BEHAVIOURAL HOME ENVIRONMENT AND ITS RELATION TO MOTIVATION AND ACHIEVEMENT: GENDER, SETTING OF RESIDENTIAL AREA AND SOCIOECONOMIC STATUS DIFFERENCES

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Abstract

The present study examines the influence of the home environment on high school students' motivation and achievement and how it differs among genders, setting of the residential area and socioeconomic status (SES). Home environment was considered the combination of SES and parental behaviour factors. A stratified random sample of thirty five classrooms (745 students and their parents) from eight schools in all cities was selected as a representative sample for the high school students in Cyprus. The data were analyzed by LISREL.8 (Joreskog and Sorbom, 1993) and by t-test within SPSS (Nie, Hull, Jenkins, Steinbrenner, and Bernt, 1990). Their indications, as well as the relevant suggestions of the results are thoroughly discussed, in view of the existing social conditions in Cyprus.

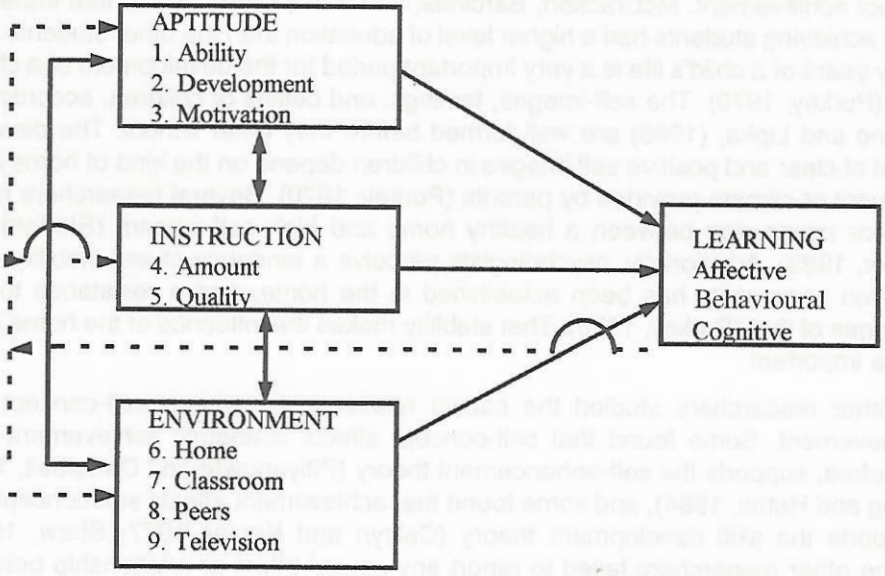
Introduction

The purpose of this research was to study home environment variables (socioeconomic and behavioural) and how those variables influence students' motivation (self-concept, attitude toward school, attributions, and aspirations) and achievement. Emphasis was also given to gender, setting of residential area, and socioeconomic status (SES) differences. More specifically, the present research studied home behavioural environment with respect to five parental processes: pressure, psychological support, help, monitoring, and press for intellectual development (Campbell, 1994). Furthermore, the study investigated the effect of the motivational factors on achievement and their relationship among them.

The theoretical frame of the present study was based on Walberg's productivity model (Figure 1). According to Walberg (1984) and Wang, Heartel, and Walberg

(1993), home environment is one of the major causal influences on student learning. The findings from home environment research give a clear picture of the magnitude of the influence that the home has on students' motivation and school performance. Home environment encompasses the physical, social, psychological, and educational environments that exist in the home. Walberg (1984) believes that the effect of this environment on a child's development is what determines the degree of one's educational success, and the positive attitudes toward oneself, the school, and an ambitious career. From ancient times educators like Aristotle believed that the family should be the base for children's education (Stafford and Bayer, 1993). Home environment theorists, believe that some of the difficulties young people face at school can be due to problems caused by parents (e.g., Beane and Lipka, 1986). The family is the place that provides the primary setting for personality development for children, because the family provides the individual with the earliest contacts with society, and influences children by the kind of relationship the members of the family have among themselves.

Figure 1. *Walberg Productivity Model: Causal Influences on Student Learning*



Parental behaviour to children concerning their intellectual growth is another very important variable in the literature of home environment. Johnson (1992) concluded that: the family produces the climate that supports the development of cognitive abilities and satisfaction in doing cognitive work, as well as the development of healthy personality characteristics that facilitate academic development.

The socioeconomic status (SES) of the family is a factor that has a major effect on the students. For the present study SES was the combination of the education, occupation and income of parents. Flouris (1989), Campbell and Wu (1994), and Campbell and Koutsoulis (1995) in their study of Greek American high school students, using PLSPath analysis, found a strong indirect effect of socioeconomic status on high school students GPA and mathematics achievement. Furthermore, Flouris (1989) found that low SES parents exert more pressure on their children, to succeed they exert more pressure on intellectual development, and they monitor their children's time more than parents from high SES. However, parents from high SES provide more psychological support to their children than low SES parents. The education of parents, as a socioeconomic variable, took the attention of many researchers. Stone (1988) found higher achievement scores being significantly associated with the education of mothers. Similarly, Thompson *et al.* (1988) found the educational level of mothers as the most important socioeconomic predictor of school achievement. McCracken, Barcinas, and Wims (1991) found that fathers of high achieving students had a higher level of education than the other students. The early years of a child's life is a very important period for the development of a child's self (Purkey, 1970). The self-images, feelings, and beliefs of children, according to Beane and Lipka, (1986) are well formed before they enter school. The development of clear and positive self images in children depend on the kind of home environment or climate provided by parents (Purkey, 1970). Several researchers found a clear connection between a healthy home and high self-esteem (Stafford and Bayer, 1993). Additionally, psychologists perceive a tendency of self-stability once a given personality has been established in the home, and a resistance to any changes of that (Purkey, 1970). That stability makes the influence of the home even more important.

