# The Grammatical Correlates of Social Class Factors: The Case of Iranian Fifth-Graders

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## Abstract

Ever since Bernstein theorized the relationship between social class and language pattern, this issue has resulted in a growing body of research. However, few studies have addressed the issue been conducted in the context of Iranian society. In response to this shortcoming, a survey was designed to investigate the relationship between the linguistic and the social class patterns in the compositions of 350 male fifth-grade elementary school students. Accordingly, a Language Pattern Elicitation Prompt and a Social Class Questionnaire were designed to collect relevant data. Using the most common social class indices, through a set of pilot studies and factorial analysis, six social class factors of Life Style, Property, Parental Education, Paternal Occupation/Income, Accommodation, and Vehicle/Transportation were addressed. The administration of the Language Pattern Elicitation Prompt and the Social Class Questionnaire to students and their parents yielded a rich corpus of language and social class data. The language data was analyzed for frequencies of the grammatical categories, Total Number of Words, T-units, Adjectives, Adverbs, Personal Pronouns, Impersonal Pronouns, First Person Singular Pronouns, Prepositions, Conjunctions, and Mean T-unit Length. The social class data were analyzed for total social class scores and scores for each social class factor. The results of the correlation analyses suggested a significant relationship between the total social class scores and certain grammatical categories. The relationships between the language data and the social class factors displayed a similar trend as well, leading to the conclusion that the findings of the present study support Bernstein's theory to a great extent.

## 1      Introduction

It is generally assumed that language pattern (LP) is associated with socioeconomic status (SES) or social class (SC) background (cf. Ginsberg 2006). More specifically, it is asserted that children from low, middle, and high SES backgrounds have different degrees of language development (cf. Hoff 2003). Similarly, Peers, Lioyd and Foster (2000) confirm that children from low SES are subject to more language delay than children from higher classes of the society.

Researchers like Fish and Pinkerman (2003) state that lower working class (WC) children who usually suffer from low rate of language development are subject to educational disadvantage as well. In clearer terms, due to language disadvantage, children from low social classes are unable to attain their own educational purposes within the educational curricula (cf. Bernstein 1973a). Christie (1999) mentions that educational attainment needs a language pattern to which all the students do not have the same level of access. Whereas WC students usually lack such LPs which are useful for educational purposes, middle class (MC) students have enough access to it.

Concerning the relationship between LP and SC, SC is operationalized in terms of certain factors or indicators. For example, Duncan, Brooks-Gunn and Klebanov (1994) consider neighborhood as a social class factor (SCF) which leads to developmental outcomes. Raviv, Kessenich and Morrison (2004) refer to income-to-needs ratio as another factor. Family income, maternal education (cf. Duncan et al. 1994), paternal education (cf. Entwisle/Astone 1994), poor health (cf. Siegel 1982), and nutrition (cf. Smith/Brooks-Gunn/Klebanov 1997) are some SCFs which can enhance all forms of development, in general, and linguistic development, in particular.

In line with the above-mentioned issues, the present study is intended to investigate the relationship between language productivity and SC in an Iranian context. More specifically, the LP of a group of Iranian students is studied in relation to SCFs indicating their demographic backgrounds.

## 2 Literature review

### 2.1 Bernstein's Theory of Sociology of Education

The relationship between LP and SC was first proposed by Bernstein (1958). While Sadovnik (2001) believed that Bernstein was greatly influenced by Durkheim, Atkinson (1981) maintained that Bernstein later showed a tendency towards European structuralism and was increasingly influenced by Whorf's remarks on the relationship between language and world view. Having been influenced by these scholars, Bernstein posited the relationship between LP and SC which was subsequently extended into a great theory of sociology of education.

The relationship between LP and SC occurred to Bernstein when he was teaching in London schools (cf. Christie 1999). As a result, he made a distinction between **Public Language** which is typical of WC people and is used to communicate in everyday real life contexts, and **Formal Language** which is common among MC people and is appropriate for educational attainment (cf. Bernstein 1958).

