

Influence of perceived parenting styles: Goal orientations and career aspirations of high school science students in Thailand

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There has been considerable research interest into the relationship between the parenting styles of Asians, and student motivation and achievement. The investigation presented in this paper contributes to the literature in this area by examining the influence of perceived parenting style on goal orientations and career aspirations of a sample of high school science students in Thailand (N = 2638). Results from a multiple regression analysis show several significant findings: students who perceived their parents as empathic were more likely to have adopted mastery goals and empathic parenting had a particularly positive influence on females' career aspirations. Students who perceived that their parents have domineering views were more likely to have adopted performance avoidance goals. Students who perceived that their parents are "the regulators of family rules" were more likely to adopt both mastery and performance goals. These findings are discussed in light of social dimensions of achievement goals and gender roles.

Keywords: Parenting style; achievement goal theory; personal epistemology; career aspirations; Thailand

INTRODUCTION

Widely accepted theories of attachment (Bartholomew, 1990) and symbolic interactionism (Mead, 1934) posit that people develop a sense of self on the basis of how other people treat them. Eccles (1994) introduced a cognitive model which includes a component on socialization and academic choice that focuses on the role of parents and teachers in shaping the achievement-related beliefs and career choices of young adults. More recently, there has been research in social psychology using cognitive theories of motivation to explain the influence of parenting behaviour on student judgments of self-competency, value beliefs and goals (Chao & Tseng, 2002; Meece, Glienke, & Burg, 2006; Spera, 2005).

Much of the research on the influence of parenting styles on children's outcomes has been based on Baumrind's (1971) conceptualizations of authoritative, authoritarian and permissive styles of parenting, and their impact on the physical, cognitive and social development of children (see also Eccles, 1994; Meece et al., 2006; Spera, 2005). For example, studies carried out in the US have found that support of child autonomy with

authoritative parenting is related to intrinsic motivation while repression of child autonomy with authoritarian parenting is related to extrinsic motivation (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Ginsburg & Bronstein, 1993; Gonzalez, Doan Holbein, & Quilter, 2002; Leung, Lau, & Lam, 1998). There has also been research in East Asia (i.e. China, Japan, South Korea, etc.) using Baumrind's typology (see Murayama & Elliot, 2009), but some researchers have questioned the direct application of Baumrind's typology within the Asian context (Chao, 1994; Chao & Tseng, 2002). Chao and Tseng (2002) suggest that, because societies differ in terms of family environment and socialization process, the social understandings and meanings of such terms as *parental control* and *warmth* may not be universal (Leung et al., 1998; Steinberg, Lamborn, Dornbusch, & Darling, 1992). It would, therefore, make sense for research to take culturally specific perceptions and descriptions of parenting style into account.

Survey studies on the relationship between parenting style and student motivation have used either a two-dimensional motivational model of *mastery* and *performance* achievement goal orientations or a three-dimensional motivational model of *mastery*, *performance approach* and *performance avoidance* achievement goal orientations (Church, Elliot, & Gable, 2001; Gonzalez, Doan Holbein, & Quilter, 2002; Gonzalez, Greenwood, & Hsu, 2001). Generally speaking, *mastery* goals focus inwardly on mastering a task and personal improvement while *performance* goals focus outwardly on normative outcomes, grades and other external evaluations and comparisons (Hyde & Durik, 2005). A student who endorses a *performance approach* goal wants to demonstrate ability that is superior to others, and a student who endorses a *performance avoidance* goal wants to not appear stupid compared to others (Church et al., 2001). As Gonzalez et al. (2002) note, the three-dimensional motivational model may lead to a more precise depiction and understanding of the nature of the relationship between parenting style and student motivation (p. 466).

The study presented in this paper was carried out in Thailand. A child's perception of parental behaviour is considered to be as important an influence on the child's development as actual parental behaviour (Steinberg et al., 1992), so we assessed Thai students' perceptions of parental behaviours to form the basis of our typology of parenting style. Using a three-dimensional model of motivational achievement goal orientation, we then investigated the influence of the two most commonly perceived parenting styles on students' motivational goals and aspirations for high earning science, math, engineering or related professions.

METHOD

Participants

The educational system in Thailand consists of six years of primary education (called *Prathom*) followed by three years of lower secondary education (called *Mathayom* 1, 2 and 3) and three years of upper secondary education (called *Mathayom* 4, 5, and 6). At the end of lower secondary education, students are tracked into an academic or vocational stream. We collected survey data from every student enrolled in the academic stream in the upper secondary level academic science-math stream in five different schools located in central and north-eastern Thailand. More than 94 percent of responses to our survey were completed (n = 2638, male = 46%; female = 54%). The proportion of females in our sample and the socio-economic status of all our participants was representative of the

population nationwide. A majority (87.5%) of respondents had parents in a marital relationship. More than two-thirds of the students (72.9%) were brought up by both mother and father, 12.5 percent by mother only, 2.7 percent by father only, and 11.9 percent by family relative(s).