Other researchers studied the causal relationship between self-concept and achievement. Some found that self-concept affects academic achievement and, therefore, supports the self-enhancement theory (Pitiyanuwat and Campbell, 1994; Song and Hattie, 1984), and some found that achievement affects self-concept and supports the skill development theory (Calsyn and Kenny, 1977; Shaw, 1983). Some other researchers failed to report any causal effect or relationship between general self concept and achievement (Keith *et al.,* 1985; Maruyama *et al.,* 1981; Pottebaum *et al.,* 1986).

The studies of gender differences in self-concept research have been numerous. Several researchers found that males have a higher self-concept than females,

even though females had higher grades (Calsyn and Kenny, 1977; Kelly and Jordan, 1990). Another interesting finding on self-concept research is the interaction of gender differences and basic subject matter. Byrne and Shavelson (1987), Marsh, Byrne, and Shavelson (1992), found that the general and academic self-concept of males correlated higher with mathematics self-concept than with English, and the general and academic self-concept of females correlated higher with English self-concept than with mathematics. Further, they demonstrated that even though females had higher mathematics grades, males still maintained a higher level of self-perceived success in that subject area than females. A similar finding by Flouris (1989), was that females had higher levels of reading self-concept and males higher levels of mathematics self-concept, even though females had higher levels of academic achievement. Similarly, Flouris *et al.* (1994) and Pitiyanuwat and Campbell (1994) showed that males had higher levels of math self-concept, even though females had higher mathematics achievement. Feldhusen and Willard-Holt (1993) demonstrated that males had greater preference for mathematics and science related tasks. A similar finding by Harty, Samuel, and Beall (1986) found males to exhibit a significantly greater interest in science than females.

A positive attitude toward school and teachers can also be considered as an important school outcome (Haladyna, Shaughnessy, and Shaughnessy, 1983). The way a student accepts the school and its role in society determines the effort and the psychical power that the student is willing to put into the school work. Attitude plays an important role in the motivation of the students for learning by influencing their behaviour (Ajzen and Fishbein, 1977). A positive attitude toward school and education is a necessary component for high educational aspirations. Students with a positive attitude toward a subject are likely to want to continue their education in that area or expand their learning to college or graduate school and beyond (Haladyna *et al.,* 1983; Shaughnessy and Haladyna, 1985).

It can be concluded from the literature that females tend to have a more positive attitude toward school than males (Campbell and Koutsoulis, 1995). Haslett (1976) found significant sex differences in the judgments of students of a teacher's instructional style; high school females judge teachers as being better than did males.

The family also exerts a significant influence in shaping the vocational interest, occupational choice, and career development of children (Smith, 1982). Koutsoulis (1996) found that parents influence their children with their own expectations, as children tend to adopt them, and finally those expectations may affect the occupation they eventually choose. McDermott, Conn, and Owen (1987) indicated that as one moves to a population that is more educated, the expectations of the parents, and thus the students, become more demanding and comprehensive.

Marjoribanks (1979) found home environment strongly related to the aspirations

of children. In his later study (1986) he found the aspirations of parents to have strong associations with the educational aspirations of adolescents and moderate to strong relations to occupational aspirations. Mims (1985), similarly, found parental aspirations and expectations having an important and significant impact on the future orientations of the students.

Students' educational aspirations, as a component of their motivation, play an important role in their educational achievement and are necessary conditions for higher educational attainment (Frese, Mohan and Sollie, 1979). Late adolescence is a time for major decisions where students become more mature and they start to give serious thought to their occupational choice. According to Crites (1969), an adolescent takes an increasing account of reality as a basis for his/her choice as he/she grows older, and at the age of 16-18 the person is able to choose a specific occupation.

A variable that has been examined thoroughly on the study of students' aspirations is gender. Several researchers found that males possessed higher educational and occupational aspirations than females (Ayalon and Yuchtman-Yaar, 1989; Calsyn and Kenny, 1977; Frese *et al.,* 1979). Smith (1989), furthermore, found that females had lower aspirations even though females had higher grades. Some other researchers found that females possessed higher educational and occupational aspirations (Mims, 1985; Stone, 1988). Kysel *et al.* (1992) found that more female than male students were planning to stay on in education, while Solorzano (1992) found that females had slightly higher educational aspirations. Finally, some researchers found no gender differences on students' aspirations. (Apostal Bilden, 1991; Feldhusen and Willard-Holt, 1993).

Several researchers that studied students' aspirations support the concept that socioeconomic status contributes to the occupations that students aspire, and to how long will they stay in school. According to Cohen (1987), this is happening because of the successful image and the prestige the parents of a higher social class provide to their children. Haas (1992), ldowu and Dere (1983), and Solorzano (1992) supported that concept by indicating that students who come from low socioeconomic status have lower educational and occupational aspirations than high SES students.

A more specific parental socioeconomic factor that seems to influence childrens' educational expectations is the education of parents. Fleming (1982), found that children with lower educational expectations have parents who are less educated, and that highly educated parents tend to have higher expectations for their children's education and career plans.

Another demographic characteristic that was of interest to this study and is related with the aspirations of students is the setting of the residential area. Crites (1969) indicated that there are differences between rural and urban areas in the vocation-

al choice of youth. Frese *et al.* (1979), and McCracken and Barcinas (1989) indicated that rural youth had lower educational aspirations than city youth. Haas' (1992) explanation for that was that the low educational level of rural parents tends to influence the educational aspirations of their children. He further found that rural children felt that their parents were more supportive of their taking full-time jobs, attending trade schools, or entering the military, rather than attending college. Other differences between the two settings were reported by Flouris (1989). He found that parents from urban areas had a higher educational level than parents from rural areas, which had a positive effect on a child's achievement. He further indicated that parents in rural areas exert more pressure on their children on school work, hoping that their children can change their socioeconomic status through education. According to Mylonas (1982) such differences exist because of the distance from the urban centre and on the educational policy of each government. That policy purpose is to exclude the children of peasants and generally the students from lower social classes from getting higher educational opportunities and giving advantage to the children from upper social classes that usually reside in cities.