As Bernstein (1973a) further explains, Public and Formal Languages have their own particular characteristics. For example, while Public Languages have short, simple sentences which are syntactically poor, Formal Languages enjoy accurate grammatical patterns. Unlike Public Languages which have limited use of adverbs, and adjectives, and are repetitive in conjunction usage, Formal Languages benefit from frequent use of adverbs and adjectives and varieties of conjunctions and discourse markers. Further, while Public Languages are context-bound, Formal Languages are universal and general.

Enquiry into the nature of Public and Formal Languages brought about the **Language Codes Theory** in the 1970s. While investigating the relationships between social class, and systems of meaning, Bernstein distinguished between **Restricted** and **Elaborated Language Codes**. Accordingly, Bernstein (1973a) hypothesized that Restricted Codes are mainly accessed by WCs, but Elaborated Codes are in the control of individuals from MCs. Bernstein (1973a) further suggested that elaborated language code is what students need to succeed in educational settings. The features of Restricted and Elaborated Language Codes are to a great extent similar to those of Public and Formal languages respectively.

Bernstein (1973b) attempted to explain the link between family types and educational systems through the concepts of **Classification** and **Framing**. By Classification, he meant the way knowledge is organized into educational systems. In Dowling's (1999) terms, Classification refers to the relationships or boundaries between categories. Bernstein (1975) explains Framing as the degree of control which teachers and students can have on the educational processes. While differentiating between visible and invisible educational systems, Bernstein (1977) further asserted that, in visible educational transmission, classification and framing are

strong; that is, the teacher controls everything in the classroom. On the contrary, in invisible educational transmission, since classification and framing are weak, control of many things is in the hands of the students. Whereas visible educational systems are usually attended by students from lower classes of the community, invisible educational transmission is typical of middle class families where students have more freedom to act.

In the 1980s, the idea of **Pedagogic Discourse** was introduced by Bernstein for the first time. Later, Bernstein (1999) presented the concepts **Horizontal** and **Vertical Discourses**. By horizontal discourse, he meant a context-dependent and local discourse which is contradictory across contexts and is usually used for everyday communicative purposes. Conversely, vertical discourses are considered to be specialized modes of language used in sciences for the production of scientific texts. Bernstein's definitions of horizontal and vertical discourses are more or less congruent with those of the public and formal languages as well as those of restricted and elaborated language codes.

In the following years of his prolific academic life, Bernstein put forward the concepts "pedagogic identities" (2000) and "pedagogic societies" (2001). By pedagogic societies, he meant two periods of time, the first was when religion controlled every aspect of human life and thought, and the second period when the information and needs to new learning was outstanding.

## 2.2    Empirical Studies in Support of the Theory

As Bernstein's theory went through several developmental stages during decades, many researchers from linguistics and related fields have conducted field-specific studies to appraise the validity of the theory.

A good example of the studies in support of Bernstein's theory is that of Richardson et al. (1976). They found that the written compositions of 11-year-olds of high classes were syntactically more mature according to T-unit Length. In another project, Van den Brook (1977) studied syntactic complexity of 4 working class and 4 middle class Flemish informants in formal and informal situations. The results of his study indicated that middle class students showed a greater degree of syntactic complexity in formal situations. Conversely, the language of working class subjects was more syntactically complex in informal situations. Hashima and Amato (1994) found that working class parents are more restrictive and authoritarian towards their children than middle class parents. Hoff (2003) also asserts that working class parents are directive towards their children; while, middle class parents usually apply facilitative language to help their kids develop stepwise.