Instruments

The *first* section of the survey asked for general information (e.g., mother's education, father's education and career aspiration). The *second* section of the survey assessed motivational goal orientation toward science (17 items, e.g., "I like to perform tasks in my science class because this makes me learn new things") (Koul, Roy, Kaewkuekool, & Ploisawaschai, 2009). The *third* section of the survey assessed the two most common parenting styles as described by participants in the study: *Pa-dej-garn* or *jao-ra-biab* parenting, and *aou-jai-sai* or *aou-jai-sai-doo-lae* parenting. *Pa-dej-garn* parents are perceived to make all decisions on behalf of their children, put too many demands and restrictions on children, force children to accept what they think is right, and never entertain questions from children. *Aou-jai-sai* parents are perceived to show empathy for their children, encourage verbal give-and-take, and allow children to form their own point of view. Based on informal interviews with a group of students and previous literature, we created a survey to assess participants' perceptions of these parenting styles in relation to their own upbringing. Because past research has found that children may perceive their parents to have different styles of parenting (e.g., Chao & Tseng, 2002), we assessed the parental roles separately. We used a 5-point Likert scale from strongly disagree (1) to strongly agree (5). Data for the main study was collected over a three-month period during September to November 2014 with a survey questionnaire.

Analysis

We analysed data collected in this investigation using exploratory factor analysis with principal components on the correlation matrix of associations and the factor extraction rule based on eigenvalues greater than "1". We chose the principal component method because it obtained a larger proportion of variance compared to principal axis factoring. We conducted both orthogonal (Varimax) and oblique rotations. Both rotation approaches grouped the survey items into the same number of factors. Although the oblique rotation sum of squares loadings was a little better than those for the orthogonal, we report here only the orthogonal solution because it is adequate and more summary information is provided for it by the SPSS statistical software that we used (Henson & Roberts, 2006). Since the significance of a loading gives little indication of the substantive importance of a variable to a factor, we interpreted only factor loadings with an absolute value greater than ".4", which explains around 16 percent of the variance in the variable (Stevens, 1992). In order for data to be of value and of use, the validity and reliability were measured. We calculated Cronbach's alpha, the most common measure of scale reliability, separately for each subscale. Factor loadings ranged from .689 to .770. Alpha values for each sub-scale ranged from .79 to .85. We used the Anderson-Rubin method to calculate scores on each factor for each survey participant. We used each factor score for the subsequent statistical analysis.

We conducted three simultaneous multiple regression analyses (Table 1) with mastery, performance approach, or performance avoidance goal orientation as the criterion variables. The predictor variables in each regression analysis were based on previous

research examining the influence of family variables on student motivation (Turner & Johnson, 2003). We chose simultaneous regression (or *Enter*, as it is known in SPSS) because we had no prior idea which variables would create the best prediction equation.

Table 1: Multiple regressions: Influence of perceived parenting style, education, and gender on achievement goal orientations (n =2638)

Achievement goal orientation	Influence variable	Parameter estimates		
		beta	t	p
<i>Mastery</i>				
	Empathic father	.235	10.861	.000**
	Empathic mother	.199	9.196	.000**
	Regulators of family rules	.121	5.600	.000**
	Domineering views	.048	2.228	.026*
	Father's education	-.008	-.246	.806
	Mother's education	.003	.095	.924
	Gender	-.004	-.170	.865
<i>Performance approach</i>				
	Empathic father	-.008	-.350	.726
	Empathic mother	.068	3.028	.002**
	Regulators of family rules	.076	3.378	.001**
	Domineering views	.151	6.694	.000**
	Father's education	.034	1.035	.301
	Mother's education	-.004	-.119	.905
	Gender	-.028	-1.226	.220
<i>Performance avoidance</i>				
	Empathic father	-.049	-2.253	.024*
	Empathic mother	-.039	-1.783	.075
	Regulators of family rules	.110	4.994	.000**
	Domineering views	.238	10.849	.000**
	Mother's education	-.054	-1.663	.096
	Father's education	-.020	-.616	.538
	Gender	-.059	-2.673	.008**

*p < .01, **p < .05 Mastery goal orientation adjusted R² = .111, Performance approach goal orientation adjusted R² = .034, Performance avoidance goal orientation adjusted R² = .082