As was noted above, another major focus of the study was to analyze the home behavioural and motivational factors in respect to gender differences. Gender as a socialization pattern makes society expect different functions from men and women (Rosenberg and Simmons, 1982). Home as a socialization factor generates differentiated gender characteristics (e.g., Campbell and Mandel, 1990; Jacobs, 1991). Campbell and Mandel (1990) demonstrated that the large gender disparities are more the products of socialization than any difference in innate abilities between the genders. They found that females receive low levels of pressure and monitoring but higher levels of psychological support and help. Moreover, Campbell and Wu (1994) who studied gifted Chinese children, Flouris, Calogiannakis-Hourdakis, Spiridakis, and Campbell (1994) who studied Greek children, Pitiyanuwat and Campbell (1994) who studied Thai elementary students, all concluded that males perceived more levels of parental pressure, help, and monitoring than females. Jacobs (1991) found stronger gender stereotypes related to higher specific beliefs for parents of sons relative to the ability beliefs of parents of daughters. Leung (1993) also concluded that males and females are subject to differential parental pressures for achievement. He further indicated that both mothers and fathers tended to emphasize achievement and competition more for their sons than for their daughters.

Methodology

Because of the complicated nature of the research problem - like every educational problem - and the inclusion of many variables, it was necess·ary to use statistical analysis of data methods appropriate for the study (Keeves, 1988). Structural Equation Modeling, that is based on correlation along with the support of factor analysis, are powerful methods that helped to explain the interrelations among the variables of the study. According to Keeves (1988), it is very important

to establish the causal order of the variables within the model.

Subjects: The study was conducted within the public high schools *(Lyceums)* in Cyprus. The target population of the study was all students that attended the public *Lyceums* of the Republic of Cyprus during the 1994-95 school year. The sum of those students was about 15,000 *(Republic of Cyprus,* 1994). The age range of the *Lyceum* students is between 15 and 18. Selection of the sample: (for the purpose of this study) was a random selection of 35 classrooms of 745 students and their parents within eight high schools *(Republic of Cyprus,* 1994). A stratified random sampling was performed to ensure representative samples of subjects according to the composition of their residential area (urban, rural) and their specialization in the *Lyceum* (Classical Studies, Science/Mathematics, Economics, and Business).

Instrumentation and Materials: All the instruments were initially developed in the English language. For the purpose of this study, the instruments were translated into the Greek language (forward translations) – then translated from Greek back to English (back translations) – to ensure the validity of the translations. Furthermore, a pilot study was conducted among Greek American high school students that attended Greek parochial high schools in New York City (Campbell and Koutsoulis, 1995).

The Inventory of Parental Influence (IPI) (Campbell, 1994) is a series of instruments designed to isolate family members' perceptions of the following family processes: (a) parental pressure, the level of pressure parents exert on their children to succeed in school (b) parental psychological support, the level that parents support their children in relation to school performance (c) parental help, (d) parental press for intellectual development that measures the level that parents provide intellectual resources to their children, and (e) parental monitoring of the students' home life by their parents (Campbell, 1994). The second version of the IPI measures the perceptions of parents of the same family processes. The first two family processes (Part I) are factor scales that have been developed from Likert statements. The respondent agrees or disagrees with each statement (1. strongly disagree; 2. disagree; 3. uncertain; 4. agree; 5. strongly agree). Part II of IPI contains three factor scales made up of items relating to family practices that require the respondent to specify how often each practice occurred (1. never; 2. rarely; 3. sometimes; 4. usually; 5. always). The following were some of the types of questions included in this instrument: "*I am afraid to go home with a fail grade;" "my parents want me to go to a good college;" "I was never satisfied with my child's grades in school;" "I supervised the homework of my child."*

The Self-Confidence Attitude Attribute Scale (SaaS) (Campbell, 1994) consists of Likert-scale items and was used for measuring a student's self perception as a general factor (general self-concept), and a student's level of academic confidence in four basic areas (Mathematics, Science, Modern Greek and History). Some of the

types of questions included in this instrument were: *"I have always found mathematics difficulf; Science is boring'.*

The Attitude Toward School Questionnaire (AtsQ) was designed to study the students' perceptions toward school. The following were some of the types of questions included in this instrument: *'Education is the key to success in the future;'* 'it is *difficult for me to see my education as a stepping stone for future success.'*

The Educational Aspirations Questionnaire (EaQ) was designed to study the students' educational aspirations. The EaQ consists of Likert-scale items. The following were some of the types of questions included in this instrument: *"Considering your abilities, grades, and available money, etc., how far do you actually expect to go in schoof?"* The Completion Items Form (CiF) consists of five demographic characteristics, the grade point average (GPA) for the academic years 1992-93 and 1993-94, the grades in eight subjects and the grades that the students got on the tests for the same subject areas.

Procedures: After the selection of the schools and the classrooms the researcher met the Principal of each school that was participating in the study. He explained to him the purpose of the study and the procedures that had to be used by the researcher and the students. An Assistant Principal introduced the researcher to each classroom. The researcher explained to the students the purpose and the procedures of the study and answered possible questions. The administration of the questionnaires took two 45-minute periods on different days. In all classrooms that questionnaires were answered, the researcher was present. Each questionnaire was accompanied with a data scan sheet, where most of the responses were entered on it. The respondents began with the CiF, then with the AtsQ and they proceeded with the EoaQ. The researcher collected all the instruments and answer sheets at the end of the session.

At the end of the period the students were instructed about the parents' IPI - one for the father and one for the mother where applicable. The researcher asked the participants to give the questionnaire to their parents, in order for them to complete it. The students were asked to return the questionnaire enclosed in an envelope at the second scheduled meeting with the researcher. The students were given the option of anonymity to ensure more reliable results. At the second and final meeting with the participants, the students completed two more questionnaires. They responded on the IPI for students and on the Saas. At the end of the session the researcher collected all the questionnaires from the participants and the questionnaires from their parents. The same procedure was used for every school. About 80% of the parents responded to the questionnaires.

