

The Relationship among Variables of Students' Socio-economic Status

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Abstract

This study investigated the relationships between different variables of students' socioeconomic status (SES), namely father's educational attainment, mother's educational attainment, family income, school SES, and district SES. Participants in this study were 284 Iranian male students studying at senior high schools in Tehran, the capital city of Iran. Data was collected through a self-developed questionnaire in which four items concerning SES were used to obtain data concerning the students' socioeconomic status. Students' school SES as well as their residential area SES (neighbourhood SES) were determined by the interview and consultation with officials in Educational departments of Tehran as well as school staff. We used SPSS 18.0 to analyse the data. The results of Kendall Correlation test revealed that there were significant relationships among variables of students' socioeconomic status. Some pedagogical implications were also made accordingly.

Keywords: socioeconomic status, SES, subjective SES, objective SES, neighbourhood SES, and school SES.

I. INTRODUCTION

Socioeconomic status (SES) is one of the variables often used by researchers in educational fields as well as in Social Science and Sociology. Depending on the research area and research population, researchers take various variables of the SES into their study. Because the aim of the research was investigating students' socioeconomic status, in the current study, the researchers viewed the issue from an educational perspective, especially from EFL perspective, and took the student-related variables of SES such as: family income, parents' educational attainment, and school SES alongside with neighbourhood SES.

According to the literature, the variables of SES usually correlate with one another. In this study we aimed to find out whether there was any relationship between Iranian students' SES variables, and to determine that which variables had the highest and which ones had the lowest correlations.

II. REVIEW OF LITERATURE

A. Socioeconomic Status

One of the variables in our research is socioeconomic status (SES). "There is little doubt that socioeconomic background is an important concept among social researchers and policy developers(...).Although there is almost universal agreement on the importance of socioeconomic status there is little agreement on its conceptualisation and measurement" (Markus, 1999). Because language learning as well as communicating via a language is a social phenomenon, thus social factors may have impact on learning language. Thompson (2008) also argues that socioeconomic status of the learners is a factor that besides other variables such as age of acquisition, motivation, language family and literacy needs to be considered when investigating new language acquisition by the students (Thompson, 2008).

In the recent studies in the field of Applied Linguistics, the social factors and their interaction and association with, and their impact on L2 learning has grabbed some researchers' attention (e.g. Kormos & Kiddle, 2013; Lamb, 2012; Akram & Ghani, 2013). In the following sections of this paper a definition of SES is provided to adjust the framework of our research, and then the scales and principles of measuring SES will be discussed.

Definitions and components of SES. According to 'U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics' – hereinafter USDE- (2012), SES in a broader definition is "one's access to financial, social, cultural, and human capital resources" (p. 30). Various variables are used to measure SES in different studies (Sirin, 2005), and this makes it demanding to provide a single definition for all purposes. Nonetheless, the definition of SES depends on the regarded field it is going to be measured (e.g. Winkleby, Jatulis, Frank, & Fortmann, 1992). In this research the researchers aimed to discuss SES in an educational perspective. Inferably, the definition and components to be included in the current study is regarded in the educational perspective as well.

Objective SES. There have been various variables taken into account in measuring students' objective SES; however, the most frequently used variables are: parents' income, parents' educational attainment, and parents' occupational prestige (e.g. Akram & Ghani, 2013; Duncan, Featherman, & Duncan, 1972; Hauser, 1994; USDE, 2012). A family's income may enable them to access higher quality of resources which contribute to better educational achievement, for instance through giving the opportunity for higher income families to reside in a better neighbourhood which can provide better educational resources like libraries, more equipped schools, etc. With regard to parent's educational attainment, higher levels of education may lead parents to connect with teachers (Ciabattari, 2010) or cause them to have higher education-related expectations from their children (Davis-Kean, 2005). "More prestigious jobs may help parents develop connections with others in high

positions within a community and draw on those connections for information and support for navigating the educational system” (Horvat, Weininger, & Lareau, 2003; cited in Dickinson & Adelson, 2014).

Neighbourhood SES and school SES. Students’ residential area (neighbourhood SES) and the school they attend (school SES) can also be treated as variables of the students’ objective SES. Some scholars argue that two of the variables of students’ SES is their residential area SES and school SES which provide resources (such as inspiring neighbours, facilities like libraries, safe and quiet area, and good teachers) for the students and contribute to their achievement (e.g. USDE, 2012).