Prior researchers have concluded that aspirations for high earning science, math and engineering professions provide focus for the influence of home environment on the career decisions of students (Correll, 2001). We used mean monthly salary to code each of the professions aspired to in our survey data as HESME (high earning science, math, engineering or related professions) or Non-HESME (non-high earning science, math, engineering or related professions) ("Thailand average salary income - job comparison," 2007). For example, general physician (US\$1218), dentist (US\$925), engineer (US\$962), and pharmacist (US\$700) were coded as HESME; and low-earning science-related professions, such as nursing (US\$200) and all other professions, were coded as non-HESME. In order to find the influence of family variables that discriminate the student choice between a HESME and Non-HESME profession, we conducted discriminant function analysis (Tables 2 and 3).

Table 2: Univariate F ratios and Wilks’s lambda for predictor variables for female group
(the model was not significant for the male group)

GROUP	VARIABLE TYPE	Wilks’s lambda	F ratio	df	Sig.
<i>FEMALE</i> (<i>n=1132</i>)					
	Empathic father	.995	5.316	1130	.021*
	Empathic mother	.995	5.686	1130	.017*
	Regulators of family rules	.999	1.066	1130	.302
	Domineering views	1.000	.166	1130	.684
	Father’s education	.974	30.678	1130	.000**
	Mother’s education	.964	42.228	1130	.000**

**p<.01, *p<.05

Table 3: Standardized canonical discriminant function coefficients and structure coefficients for predictor variables in female group (the model was not significant for male group)

GROUP	Predictor variable	Standardized coefficient	Structure coefficient
<i>FEMALE</i> (<i>n = 1132</i>)			
	Empathic father	.308	.304
	Empathic mother	.329	.315
	Father’s education	.196	.732
	Mother’s education	.726	.858

For females, Group centroids were .225 for students aspiring for HESME professions and -.225 for non-HESME professions

RESULTS

The Goal Orientation Scale (58% variance) had three factors: mastery goal orientation (6 items, e.g., “I feel satisfied when I learn new things in my science class”), performance goal approach orientation (5 items, e.g., “I feel good when I perform better than other students in science”), and performance avoidance goal orientation (6 items, e.g., “My main goal in science class is to avoid looking stupid in science”). The Parenting Style Scale (59.4% variance) had four factors: *empathic father* (6 items, e.g., “My father was always willing to listen to children’s concerns”), *empathic mother* (6 items, e.g., “My mother was always willing to listen to children’s concerns”), *parents are the regulators of family rules* (4 items, e.g., “my father always felt that parents should force their children to behave appropriately”) and *parents have domineering views* (4 items, e.g., “My mother always felt that children must accept what she thought was right”). The “empathic mother” and “empathic father” sub-scales measured the perceived degree of parental respect for child’s thoughts, feelings and expression. The empathic father and empathic mother sub-scales were found to be conceptually equivalent (Behling & Law, 2000) because the same number of conceptually equivalent factors extracted from the two scales and the same items loaded on each factor, and approximately the same proportion of total variance was accounted by each factor. “The regulators of family rules” sub-scale assessed parental insistence upon complete obedience to parentally established family

rules and regulations. The “domineering views” sub-scale measured the degree to which parents were perceived to force their ideas on the child.

Both males and females in our study perceived their mother to be more empathic than their father. Compared to males, females perceived both their father and mother to be significantly more empathic, $F = 7.86$, partial eta squared = .003, and $F = 29.32$, partial eta squared = .012, respectively, $p < .01$. Compared to females, males perceived their parents to be significantly more “regulators of family rules” and to have “domineering views”, $F = 13.02$, partial eta squared = .005 and $F = 9.04$, partial eta squared = .004, respectively, $p < .01$. Split-file analysis of variance of each parenting style survey item with gender found that both males and females perceived their mother to be significantly more *the regulator of family rules* and to have significantly more *domineering views* than their father.

Results of regression analysis show the influence of parenting styles on motivational goal orientations. Table 1 presents b -values and their level of significance. The largest predictor of performance avoidance orientation was the perception of domineering views ($b = .273$). The perception that father and mother are empathic made the greatest contribution to mastery orientation ($b = .235$ and $.199$). The perception that the parents are the regulators of family rules contributed positively to both mastery goals ($b = .121$) and performance avoidance goals ($b = .110$). Generally speaking, we found that the males in our study were more oriented towards performance approach and performance avoidance goals than the females and the difference was statistically significant, $F = 3.87$, $p < .05$, partial eta squared = .002, and $F = 18.62$, partial eta squared = .007, $p < .01$.