Statistical Analyses: Factor analysis was employed in order to study the constitutive meaning of the constructs, using the SPSS Principal Components Factor Analysis (Nie, Hull, Jenkins, Steinbrenner and Bernt, 1990). Varimax rotation was

employed to create a set of interpretable scales which were used as a guide in forming ten synthetic predictor factor scales. For the five parental behavioural constructs students' and parents' responses were combined. These ten sets of interpretable scales were named: socioeconomic status (SES), parental pressure (PRS), parental psychological support (SUP), parental help (HLP), parental press for intellectual development (PID), parental time monitoring (MON), general self-concept (GSC), academic self-concept (ASC), attitude toward school (ATS), and aspirations (ASP). Coefficient alpha reliabilities were calculated for each factor and ranged from .64 to .94 *(Table 1).*

***Table** 1*

COEFFICIENT ALPHA RELIABILITIES OF THE LATENT VARIABLES

Variable	Items	Means	SD	a
Socioeconomic status	5	48.352	20.982	.882
Parental pressure	36	2.641	.559	.902
Parental psychological	34	3.895	.398	.799
Parental help	16	2.862	.757	.909
Parental press for intellectual	16	2.946	.668	.812
Parental monitoring	24	2.654	.635	.850
General self-concept	6	3.531	.630	.641
Academic self-concept	32	3.161	.490	.922
Attitude towards school	9	2.912	.532	.656
Educational aspirations	11	3.846	.685	.778
Academic achievement	10	15.792	2.489	.937

For the final analysis of data and in order to study the different patterns of home environment, motivation, and achievement, several Structural Equation Modeling analyses were used by utilizing LISREL.8 (Jöreskog and Sorbom, 1993). The first and most important step in the analysis of data with Structural Equation Modeling, according to Keith (1988) and Stage (1989), is the development of a general path model which includes the important influences derived from theory along with any other important variables to be controlled. The direction of the influence between two or more variables is not a question to be answered from the statistics, but from the theoretical insights about the problem at hand (Asher, 1983). The ordering of

the variables in the path model, according to Keith (1988), is based on a mixture of theory, research, and logic. According to Braxton, Duster and Pascarella (1988), relationships exist in models not because they are improving regression coefficients but because theories posit them. LISREL is a maximum likelihood method and requires stringent distributional assumptions, such as normality and independence of residuals (Noonan and Word, 1988). The gender, setting of residential area, and SES differences were analyzed by calculating effect sizes and t-tests.

Parental Influence on Motivation and Achievement

Statistical analyses: As soon as the Principal Components Factor Analysis isolated the constructs, the standard deviations, the means *(Table* 1) and the correlation matrix were obtained *(Table* 2).

The correlation matrix, the standard deviation and the means were used from LISREL in order to measure the predicting variance on the dependent variable (academic achievement).

After an initial run of the LISREL and in an effort to obtain a fitted model SES, general self-concept and parental press for intellectual development and career

Table 2

PEARSON CORRELATION COEFFICIENTS FOR PREDICTOR VARIABLES AND DEPENDENT VARIABLE

	SES	PRS	SUP	HLP	PIO	MON	GSC	ASC	ATS	ASP	ACH
SES	1.00										
PRS	-.128	1.000									
SUP	.147	-.061	1.000								
HLP	.197*	.012	.356*	1.000							
PIO	.219*	.032	.282*	.522*	1.000						
MON	-.033	.269*	205*	.463*	.273*	1.000					
GSC	.121	-.258*	.212*	092	.088	-.025	1.000				
ASC	.217*	-.266*	237*	.000	.129	-.050	.396*	1.000			
ATS	.050	-.308*	208*	.090	.110	.044	.210*	.417*	1.000		
ASP	.382*	-.324*	.316*	.075	.145	-.029	.165	.394*	.377*	1.000	
ACH	.242*	-.485*	.191*	-.004	.099	-.043	.197*	.451*	.349*	.503*	1.000

*p<.01

expectations were eliminated from the final analysis due to non-significant contribution for the explanation of the variance. The order the predicting constructs entered the equation was as follows: step 1: parental pressure, psychological support, help, and monitoring; step 2: attitude toward school; step 3: academic self-concept; step 4: educational aspirations; and step 5: academic achievement.

Results: For high school students, LISREL estimates revealed that the best positive predictors of high school students academic achievement are academic self-concept (1.22) and educational aspirations (1.07), while parental pressure was a strong negative predictor (-1.54). Within the family processes, time monitoring had a moderate positive effect on achievement (.36) while parental help had a small and a negative effect (-.26). Parental pressure also influences negatively students' academic self-concept (-.12) and educational aspirations (-.24). Contrary to pressure, parental psychological support was found to have a positive effect on students' academic self-concept (.24), aspirations (.38) and on attitude toward school (.23). Parental help that studied the level (not the quality) of help that parents provide to their children was also found to have a significant negative effect on academic self-concept (-.06). Time monitoring of students' out of school activities was also found to have positive effect on attitude toward school (.09).

From the factors that are considered as part of the students' motivation academic self-concept — that focused on the combined level of confidence of the stu-

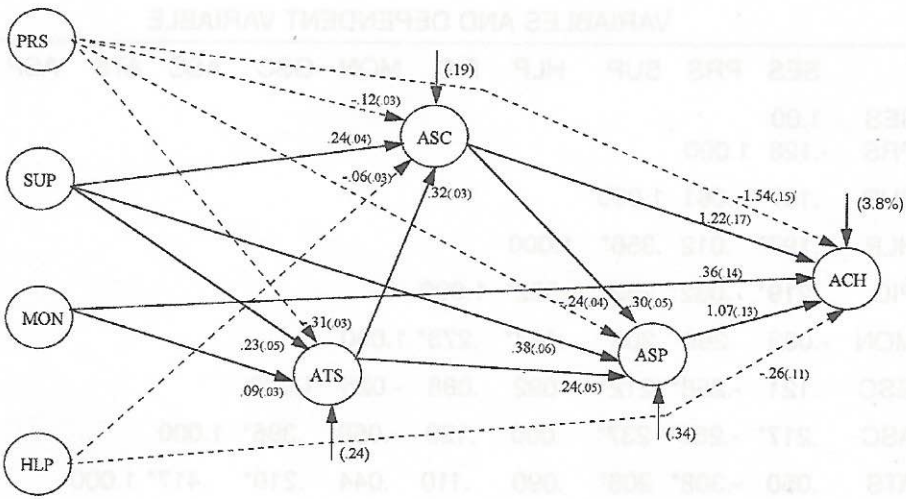


Figure 2: LISREL Estimates (Maximum Likelihood), standard deviation, and residuals. N=740. Dependent variable: Academic achievement. R_2=42 PRS: Parental pressure: SUP: Psychological support: MON: Time monitoring: HLP: Help: ATS: Attitude toward school; ASC: Academic self-concept: ASP: Educational aspirations: ACH: Academic achievement.