Many studies have approved the view that family talk influences language development among children. From the investigation of conversations between 4-year-old children and their WC and MC parents, Tizard and Hughes (1984) found that MC children had a wider range of topics and asked more questions. Measuring interactions between mothers from different SES backgrounds and their children, Olson, Bates and Kaskie (1992) foregrounded the effects of mother's non-restrictiveness of the child, and the amount of stimulation on language competence. In another study, Lawrence and Shipley (1996) examined the interactions of black and white WC and MC families. They found great differences in the languages used by white and black parents when talking with their children. Difference was reported between MC and WC parents while speaking with their kids. In a relatively recent study, Naigles and Hoff-Ginsberg (1998) investigated the impact of parental input frequency on children's language improvement. It was found that children learnt the verbs which were usually used by their parents, while speaking with them, sooner than others.

A rich corpus of studies has investigated vocabulary competence and instruction in relation to social class differences. Walker et al. (1994) reported that 3-year-old children with lower SES

backgrounds had less vocabulary gain than other subjects. Likewise, Bornstein, Haynes and Painter (1998) studied vocabulary comprehension and production among children in terms of the input they received from their parents. They found a relationship between the size of children's comprehension and production of vocabulary and the number of word types their mothers used when talking to them. Admitting the fact that vocabulary comprehension and production is not the only measure of language competence, they concluded that the level of parental vocabulary input can increase the vocabulary comprehension and production in children's language.

Following the same trend of research, Bornstein et al. (1998) investigated the determinants of vocabulary competence among 20-month-old children. They found that children's vocabulary competence is directly related to their social competence, mothers' vocabulary and attitudes towards parenting. They also observed that mothers from higher-SES backgrounds with high levels of intelligence, who knew more about child development, were more likely to make longer utterances to their children and use a wider vocabulary: This, in turn, influenced vocabulary competence of the children. Hoff-Ginsberg (1998) measured the effect of SES on the creativity in the number of vocabularies Caucasian children adopted. Results of the study indicated that MC children were more creative than WC ones. One year later, Dollaghan et al. (1999) reported the relationship between levels of maternal education and three measures of language productivity, namely, number of different words, total number of words and mean length of utterance in morphemes.

Several language and meta-linguistic skills have also been studied for their relationship with social class backgrounds. Bryant, MacLean and Bradley (1990) addressed the sensitivity to rhyme, alliteration, and success in reading among participants with different SES backgrounds. Later, in a longitudinal study, Chaney (1992, 1994 and 2000) investigated the relationship among aspects of normal language development, meta-linguistic skills and the concepts about print and family literacy experiences, all of which were found to be correlated with SES backgrounds of the participants. Shankweiler et al. (1996) supported the advantage of MC children in phonological and morphological awareness over WC children. Roth, Speece, Schatschneider and Cooper (2002), through regression analysis, identified the background measures of IQ, family literacy and SES as predictors of child's oral language measures. Meta-linguistics, structural language, and narrative discourse were studied by Roth, Speece and Cooper (2002) in relation with IQ, SES, ethnicity, gender, and family literacy. Results of their study indicated varying degrees of relationship between Meta-linguistics, structural language, and narrative discourse on the one hand, and SES information on the other.

In addition to language and metalinguistic skills, more issues have been studied in the wake of Bernstein's arguments. Bernstein (1962b) himself investigated hesitation phenomenon wherein he found that MC persons used a shorter phrase length and a longer pause interval than the WC members. Pap and Pléh (1974) investigated context-dependence among advantaged and disadvantaged children. It was reported that the advantaged children from higher classes of the society had a less context-dependent LP than disadvantaged ones. Literacy achievement (Snow et al. 1991), IQ scores (Brooks-Gunn/Klebanov/Duncan 1996), language delay (Peers/Lioyd/Foster 2000; Campbell et al. 2003), have also undergone class-specific research whose results lend support to Bernstein theories.