Subjective SES. Another variable of measuring individuals’ SES is their subjective SES. Subjective SES refers to the way individuals evaluate their own social class rather than what their status is in reality.

One of the extensively used techniques of measuring subjective SES is the ladder technique, which is also called “MacArthur” ladder scale of SES (Demakakos, Nazroo, Breeze, & Marmot, 2008), in which the respondents are provided with the picture of a ladder with 10 rungs and are asked to put a sign on one of the rungs of the ladder that they think best represents their socioeconomic status by being informed that the first rung represents those who are the poorest (have the least money) and the least educated or illiterate members of the society possessing the worst jobs or no jobs, whereas the topmost rung represents the richest (those with the most money), and the most educated members of the society having the most prestigious jobs (e.g. Adler, Epel, Castellazzo, & Ickovics, 2000).

In a 10 step ladder those who sign the 4th rung or below belong to socioeconomically low group, the respondents who sign from 5th or 6th rungs belong to the middle group, and finally those who sign the rungs from 7th to 10th are categorized in the socioeconomically high society group.

Instruments to measure Iranian Students’ SES. In developing countries assessing SES of the individuals due to these countries unstable and weak economies is a key challenge (Tajik & Majdzadeh, 2014). Unluckily, this is true in case of Iran too. We couldn’t regretfully find any recently published standard instrument to measure Iranian students’ SES. The instruments of previous years also, due to Iranian ever-changing economic status which differs from year to year are inapplicable now.

Because of the high rate of annual inflation in Iran, (for example, according to International Monetary Fund’s 2014 staff report No. 14/93, 12-month inflation rate of Iran in January 2014 was about 29 percent and in January 2013 it was 45 percent), the SES instruments that collect information regarding parents’ income and wealth through objective items in the questionnaires which are developed in accordance with the economic status of the year it is designed will be inapplicable for later years. This may be an explanatory reason for the scholars in Iran to be reluctant to work on developing precise instruments to measure individuals’ objective socioeconomic status.

As a result, researchers who tried to measure SES in Iran (e.g. Qodrat Nama, Heydari Nejad, & Davoudi, 2013) mostly relied on their own developed instruments that may not

target the same indicators of another instruments developed and used by other researchers, consequently this wouldn't give comparability feature to different findings. Alternatively some other researchers (e.g. Baradaran & Husynpur, 2012) used a few numbers of items to measure the subjective SES which is self-reported SES by their participants.

Inferably, core variables of students' SES are their parents' income, their parents' educational level and their parents' occupation prestige. Besides the core variables of SES, students' residential area and their school variables, whether subjective or objective, can also be used to measure students' SES either as alternative variables or additive variables.

III. METHODOLOGY

A. Participant

In this study 284 male students who were all in the first grade of senior high school and aged 13 to 19 answered the questionnaire. The participants were selected through criterion sampling by means of choosing 9 schools (3 public, 2 semi-public and 3 private schools) from 5 socioeconomically different districts of Tehran.

B. Instrument

Drawing on the obstacles regarding SES measurement, we categorized the sample into five socioeconomic groups: low, quite middle, middle, quite high, and high. Then we tried to measure SES through the following ways:

Firstly, we attended the schools located in districts with different social classes as well as schools of different types (public, semi-public, and private schools). In this way, we could obtain a better sample incorporating students from all social classes. Due to the fact that students usually go to schools closer to their home, "it is likely that school and neighbourhood SES measures would correlate highly" (USDE, 2012, p. 21). Furthermore, it is a rule of Education Administration in Iran to oblige the students to enrol in schools that are the closest to their home. In most of the cases the students need to prove it by providing the school authorities a document indicating their home address is at the same vicinity of where the school is located. Therefore, it can be concluded that the majority of the students attending a particular school are coming from areas around their school location. This means that the students of a particular school come from almost the same residential areas and have almost the same neighbourhood SES.

Secondly, to measure the learners' socio-economic status we used four items in the questionnaire in order to measure three scales of SES which are family income, parents' educational status, and neighbour's SES; two of them to collect information concerning the mothers' and fathers' educational level, one item for family income, and a more item to probe the students' neighbourhood SES. See table 1 for details concerning the items for SES.