dents on four basic areas (Mathematics, Science, Modern Greek and History) – was found to have a strong effect on high school students' achievement (1.22) and on educational aspirations (.30). LISREL estimates also revealed that attitude toward school influence academic self-concept (.32) and aspirations (.24) *(Figure 2).*

Discussion: The purpose of this study was to identify some of the factors that explain students' academic achievement. The factors included in this model are the home behavioural (pressure, psychological support, time monitoring and help), and motivational (academic self-concept, attitude toward school and aspirations). Educators in their effort to provide students with the necessary supplies that they need to face the challenges of this changing society need to know the ways that home environment can help the students to devote more effort to school work. Also, educators need to know how home influence students' motivation and consequently their achievement.

Within the home behavioural environment pressure was found to negatively effect the achievement of students, academic self-concepts (results that agree with the conclusions of Flouris, (1989) who conducted a similar study in Greece), attitude toward school, and aspirations. Parental psychological support, on the contrary, produces positive results on students' emotional elements. Time monitoring was found to have a moderate effect on their achievement and a small effect on their attitude toward school. A very surprising finding is that parental help with students' work produces negative results by lowering students' achievement and self-concept.

These findings are very important for the parents. It is necessary for them to know that pressure harms students' motivation and achievement and that psychological support st.rengthen those factors. Parents must consider these findings and change their use of pressure and try to replace pressure with psychological support. The fact that monitoring had a moderate effect on students' school performance can tell the parents that it is important to monitor their children time but is not a critical factor for their school performance. The negative effect of parental help is something that parents and educators have to take into account. Since the present study measured only the amount of help and not the quality of that measure it is not possible to find the real reason for that effect. It is possible that parents with their help replace childrens' responsibility towards school work and the students do not try hard, or parents help their children in a harmful way. It is possible that low and moderate achievers get more help from their parents because they need it, but the reverse can be true that over protective and helping parents produce low achievers.

Another major finding extracted from the statistical analyses was that academic self-concept had a major effect on students' achievement. This finding is in accord with numerous other researchers who focussed on self-concept (Byrne and

Shavelson, 1987; Hansford and Hattie, 1982; Lynch, 1991; Stone, 1988; Taylor and Michael, 1991). This finding is very important for educators in general and teachers in particular because teachers can help their students build a strong self-perception on academic areas. Teachers should consider finding ways to effectively raise their students' self-concept in their area of teaching. The fact that academic self-concept has so much importance for high school students and that the mean score of that constract is exactly in the middle of the 5-point scale (3.16), makes us to conclude that students do not have high academic self-concept and they need help to raise it. Academic success can help the students to raise their self-concept on academic areas as a reciprocal effect, but also they might need regular feedback for their school work from their teachers (Brophy, 1987) and also from their parents.

The importance of self-concept is a long process and its development begins long before the first ring of the school bell (Purkey, 1970). What is more important is that once the student enters the school with a positive self-concept and the parents continue that support, the student begins school life positively. Positive self-concept produces positive results and positive results produce high self-concept in a reciprocal way. As soon as the student, with the support of the family, gets into that cycle, the student would have more opportunities for success than the student that enters the school with low self-concept.

It was also derived from the analyses that attitude toward school is influenced positively from parental psychological support and monitoring, while parental pressure has greater negative impact. Attitude toward school does not affect academic achievement but it does affect academic self-concept and aspirations. It can be possible that with the parental support students are able to build a positive attitude toward school. As a consequence a positive attitude toward school can help students begin school positively, giving the student a high self-concept where that high self-concept will produce positive school performance.

It is evident from the research on attitude toward school that the students' attitudes to their education are not only important for their school performance but a priority for school outcome. It is helpful for a teacher to target students with positive attitudes because those students are open to new information as they believe that the new information will benefit them. On the other hand students with negative attitudes toward education will block any new information. These attitudes, as it is noted in the literature, and as an outcome of that study, are influenced by the parents' behaviour. The role of the teacher becomes more important to initiate positive attitudes when the home environment produces negative ones.

Another factor that had a major influence on students' academic achievement is the level of their educational aspirations. It is evident that high educational aspirations is a factor highly associated with academic self-concept. The targets students set for their future, especially for that age group, is something that defines the deter-

mination of the students. For the students to aspire a high educational level must be a basic school outcome and must be used as a means to increase students' motivation. We can conclude that high school achievement is a 'product' of high parental psychological support, low parental pressure, moderate amount of time monitoring, low amount of help, strong academic self-concept and high educational aspirations. School success begins at home as several educators noted through out the centuries.

Gender Differences

Statistical analyses: The gender differences were studied by implementing two separate LISREL models, one for the males and one for the females. In addition t-test analyses were implemented to study the gender differences in all the variables of the study.

Results: For male students LISREL estimates revealed the same variables like in the holistic model, namely, academic self-concept (1.84), aspirations (1.30) and parental pressure (-1.04) as negative predictor. Pressure also affected males' aspirations (-.24) and attitude toward school (-.25) negatively. Again, psychological support was found to have small to moderate positive effects on attitude toward school (.20), academic self-concept (.24) and aspirations (.40). Within the parental behaviour variables monitoring was found to have moderate direct effect on achievement (.46), while help does not contribute to the males' model. From the motivational factors attitude toward school had small effects on academic self-concept (.25) and on aspirations (.28). Also academic self-concept had an effect on aspirations (.32) *(Figure* 3).