Students who aspired for high earning science, math and engineering professions perceived their fathers to be significantly more empathic than the students who aspired for Non-HESME ($F = 6.16$, partial eta squared = .002, $p < .05$). This difference was true both for males ($F = 3.0$, partial eta squared = .003, $p < .05$) and females ($F = 3.6$, partial eta squared = .003, $p < .05$).

Discriminant function analyses found that Boxes’ test was insignificant and all log determinants were very similar, which means that the homogeneity of variance assumption was met (Stevens, 1992). The statistical model of family influences was not significant for males, Chi-square = 11.67, $p = .07$, which means that the family variables did not significantly discriminate the HESME group from non-HESME group. However, the model was significant for females, Wilks’ Lambda = .952, Chi-square = 55.776, $p < .01$. Discriminant analysis yielded a canonical correlation of .22, explaining about 5.1 percent of variance in the female aspiration for a HESME profession or non-HESME profession. Table 2 shows univariate F ratios and Wilks’ Lambda for each of the six influence variables. A high level of education for both parents and the perception of both parents as “empathic” contributed positively to females’ aspirations for high earning science, math, engineering and related professions. These four variables showed statistically significant differences in mean values for females’ career aspirations, and the classification results showed that 60 percent of the cases were correctly classified. Table 3 shows the standardized coefficients and structure coefficients for each of these four predictors.

DISCUSSION AND CONCLUSION

The American philosopher Dewey (1916) said that the *individual* and the *social* are nested. Dewey's insight describes the nature of what our investigation found in Thailand, and our findings offer cross-cultural validity for his perception. We found that students' beliefs about their parents are associated with their achievement goals for themselves (see also Poortvliet & Darnon, 2010). According to Lau and Yeung (1996), and Chao and Tseng (2002), Asian children may perceive parental regulation of family rules as *domination* or as an *organizational type of control* to promote family harmony. Our investigation found that the endorsement of either mastery or performance goals was associated with the interpretation of parental regulation of the child's behaviour (Chao & Tseng, 2002; Gonzalez et al., 2002; Spera, 2005). We found that the perception of parental control as *domineering* associated with performance avoidance goals, which are *negatively* related to students' self-esteem (Herz & Gullone, 1999) and life satisfaction (Stewart et al., 1998), while the perception of parental control as *caring* associated with mastery goals, which are *positively* associated with self-control, persistence (Zhengyuan et al., 1991) and life satisfaction (Stewart et al., 1998). These findings (the results as summarized in Tables 1, 2 and 3) corroborate widespread evidence from research conducted in the US on the association between students' perception of others and their beliefs about themselves and academic tasks; namely, that positive evaluation of others is linked to mastery goals (Kaplan, 2004) and positive representation of self, including high levels of self-efficacy and self-esteem (Arbona & Power, 2003; Laible, Carlo, & Roesch, 2004).

The significant positive association that we found between females' perceptions of both their father and mother as empathic, and their aspirations for HESME professions was notable since family factors (parental education and parenting style) have no significance in relation to the career aspirations of males in our study. In another investigation with a similar population of high school students in Thailand, we found gender differences in career aspirations that may result from stereotype effect and social preferences (Correll, 2001; Koul, Lerdpornkulrat, & Chantara, 2010). Koul et al. (2010) found that males aspired for HESME professions at a higher rate than females not because they valued science more than females or because they had higher grade-point-averages than females. They did so, partly, because they perceived they were simply more suited for HESME professions. Koul et al. (2010) also found that higher levels of biology and physics classroom anxiety negatively impacted the aspirations of females but not males for HESME professions. Findings from these investigations suggest that females use their emotional states and emotional support as a source of information about their competency to aspire for HESME professions. Therefore, family role models and persuaders are especially critical sources of self-efficacy beliefs for females. The results draw attention to the nested nature of motivation and social environment and, particularly for females, the influence of affective elements on student motivation and career aspirations.

IMPLICATIONS

The results of this study have important implications for parents and education counsellors. Because students' perceptions of parenting styles have an effect on their achievement goal orientations, the *empathic* parenting style would be emphasised and *domineering views* should be avoid within the family context in Asian countries.

LIMITATIONS AND DIRECTIONS FOR FUTURE STUDY

There are limitations related to the collection of our data. One potential limitation is related to the survey data collection techniques: students may not feel encouraged to provide accurate, honest answers. For a better understanding of the different aspects of student views and experiences, a mixed methods design should be considered as a methodology for the future study. A second potential limitation is related to the measurement of students' perceptions of parenting styles which were assessed in relation to their own upbringing, but the true parenting styles of their parents may not be the same as that perception. Future research should consider overcoming these limitation to provide more robust results.

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