Table 1: Socioeconomic Status Variables

Scales	Item # in the current Study	Details
Parents' educational attainment	46, 47	
Family income	48	
Neighbourhood SES	49	
School SES	No item	Information to select schools obtained by interviewing the informed staff of the Department of Education of Tehran. Schools were selected according to the types of schools (i.e. State, Private, or Semi-Private), and the district of school location which is related to the amount of facilities a school possesses (Low, Quite Middle, Middle, Quite High, and High SES schools).

C. Procedure

To obey the rule of Education Administration we requested a written permission from the General Education Administrations before entering the schools to conduct the research. After being granted with a permission letter, the research assistant chief of the Department of Education introduced District 1, 6, 11, 16, and 19 as districts having high, quite high, middle, quite middle, and low SES respectively.

We approached nine schools which were located in socioeconomically different districts of Tehran. Three of the schools were public schools and as a result were funded only by the government; two of the schools were semi-public and funded by both the government and the parents of the students attending those schools; three remaining schools were private schools funded only by the students' parents. According to the information obtained from the Education Department of the districts 6 and 1, in these districts there was no school to rely only on the governmental funds. However, the parents were charged less than they would be in the private schools.

The other three state schools which were located in socioeconomically middle district (District 11), Quite Middle District (District 16), and Low District (District 19) respectively, were completely governmental ordinary schools funded by the government, in a few cases only assisted by a few numbers of the parents voluntarily. The information regarding the socio-economic status of the schools and the overall SES of the students attending these schools were given by the General Department of Education of Tehran and the regional Education Departments as well.

Two of the evidences which support the validity of the district SES are the increase in the number of private schools and decline in the number of public schools as one go from district 19 (low) to district 1 (high). On the other hand, the average fee of the private schools grows increasingly as one go from lower Districts to the higher ones and reaches its highest amount in District 1. The percentage of private schools and the amount of tuition fees indicate the extent to which parents can afford for private schools. The related data

concerning the school types and numbers and private school average fees are available in Table 2.

Table 2: Percentage of school types for boys, and private school average fees in different districts.

Boys Senior High Schools	Ordinary State High Schools	Semi State High Schools	Private High Schools	Private School Annual Average Fee	% Private Schools/Total High Schools
District 1	0	7	41	3000 USD	85 %
District 6	0	7	24	2000 USD	77 %
District 11	5	3	9	1300 USD	53 %
District 16	6	5	3	1000 USD	21 %
District 19	7	3	2	800 USD	17 %

We also interviewed some staff in charge with research, education, and senior high school affairs and some higher ranked officials like deputy chief of the local Departments to elicit some information regarding SES of their schools and types of the available schools.

After a careful study and consultation with local Departments of Education and due to some background information of the researchers, two schools, one private and one state school, were chosen to gather the data in every district. In district 19 we didn't attend any private school since the numbers of first graders in that school were lower than 14 and it couldn't give any comparability power to the study. In the case of District 6 and District 1 there weren't any ordinary public senior high schools. So we had to choose semi-public schools to elicit the data.

We attended all 9 schools in person and briefed the teachers and school managers about the topic, the aims, and the average time needed for the completion of questionnaires. For the sake of higher cooperation of the students, the teachers were asked not to leave the class while questionnaire completion and data collection. After arrangements were done, we entered the classrooms; we gave a brief description of why the research is being done and how the students should take part in it.

The students were notified that the sheets weren't exam or test sheets and there wasn't any correct or wrong answer to the items; rather, they were questionnaires in which the students were requested to express their ideas which were important for the researchers. The students were made sure that they had as much time as they wished; however, the usual time needed to complete the questionnaire was also informed to them. Furthermore, the confidence was given to the students that they don't need to write their names on the sheets so they would honestly state their real ideas concerning the questionnaire items. We clarified that nobody at their school or anyone in Education Department would have access to the data.

After collecting questionnaires from the classes we thanked all the students and the teachers. Then we tried to elicit some information from the school head teachers or assistants regarding the background of the students, their SES, and whether the students pay any fee for the education they receive from the school and how much they had to pay in average. The socioeconomic classification and definition were explained to them and then they were asked to comment on the SES of the majority of students of that school. These interviews proved the validity of the SES of the districts reported by the Department of Education which are represented bellow each school code. The table 3 also gives brief information regarding the school types and locations.