For female students, LISREL estimates revealed again the same predictors for female students' achievement but in a different weight. Parental pressure is a very strong negative predictor (-1.76) and much stronger then in the males' model. Academic self-concept (.96) and aspirations (.85) are also strong predictors but they have less effect on females' achievement than on males' achievement. Parental help had a significant negative effect on females' achievement (-.29), a path that was not significant in the males' model. Another path from the parental factors that differentiates between the males' and the females' model is the path from monitoring to achievement that is not significant for the males (.13). Psychological support had positive effect on academic self-concept (.24), attitude toward school (.26) and on aspirations (.37). Pressure had negative effect on attitude toward school (-.34), on aspirations (-.19) and on academic self-concept (.21). Attitude toward school had an effect on academic self-concept (.35) and on aspirations (.19), *(Figure* 4).

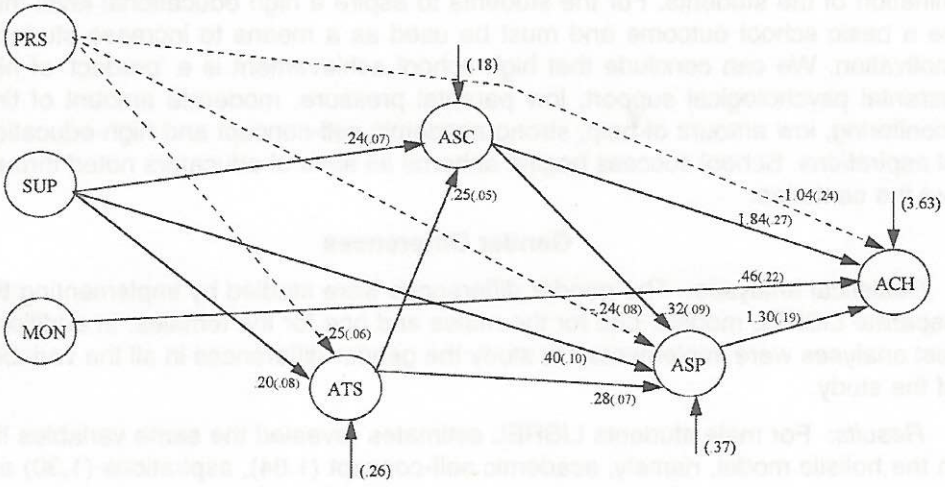


Figure 3: Male's LISREL Estimates (Maximum Likelihood), standard deviation, and residuals. N=740. Dependent variable: Academic achievement. R^2=45. PRS: Parental pressure; SUP: Psychological support; MON: Time monitoring; HLP: Help; ATS: Attitude toward school; ASC: Academic self-concept; ASP: Educational aspirations; ACH: Academic achievement.

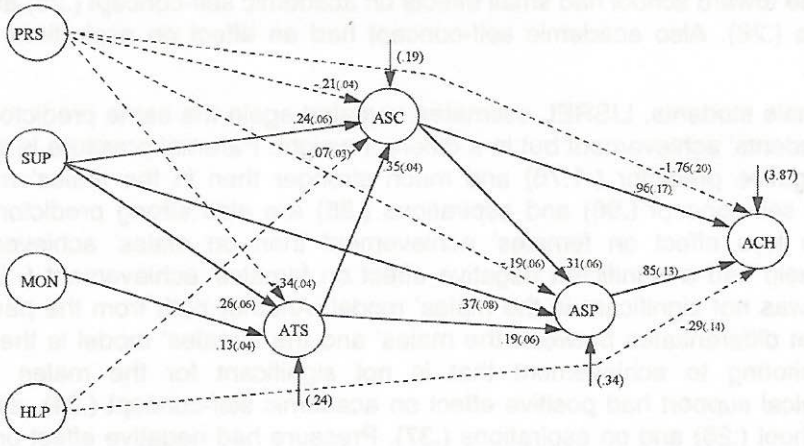


Figure 4: Females' LISREL Estimates (Maximum Likelihood), standard deviation, and residuals. N=740. Dependent variable: Academic achievement. R=40 PRS: Parental pressure; SUP: Psychological support; MON: Time monitoring; HLP: Help: Help; ATS: Attitude toward school; ASC: Academic self-concept; ASP: Educational aspirations; ACH: Academic achievement.

T-test analyses revealed that males receive more pressure from their parents than females (g=-.59), while female students were found to have higher attitude toward school (g=-.22), educational aspirations (g=-.20) and academic achievement (g=-.31). A very interesting finding is that parental expectations are not different for the two groups *(Table 3).*

Table 3

STUDENT T-TEST ANALYSES AND EFFECT SIZE FOR GENDER DIFFERENCES POOLED VARIANCE ESTIMATE

Construct/ group	N	Mean	Standard deviation	t-value	Two tail probability	Effect Size (g)
Parental pressure						
Males	291	2.84	.52			
Females	444	2.51	.54	8.06	.000	.59
Psychological support						
Males	291	3.88	.41			
Females	444	3.91	.02	-.92	.358	-.08
Help						
Males	288	2.85	.78			
Females	444	2.87	.77	-.31	.760	-.02
Press for intellectual development						
Males	291	2.98	.61			
Females	444	2.93	.71	1.03	.304	.08
Monitoring						
Males	288	2.71	.62			
Females	443	2.61	.64	2.05	.040	.15
Academic self concept						
Males	295	3.23	.47			
Females	444	3.11	.50	3.00	.002	.23
Attitude toward school						
Males	287	3.30	.54			
Females	440	3.41	.49	-2.84	.005	-.22

