related outcomes. The results provide empirical evidence supporting the positive influence of authoritative parenting on adolescents’ behavioral and academic performance outcomes. We conclude that the relations between authoritative parenting style and students’ outcomes are indeed mediated by self-efficacy and task value. Some direct relations were also found between authoritative parenting and adolescents’ engagement in the classroom. However, no direct relation from authoritative parenting to academic achievement was found, and its influence is only mediated through self-efficacy. Overall, the results of this study supported our hypothesis. The findings concerning the child’s beliefs as mediators of the relation between authoritative parenting and academic performance are of interest, despite some limitations in the research.

First, measures of the parenting style variables were based on the child’s self-report, so it is only what he or she perceived on their parents. But, one can reasonably argue that if a child experiences his or her parents as authoritative, then that is what indeed they are, at least as far as the child’s development is concerned (Steinberg, Mounts, Lamborn & Dornbusch, 1991). So, the use of self-report data probably would not have resulted in unusual bias in our findings. Second, due to the cross-sectional nature of the study, it is impossible to say with any certainty that authoritative parenting has in fact caused the outcomes assessed. We can only postulate that over time effect of parenting in the past will have influence on the children’s beliefs and behavior even though it is not the only factor on them. The relation between parenting style and children’s beliefs, behaviors, and academic performance is most likely to be bi-directional, according to Ginsburg & Bronstein (1993). Third limitation of the study is the extent to which these results can be generalized. The data used in study was based on a sample of Grade-9 students from Singapore secondary schools. It was carried out in an Asian context for adolescents and all the students were from the same grade level. Consequently, applicability of the results is limited to students at that particular age, grade level, and in Singapore schools.

There has been much previous research work done on the effect of parenting style for young students. Even though positive correlation between parental authoritativeness and child’s academic achievement has been widely reported, many studies focused on direct relation of authoritative parenting to academic achievement and children’s outcomes. Our research will contribute to the existing literature in the following ways. First, our sample is from students at adolescent age which is an important stage of a person’s development. Second, we looked at adolescents’ beliefs, such as self-efficacy and task value, as mediators to explain the relationship between authoritative parenting and academic achievement or other outcomes. Third, as our sample was based on Singapore students, this study will enhance the understanding the influence of authoritative parenting on adolescents in an Asian context. Fourth, an applied significance is that our findings provide useful information for parents regarding the effectiveness of authoritative parenting in fostering positive youth outcomes.
REFERENCE LIST


**AUTHOR NOTE**

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### Tables and Figures:

**TABLE 1**  
*Means, Standard Deviations, Missing Counts/Percentages and Cronbach’s α of constructs used*

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<tr>
<th>Construct</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Missing</th>
<th>No. of items</th>
<th>Cronbach's Alpha</th>
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<td>0.88086</td>
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<td>.935</td>
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<td>Self-efficacy</td>
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<td>3.7523</td>
<td>0.71612</td>
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<td>5</td>
<td>.850</td>
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<tr>
<td>Task Value</td>
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<td>3.8031</td>
<td>0.78170</td>
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<td>4</td>
<td>.847</td>
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<td>Engagement</td>
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<td>0.76300</td>
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<td>4</td>
<td>.867</td>
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<tr>
<td>Disengagement</td>
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<td>10</td>
<td>5</td>
<td>.826</td>
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<td>5.70632</td>
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<td>28</td>
<td>.850</td>
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**TABLE 2**  
*Bivariate Correlations among constructs used*

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<td>2. Self-efficacy</td>
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<td>3. Task Value</td>
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<td>4. Engagement</td>
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<td>5. Disengagement</td>
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<td>-.160</td>
<td>-.187</td>
<td>-.350</td>
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<td>6. Math Test Score</td>
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<td>.185</td>
<td>.096</td>
<td>.111</td>
<td>-.121</td>
<td>1</td>
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</table>

*Note: All correlations are significant at the 0.01 level (2-tailed) except the one marked with †, which is significant at the 0.05 level.*
FIGURE 1. Structural Equation Model showing the relation between Autonomy Granting Parenting Style and Adolescents’ Behavioral and Academic Achievement Outcomes, without any Mediators.
Note: All path coefficients shown are significant at $p<0.001$ level, except -
^ Authoritative Parenting Style to Math Test Score is significant at $p=.021$.

FIGURE 2. Structural Equation Model showing the relation between Autonomy Granting Parenting Style and Adolescents’ Behavioral and Academic Achievement Outcomes, with Efficacy and Task Values as mediators.
Note: All path coefficients shown are significant at $p<0.001$ level, except -
* Authoritative Parenting Style to Disengagement and Task Values to Disengagement are significant at $p=.003$.
# Efficacy to Disengagement is significant at $p=.008$. 