Table 3: School types in districts

District Number	District overall SES	School type	SES of the majority of the students according to school staff	Details
19	Low	Public	Low	Free of Charge
16	Quite Middle	Public	Low	Free of Charge
		Private	Quite Middle	
11	Middle	Public	Quite Middle	Free of Charge
		Private	Middle	
6	Quite High	semi- Public	Middle	Funded by both government and parents
		Private	Quite High	
1	High	State (semi-State)	Quite High	Funded by both government and parents
		Private	High	

D. Data Analysis

The questionnaire items were computer-coded and the Statistical Package for Social Sciences (SPSS) 18.0 was used to analyze the data. The main statistical procedure applied was correlation-based analyses. Because of non-normal distribution (i.e. the ratios of skewness and kurtosis over their standard errors were higher than +/- 1.96) the non-parametric tests of Kendall correlations were run to investigate the research question posed in the current study.

IV. RESULTS

This study aimed to probe the relationship between the variables of the students' SES. Five variables were taken into investigation, namely students' family income, their mothers' and fathers' educational attainment, their neighborhood SES, and their school SES as well as the types of schools (public, semi-public, or private) they attended. We posed following research question and research hypothesis:

Research Question: Is there any relationship among scales of SES (among District SES, Parents' education, Family Income, and Types of Schools)?

Hypothesis: There is no significant relationship among scales of SES (among District SES, Parents' education, Family Income, and Types of Schools).

A. Demographic Information

All the participants were in the first grade of senior high schools, their ages ranged from 13 to 19 with 15 as the most frequent age stated by the students. Figure 1 demonstrates the frequency of the respondents' ages.

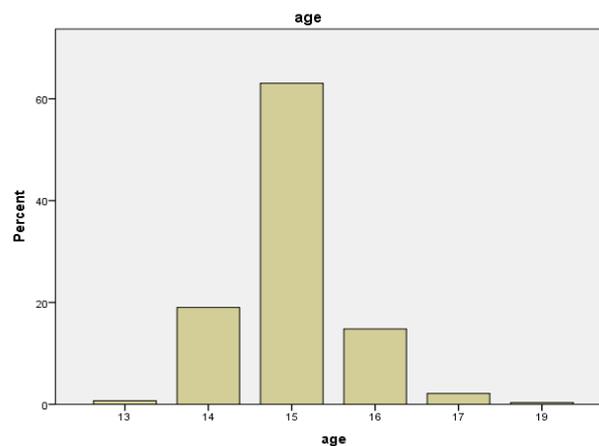


Figure 1- Percentage and range of respondents' age

Students were also from 5 districts of Tehran. Table 4 indicates the frequency of the participants regarding the different districts.

Table 4 - Frequency of the participants regarding the Districts

	Frequency	Percent	Valid Percent	Cumulative Percent
D 19	27	9.5	9.5	9.5
D 16	60	21.1	21.1	30.6
D 11	68	23.9	23.9	54.6
D 6	69	24.3	24.3	78.9
D 1	60	21.1	21.1	100.0
Total	284	100.0	100.0	

B. Findings

Kendall correlations were run to probe any significant relationships between the scales of SES (among District SES, Parents' education, Family Income, School SES and Types of Schools). Based on the results displayed in Table 4-6 it can be concluded that;

A: Educational district where the participants studied had significant and large relationships with types of school (private, government or semi-private) ($\tau (282) = .67, p < .05$) and school SES ($\tau (282) = .87, p < .05$). It had moderate to large relationship with mother's education ($\tau (282) = .42, p < .05$) and father's education ($\tau (282) = .36, p < .05$). It had an almost moderate relationship with family income ($\tau (282) = .25, p < .05$).

Table 4-6: Kendall Correlations among SES Factors

		District	Typesc	FatherEdu	MotherEdu	Income	School	
Kendall's tau_b	District	Correlation Coefficient	1.000	.671**	.367**	.425**	.253**	.873**
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000
		N	284	284	284	284	284	284
	Typesc	Correlation Coefficient	.671**	1.000	.309**	.296**	.166**	.603**
		Sig. (2-tailed)	.000	.	.000	.000	.002	.000
		N	284	284	284	284	284	284
	FatherEdu	Correlation Coefficient	.367**	.309**	1.000	.710**	.252**	.366**
		Sig. (2-tailed)	.000	.000	.	.000	.000	.000
		N	284	284	284	284	284	284
	MotherEdu	Correlation Coefficient	.425**	.296**	.710**	1.000	.241**	.424**
		Sig. (2-tailed)	.000	.000	.000	.	.000	.000
		N	284	284	284	284	284	284
	Income	Correlation Coefficient	.253**	.166**	.252**	.241**	1.000	.296**
		Sig. (2-tailed)	.000	.002	.000	.000	.	.000
		N	284	284	284	284	284	284
	School (School SES)	Correlation Coefficient	.873**	.603**	.366**	.424**	.296**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.
		N	284	284	284	284	284	284