Educational aspirations						
Males		287	3.76	.70		
Females	442	3.89	.64	-2.50	.014	-.20
Career expectations						
Males		286	76.03	19.40		
Females	434	74.47	18.80	1.08	.283	.08
Parents' expectations						
Males		196	3.59	.97		
Females	350	3.56	.83	.43	.67	.04
Academic achievement						
Males		295	15.33	2.47		
Females	444	16.10	2.45	-4.13	.000	-.31

Discussion: Data analyses revealed a differential pattern between male and female students, supporting the study's theoretical suppositions of gender differences. T-test analyses revealed that males receive more pressure than the females. This finding is in accord with the studies of Campbell and Wu (1994), and Flouris *et al.* (1994). The difference in parental behaviour is a socialization pattern that pressure males to do better in their school work and to get into higher education. Even though females receive less pressure parental behaviour influences them more than males. Differences on the effect of parental behaviour were also found on time monitoring, where for males monitoring had a moderate effect on their achievement and no effect for the females' achievement. Also, parental help had no effect for males while for females it had a moderate negative effect on their achievement. These findings tell us that parental behaviour has a differential effect on the two groups possibly because those groups receive differential socialization.

Self-concept measures revealed differences between males and females. Even though females were found to have higher academic achievement, males have higher scores of academic self-concept than females - a pattern that agrees with several researchers (Byrne and Shavelson, 1987; Byrne, Shavelson, and Marsh, 1992; Calsyn and Kenny, 1977; Haslett, 1976; Kelly and Jordan, 1990; Marsh *et al.,* 1988; O'Malley and Bachman, 1982). Academic self-concept as LISREL estimates found is much more important for males than for females. It is possible that for the age of the respondents females are more mature than the males and self-concept plays a different role for them. As previous researchers found (Campbell and Koutsoulis, 1995; Haladyna and Thomas, 1979; Whaley-Klahn *et al.,* 1976) females had a more favourable attitude toward school than males.

Finally, gender differences were found in students' educational aspirations, with females having significantly higher scores. This finding is in accord with Stone (1988), Kysel *et al.* (1992), and Solorzano (1992) and it shows the transition of Cypriot society to the modern world. This can be explained as a change in society where women can no longer accept being housewives. Female high school students may see education as a way of attaining a better job. Another parallel finding that is interesting for the Cypriot society is that parents have equal expectations for both male and female children to continue their studies after high school.

Setting of Residential Area

Statistical Analyses: For the study of the differences between urban and rural students t-test analyses were employed.

Results: T-test analyses revealed few differences between the two groups. The differences were found on students' aspirations measures on their parents' SES and on their academic achievement. Rural area students had lower educational aspirations (g=.20), and career expectations (g=.33) where the gap between those groups was even greater for their parents' expectations (g=.43). Rural students SES was found to be much lower than their urban schoolmates (g=.86). Finally, rural students' had lower academic achievement (g=.21) *(Table* 4).

Table 4

STUDENT T-TEST ANALYSES AND EFFECT SIZE FOR SETIING

OF RESIDENTIAL AREA DIFFERENCES

POOLED VARIANCE ESTIMATE

Construct/ group	N	Mean	Standard deviation	t-value	Two-tail probability	Effect Size (g)
Parental pressure						
Urban	524	2.62	.58			
Rural	215	2.70	.50	1.89	.059	.07
Psychological support						
Urban	524	3.90	.38			
Rural	215	3.86	.44	.87	.384	.07
Help						
Urban	520	2.85	.76			
Rural	214	2.88	.76	-.56	.573	-.05

Press for intellectual development						
Urban	520	2.97	.65			
Rural	215	2.89	.70	1.45	.148	.12
Monitoring						
Urban	519	2.6	.64			
Rural	216	2.73	.62	-2.07	.039	.17
Academic self concept						
Urban	524	3.18	.49			
Rural	215	3.11	.49	1.73	.040	.14
Attitude toward school						
U an	520	2.88	.54			
Rural	214	2.98	.51	-2.13	.033	-.18
Educational aspirations						
Urban	521	3.86	.68			
Rural	216	3.75	.68	2.44	.015	.20
Career expectations						
Urban	515	75.22	15.78			
Rural	209	69.53	18.30	4.19	.000	.33
Parents' expectations						
Urban	377	3.68	.86			
Rural171	3.30	.88	4.71	.000	.43	
Socioeconomic status						
Urban	523	53.06	20.67			
Rural	216	36.96	17.01	10.12	.000	.86
Academic achievement						
Urban	523	15.94	2.47			
Rural	216	15.42	2.51	2.59	.010	.21

Discussion: A result that agrees with the findings of Frese *et al.* (1979) and McCracken and Barcinas (1989), is that students that reside in urban areas of Cyprus have higher educational aspirations from the students that reside in the rural areas. The difference even factors positively. Time monitoring had a moderate positive effect on achievement and parental help had a moderate negative effect on achievement. It was found that males receive higher amounts of pressure than females, but pressure was more harmful for females' achievement than for males. Males also had a higher academic self-concept, even though females had higher grades, and academic self-concept was more important for males' achievement

than for females'. Females were found to have higher educational aspirations, bigger on students' occupational expectations and their parents' expectations. One can conclude from this that the students that reside in the rural areas do not have equal opportunities with the students that reside in the cities. Flouris (1989) found in his study in Greece that for rural people education was for their children, the only way out of the painful rural life and poverty. Today, though, this might not be the case because the economic situation is better than in the past. Rural people do not live under the economic insecurity of the past and is possible that rural youths face their occupational future in the rural areas more positively, due to the unemployment of university graduates. On the contrary that reality is in accord with Mylonas' (1982) position that the blockade of the rural area students from higher studies is due to the physical distance from the urban centre and as a consequence affects negatively their aspirations. As one can see from *Table 4* the differences found on students' aspirations can be due to the huge SES difference between urban and rural people or their parents' expectations.

Socioeconomic Status

Statistical Analyses: For the differences between low and high SES Student t-test analyses were used.

