



**AN EXPLORATION INTO THE FAMILY
BACKGROUNDS AND EDUCATIONAL
EXPECTATIONS OF INDIGENOUS STUDENTS WITH
ACADEMIC ACHIEVEMENT AS AN INTERVENING
VARIABLE**

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Abstract

This study explores how the backgrounds of indigenous students affect their academic achievement, with an emphasis on examining the intervening effect produced by academic achievement on background variables and educational expectations. We distributed questionnaires among 1,300 indigenous students studying at senior high schools in Hualien and Taitung using cluster sampling methods. A total of 1,216 questionnaires were analyzed using regression analysis. The findings are as follows: The indigenous students who have

achieved previous academic success experience elevated educational expectations from their family. Meanwhile, academic achievement acts as an intervening variable for 12th grade and middle and upper SES (socioeconomic status) and educational expectations. Therefore, we suggest enhancing the academic achievement of 12th graders and students who come from middle and upper SES backgrounds, so as to elevate their educational expectations and increase the number of indigenous students pursuing college education immediately after leaving senior high school.

Keywords: indigenous people, background variables, socioeconomic status (SES), academic achievement, educational expectations

1. INTRODUCTION

Taiwanese people have long regarded education as one of the factors that determine future profession and social status. Traditionally those who had the means to receive higher education were seen as more privileged in society (Hwang, 1999). Educational expectations indicate a person's yearning for and efforts toward social elevation that can only be made possible through educational achievement (Hsieh, Hou, & Chao, 2003). Indigenous students in Taiwan, however, have shown a much lower college entrance rate than other ethnic groups (Tan, 2006). What are the main causes behind the disparity in education for indigenous people?

Educational expectations reflect the fundamental values of the individual and their realistic pursuit of a better life. For one thing, academic success is a very valuable resource that can be leveraged in one's favor when climbing the social ladder. Secondly, education level is regarded as a representation of socioeconomic status in itself (Hsieh, 1998). For the purposes of this study, educational expectations refer to the highest possible level of education one aims to pursue under current circumstances.

Gender should be taken into consideration as a factor that affects a family's educational expectations. Some research suggests higher expectations for female students (Chen, 2004; Hsieh, 1998), while other findings suggest the opposite (Wu, 1994; Li & Hwang, 2004), and still others indicate little, if any, differences in expectations of the two sexes (Garg et al., 2002). Students' intentions to pursue higher education vary in different grades (Khattab, 2003).

Grade level is therefore a variable that influences an indigenous student's decision to pursue or not to pursue further study (Jiang & Chao, 2007). The higher a student's grade level, the lower his or her intention to pursue further study.

Taiwanese researchers tend to regard all indigenous people in the same way without considering their ethnic differences. For example, Asian Americans generally have higher educational expectations than their white counterparts. Yet further classification of Americans of Asian descent into Chinese Americans, Filipino Americans, Japanese Americans, Korean Americans, Southeast Asian Americans, and people who have ancestral origins in South Asia, we find that the Southeast Asian Americans have a lower SES than white people (Goyette & Xie, 1999). This seems to contradict the presumption that people from lower SES backgrounds will have lower educational expectations. Viewing all aboriginal students as belonging to the same group has been a blind spot in past research. All students have diverse ethnic origins, just like Asian Americans are a heterogeneous group of people.

SES backgrounds have a close correlation with educational achievement (Chen, 1995). Teenagers from higher SES backgrounds tend to have higher educational aspirations. However, socioeconomic status might not be the sole factor affecting one's educational aspirations (Garg et al., 2002). Other research findings indicate students from lower SES backgrounds embrace higher educational expectations, such as Palestinian senior high school students in Israel (Khattab, 2003) and Southeast Asian Americans (Goyette & Xie, 1999).

With regard to types of family structures, some findings show family structure as exerting little, if any, influence on one's educational aspirations (Garg et al., 2002), whilst other research results indicate a significant difference in educational expectations among students from different family structures; especially students from single-parent or foster families tend to have lower educational expectations (Lee 2006; Goyette & Xie, 1999).

Research also indicates that a larger number of siblings leads to lower academic achievement (Chang & Hwang, 1999), and to fewer the years spent in formal education (Hwang, 1995). This is especially true for those studying at vocational high schools, because a large number of siblings leads to dilution of resources, which causes educational disadvantages. The dilution effect cannot be found in those taking regular academic tracks (Lin, 2001). Still, other research results indicate the opposite: the more siblings an indigenous teenager has got, the more inclined, she/he is toward pursuing higher education (Jiang & Chao, 2007).

Meanwhile one's educational achievement is significantly correlated to her/his educational

aspirations (Khattab, 2003), whereas one's academic achievement is positively correlated to her/his years of receiving formal education (Hwang & Chen, 2008). The higher one's academic achievement, the more likely she/he is enrolled in a university; hence a positive correlation between one's academic achievement and his/her educational expectations.

2. METHODOLOGY

This study distributed 1, 300 questionnaires to indigenous senior high school students in Hualien and Taitung. 1, 251 questionnaires were completed and returned, of which 1, 216 were complete. We employed the moderator-mediator method proposed by Baron and Kenny (1986) using regression analysis to examine the academic achievement of indigenous students as an intervening variable for their backgrounds and educational expectations, whether their backgrounds affected their academic performance, and whether their backgrounds and academic achievement exert an influence on their educational expectations.