** . Correlation is significant at the 0.01 level (2-tailed).

B: Types of school (private, government and semi-private) had significant and large relationship with school SES ($\tau (282) = .60, p < .05$). It had moderate relationships with

mother’s education ($\tau (282) = .29, p < .05$) and father’s education ($\tau (282) = .30, p < .05$). It had a weak to moderate relationship with family income ($\tau (282) = .16, p < .05$).

C: Father’s education had significant and large relationship with mother’s education ($\tau (282) = .71, p < .05$). It had moderate relationship with school SES ($\tau (282) = .36, p < .05$). It had an almost moderate relationship with family income ($\tau (282) = .25, p < .05$).

D: Mother’s education had a significant and moderate to large relationship with school SES ($\tau (282) = .42, p < .05$). It had a weak to moderate relationship with family income ($\tau (282) = .21, p < .05$).

E: Family income had a almost moderate relationship with school SES ($\tau (282) = .29, p < .05$).

Based on these results it can be concluded that the null-hypothesis **was rejected**.

Figure 2, 3, 4, 5 and 6 well describe the distribution of variables of SES among the participants of the research.

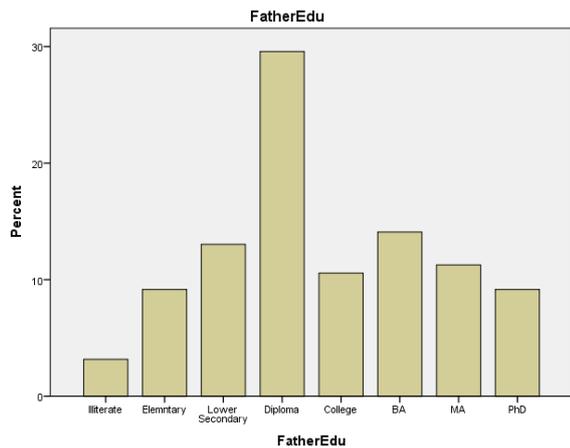


Figure 2- Fathers’ educational attainment frequency

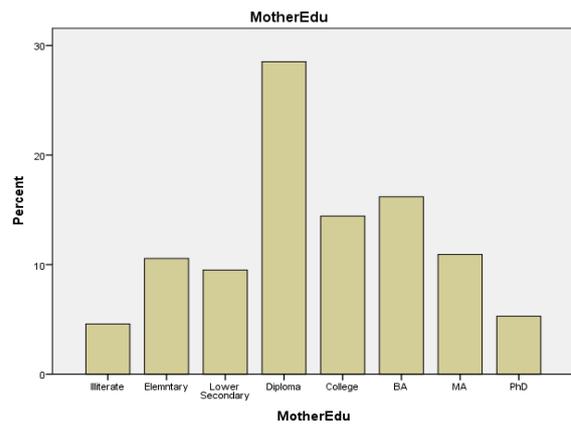


Figure 3- Mothers’ educational attainment frequency

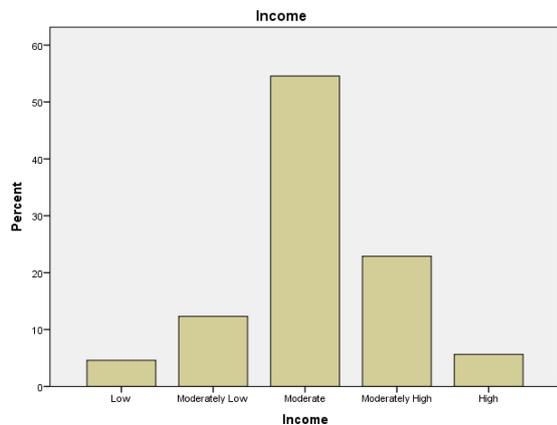


Figure 4- Family income frequency.