Results: In the study of the SES measures that is the average of parents' education, occupation and income, it was found that high SES students get a higher amount of parental psychological support (g=.26) and help (g=.36). Parental pressure and monitoring was not found to be different for the two groups. High SES students were also found to have higher academic self-concept (g=.39) and academic achievement (.44). High SES students were also found to be in a better position in all aspirations measures (educational aspirations g=.76, career expectations g=.44, and parents' expectation g=.77), *(Table* 5).

Discussion: T-test analyses revealed that parental behaviour differs referring to SES index. High SES parents provide more psychological support and help to their children. From previous analyses we see that psychological support was an important factor influencing students' motivation. One can conclude that high SES parents, because of their educational level, can provide more support to their children. The fact that high SES parents help their children more than the low SES is something that we cannot comment on because of the limitation of the study that measured only the amount of help and not the quality.

Table 5

STUDENT T-TEST ANALYSES AND EFFECT SIZE FOR

SOCIOECONOMIC STATUS DIFFERENCES

POOLED VARIANCE ESTIMATE CONSTRUCT/ GROUP

Construc/ group	N	Mean	Standard deviation	t-value	Two-tail probability	Effect Size (g)
Parental pressure						
High SES	371	2.59	.56			
Low SES	367	2.69	.47	-2.26	.024	-.17
Psychological support						
High SES	371	3.95	.39			
Low SES	367	3.85	.41	3.45	.001	.26
Help						
High SES	369	3.00	.70			
Low SES	364	2.73	.79	4.90	.000	.36
Press for intellectual development						
High SES	369	3.08	.63			
Low SES	365	2.81	.68	5.49	.000	.41
Monitoring						
High SES	369	2.65	.65			
Low SES	365	2.66	.62	-.24	.810	-.02
Academic self-concept						
High SES	371	3.26	.50			
Low SES	367	3.07	.49	5.30	.000	.39
Attitude toward school						
High SES	370	2.93	.54			
Low SES	363	2.90	.52	.79	.431	.06
Educational aspirations						
High SES	369	4.09	.57			
Low SES	367	3.60	.70	10.31	.000	.76
Career expectations						
High SES	362	77.39	15.30			
Low SES	361	69.76	17.2	6.28	.000	.44
Parents' expectations			8			
High SES	274	3.88	.79			
Low SES	274	3.25	.85	9.02	.000	.77
Academic achievement						
High SES	370	16.29	2.37			
Low SES	368	15.29	2.50	5.53	.000	.41

Another important outcome that is derived from the present study, is that high SES children have higher educational aspirations than the children from low SES families. It is possible, as Pirgiotakis (1996) and Frangudaki (1985) noted, that the parents are those that determine the boundaries of their children's aspirations through their own expectations for them. Finally, high SES students were found to have higher academic self-concept and achievement than low SES students. Beyond the difference on SES, that is something stable within the home enviroment, those differences can be due to differential parental behaviour of high versus low SES parents.

Final Conclusions

The first major conclusion extracted from the statistical analyses is the influence of the home behavioural and physical environment on high school students' achievement. Parental behaviour seem to differentiate for males and females and also operates differently with respect to the family's SES. Those differences can be due to differential socialization (Campbell, 1994) or can be due to the educational level of the parents. Either way what is important for students' development and academic success is the positive part of parental behaviour, namely, psychological support. As was extracted from the statistical analyses pressure not only harms students' achievement but also the motivational factors that have being studied in the present research. Antithetically, psychological support had positive effects on the motivational measures of the students.

In the present age group, teenagers might react to pressure by not doing what parents tell them to do. It is also possible that parents have the will to help their children to do well in school and they simply believe that increasing pressure can force their children do well in school. It can also be true that parents exert pressure on their children because that was the way they had been *treated* from their parents. It is also possible that when parents press their children to excel in school at the same time they take the responsibility for school work away from their children. Because of the developmental sensitivity of that age group the effort of the parents to intervene and control their childrens' behaviour not only is unsuccessful but also produces negative results. The students need their parents' support and that means that parents must trust them and provide them anything they need for their school duties. It is possibly very useful for the children to know that their parents are there if they need them. Additionally, as it was derived from the analyses, parental help had a negative effect on females; academic self-concept and achievement. Within the same framework, parental help might replace students' responsibility, especially when that help replaces students' efforts too.

It is, therefore, important for the parents to provide a positive environment for their children, not only when they attend high school but from the early years of their lives. When the child begins the school positively, the self-concept is positive and

can continue through the school positively. A positive home environment also helps the students to have a positive attitude toward the school and academic self-concept. High academic self-concept helps the students to aspire to a high educational level. That whole circle of family and school related emotions improves students achievement and increases the chances of success in the future. It is also possible that academic success can give a positive feed-back to that family-school circle and strengthen it even more. We can conclude that everything begins at home, without of course removing the responsibility of the teachers. Teachers are equally responsible with the parents in order to work and nurture students' self-perceptions, improve their attitude toward school and aspire a more ambitious career, especially when home environment does not provide those motivational benefits. The major difference though, between parents and teachers is that parents can help their children individually but teachers usually have to deal with large groups of students with tremendous individual differences.

Another responsibility of the teachers, educators and school administrators is to find ways to persuade parents that excessive pressure always reduces students' achievement and motivation, and that students need high levels of psychological support in order to succeed in school. The findings of the study suggest that educators must consider the establishment of closer relationship with parents. Teachers can provide parents with information on which parental behaviour is the most effective regarding students' school performance and motivation.

It is evident that children that reside in the cities and come from families with high SES index have higher educational aspirations and academic achievement from the children that reside in rural areas and come from low SES families, a fact that tends to preserve the social classification in Cyprus society. That finding supports Mylonas' (1982) and Tzani's (1983) position that academic success is a subject of social class.

A major question arising from this research study is if parents from low SES and from rural areas, or all parents, can really help their children to succeed in school and who can help them on that issue. The answer we believe is very obvious: low SES and rural parents can be provided with such guidance. That responsibility belongs to the educational system. The problem is whether educators and those who are able to influence educational legislation are willing to contribute to this and abandon the advantage that their own children have over the low SES and the rural children.

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