3. RESULTS AND DISCUSSIONS

3.1 Results

Table 1 displays the significant predictive power of an indigenous student's background variables on academic achievement ($R^2=.050$, $p<.001$). These results suggest that background variables exert a significant effect on academic performance (as an intervening variable). Females ($b=.242$) showed significantly higher academic success than their male counterparts. Students from the Taroko tribe ($b=.247$) displayed the best academic performance, whereas those from the Puyuma tribe ($b=-.400$) are among the lowest achievers.

The regression results (seen in Table 1) also exhibit the significant predictive power of academic achievement on the educational expectations of indigenous students ($R^2=.046$, $p<.001$); therefore academic achievement (an intervening variable) exerts a significant effect on educational expectations (a dependent variable). The higher the academic success ($\beta=.482$), the higher their educational expectations.

We then proceeded to examine the predictive power of background variables on educational expectations, the results of which proved to be significant. Once academic achievement was added into the formula, the predictive power of background variables on educational expectations dwindled to the point of insignificance. We conducted a regression analysis of

background variables and educational expectations (Model #1 in Table 1), revealing that background variables exert a significant predictive power on educational expectations ($R^2=.096$, $p<.001$).

We then added academic achievement into Model #1 and conducted a regression analysis, discovering that background variables and academic achievement exert significant predictive power on educational expectations ($R^2=.148$, $p<.001$). The higher the grade level and SES, the higher the educational expectations. Among these indigenous tribes, the Payuan tribe exhibits the highest educational expectations, and the Taroko tribe exhibits the lowest. Background variables, including 12th grade and middle-to-upper SES backgrounds, show a decrease in β value, implying that academic achievement acts as an intervening variable between these background variables and educational expectations.

Table 1 A regression analysis of background variables, academic achievement, and educational expectations

Independent variable	Dependent variable		Academic achievement		Educational expectations		Educational expectations (Model #1)		Educational expectations (Model #2)	
	b	(β)	b	(β)	b	(β)	b	(β)	b	(β)
(Constant)	1.81*				14.91*		15.22*		14.26*	
Gender (the control group: male)										
Female	.242*	(.124)					.060	.014	-.066	-.015
Grade (the control group: 10 th grade)										
11 th grade	-.051	(-.025)					.457*	.098	.478*	.103
12 th grade	.112	(.052)					.575*	.119	.527*	.109

(continued)

Table 1 A regression analysis of background variables, academic achievement, and educational expectations

Tribes (the control group: the Amis tribe)										
Taroko tribe	.247*	(.095)					-.397*	-.066	-.510*	-.087
Bunun tribe	.009	(.003)					.418*	.061	.452*	.067

Payuan tribe	-.252*	(-.079)			.916*	.127	1.067*	.149
Puyuma tribe	-.400*	(-.103)			.258	.029	.473	.054
Other tribes	-.007	(-.002)			.231	.028	.168	.021
SES (the control group: lower SES)								
Middle SES	.075	(.027)			1.07*	.164	1.006*	.159
Upper SES	.065	(.019)			1.144*	.147	1.018*	.132
Family structures (the control group: two-parents family)								
Single-parent family	-.137	(-.039)			-.294	-.037	-.197	-.025
Foster family	.068	(.025)			.005	.001	-.069	-.011
Number of siblings (the control group: 0~2)								
3~5	.023	(.012)			-.032	-.007	-.033	-.008
Above 6	-.052	(-.020)			-.307	-.052	-.282	-.048
Academic achievement			.482*	.214			.536*	.237
N	1,157		1,151		1,209		1,151	
	R ²	F	R ²	F	R ²	F	R ²	F
	.050	4.280*	.046	55.04*	.096	9.056*	.148	13.196*

*p<.05

3.2 Discussion

This study reveals that gender has little to do with educational expectations, which concur with the results presented by Garg et al. (2002). We also found that educational expectations differ among students of different grade levels, a result that coincides with the research results proffered by Jiang & Chao (2007) and Khattab (2003). The higher the grade, the higher educational expectations climb. This is antithetical to the findings presented by Jiang & Chao and Khattab. We presume this is due to heightened maturity in students at a higher grade level. Indigenous students from upper SES backgrounds have higher educational expectations, which coincides with the results by Garg et al. (2002). This might be because families with upper SES have a better grasp of the importance of education, which leads to higher educational expectations. Lastly, the higher their academic achievement, the higher their educational expectations. This is in accordance with the conclusions proffered by Hwang & Chen (2008) and Khattab (2003). This might be because those perform better academically in

Taiwan tend to be offered ample opportunities for higher education; hence the indigenous students who attain academic success have got higher educational expectations.

4. CONCLUSION

In this study, the significant predictive power of the background variables of indigenous students on academic achievement is corroborated, with gender and tribes being the most influential factors. Background variables and academic achievement have a significant predictive power on educational expectations, with grades, tribes, SES, and academic achievement as the factors that decide the outcome. Academic achievement acts as an intervening variable between background variables and educational expectations. Specifically the academic achievement of indigenous senior high school students acts as an intervening variable between background variables, 12th grade and middle-to-upper SES backgrounds, and educational expectations. This indicates that background variables, namely 12th grade and middle-to-upper SES backgrounds, exert an effect on educational expectations through academic achievement.

5. RECOMMENDATIONS

This study confirms that higher academic achievement in indigenous students leads to higher educational expectations. Meanwhile, academic achievement exerts an intervening effect on the interplay between background variables (12th grade and middle-to-upper SES backgrounds) and educational expectations. Therefore we suggest improving the academic achievement of 12th graders and those from middle-to-upper SES backgrounds in an effort to increase their educational expectations and elevate the number of indigenous students pursuing college.

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