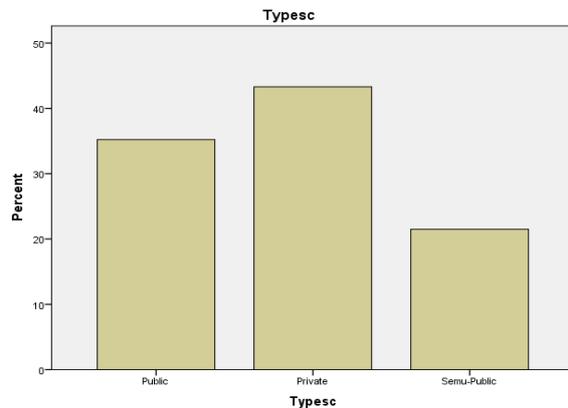


Figure 5- Frequency of school types.

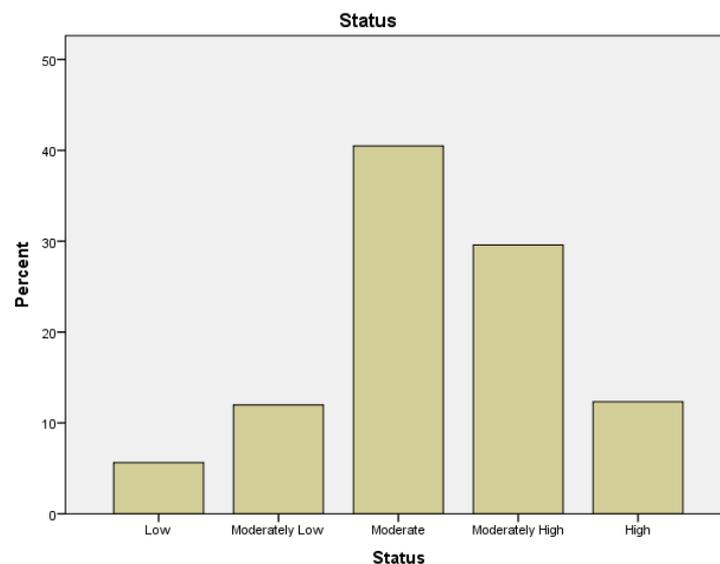


Figure 6 - Frequency of the students from different school SES.

V. DISCUSSION

A. Discussion of the Findings

The findings of this investigation indicated that all variables of the students' SES correlate to each other; however the correlation and effect size differed from one another. According to the findings there were large relationships between types of school with educational districts (neighborhood SES) and school SES, and between father's educational levels with mother's educational levels. There were moderate to large relationships between educational districts with mother's education and father's education, and mother's education with school SES. There were moderate relationships between types of school with mother's education and father's education, and father's education with school SES. There were almost moderate relationships between family income with educational districts, father's education, and school SES. It means that the higher neighborhood SES or school SES the students come from, the higher their parents' educational level would be. Finally, there were weak to moderate relationships between family income with types of school and mother's education. Drawing on the findings, family income had the lowest correlations with other variables of SES; however, other variables had significant correlations ranging from moderate to large relationships.

B. Pedagogical Implications

The findings in the current study indicated that school types, district SES, school SES, fathers' education, and mothers' education had large or moderate to large relationship among each other; therefore, in the future research the researchers who want to probe students' SES with other educational variables, can limit variables of SES to one or two of them and

exclude the other variables especially for preventing the increase in questionnaire items. For instance, mothers' education attainment had a large relationship with father's education; therefore, we can limit our items to one of them and omit the other one.

The other inference educational researchers can draw from the findings is that family income due to the insignificant relationship with other SES variables can be regarded as an independent variable standing out of the other variables of the SES discussed in the present study. It can be concluded that at least in the context of Tehran subjectively-extracted family income as a variable is not a strong indicator of the students' parents' educational level, school SES and neighborhood SES.

C. Conclusions

The results revealed that all the variables of the students' socioeconomic status correlated with each other; therefore, the null hypothesis stating that there were no significant relationships between variables of SES was rejected. However, the family income proved to have the lowest correlation with other variables of SES. Inferably, for the future research, due to large correlation between some of the variables of students' SES, researchers can exclude some of the variables which had high correlation with other ones. For instance, in case of parents' educational attainment, probing only one of the parents' educational level suffice.

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