As can be seen, although Bernstein theory of sociology of education has evoked a rich corpus of empirical studies in several geographical areas, few studies have been conducted in Iran to evaluate its underlying claim. All the online and offline searches exhibited only three cases. In an MA thesis, with a focus on the relationship between $L_1$ and $L_2$ proficiency, Hosseini (2003) investigated the writing features of a group of learners in relation to their SES backgrounds. It was found that learners from high and low SES backgrounds were different in the

characteristics of their writings. However, no significant relationship was found between $L_1$ and $L_2$ proficiency with respect to SES. In another MA thesis, Allafchi (1998) inquired into the relationship between social class, on the one hand, and T-unit Length, the mean number of T-units, and the mean number of words on the other. The results of the study, however, indicated no significant relationship between the research variables, except for the mean number of words and social class. Finally, Aliakbari et al. (2010) investigated the particular attributes in the writings of a group of WC and MC members. The results of their study accounted for a partial support of Bernstein's theory in an Iranian context. Thus, the need for more studies in Iranian context motivated the researchers to further investigate the issue.

## 3      Statement of the problem

The present study was carried out in response to three needs in the field. First, as it has been specified in the literature, few studies have been conducted in the context of Iranian society, which made more research on the relationship between SC and LP justifiable. Second, in the modern Iranian culture, there are obvious distinctions between individuals from various SCs in terms of their degrees of access to educational facilities in general and language classes in particular. Therefore, it is important to ascertain if different degrees of educational access are mirrored in the language that people utilize. Finally, the whole literature lacked scholarly studies investigating language in relation to SCFs to see which factors are more correlated with language knowledge. The study, therefore, sought answers to the following questions:

1. Is there any significant relationship between the frequencies of the GCs produced in the compositions of fifth-grade elementary school students and their SC scores?

2. Is there any significant relationship between the frequencies of the GCs produced in the compositions of fifth-grade elementary school students and SCFs?

## 4      Methodology

### 4.1     Participants

A total of 700 subjects participated in the study. The sample included 350 male fifth-grade elementary school students along with one of their parents. The student sample included 350 fifth-grade elementary school male students of districts 12 and 20 of Tehran who were studying in their last semester getting ready for their final exams while the study was being conducted. Along with their sons, 350 parents (221 mothers and 129 fathers) whose ages ranged from 26 to 54 participated in the study. Parents were administered a SC questionnaire to provide data on the students' SC backgrounds. Since the questionnaire included questions which the pilot studies indicated as difficult for students to understand and answer, it was administered to their parents.

The choice of sampling was made with reference to 1) investigating subjects' LP mainly developed under the influence of family talks, and 2) participants' ability in producing the written data for the purpose of analysis. Through a set of counselling sessions and pilot studies, fifth-grade elementary school students were considered appropriate for the purpose of the study. The sampling was justified on the grounds that, unlike older students, they had been subjected to fewer varieties of sources of language input such as books and social communications and thus, the LP they had acquired in their family environment had been less influenced by other factors. On the other hand, since writing was the channel of data collection, younger students were found incompetent to produce enough language data for analysis purposes.

## 4.2    Instrumentation

Two instruments were administered to the students and their parents respectively to gather a rich corpus of language and SC data. The LPEP was administered to students to elicit their LP. The LPEP which was modelled after that of Hosseini (2003) included one painting showing a scene of jungle with several animals playing, and one photograph showing some children playing in a park. The selected painting and photograph were colourful and interesting enough to encourage students to write about. The students were to write two compositions on what they saw in the painting and the photograph. The practicality of the instrument had been approved through a pilot study.

The SCQ was designed to gather data on participants' SC backgrounds. In the development of the SCQ, the most commonly suggested social class indices (SCIs) were applied. They include occupation, education, income (cf. Bernstein 1973a), health care (cf. O'Hara 2006), life style (cf. Cantoyannis/Jones 2004; Berkman/Gilson 2007; Zablocki/Kanter 1976), leisure time (Settle/Alreck/Belch 1979), travel (Johansson/Heldt/Johansson 2005), accommodation, and property.

In order to design the items for the questionnaire, two consecutive pilot studies were run. In the first place, papers including SCIs were distributed among heterogeneous groups of people to render their ideas on various aspects of each SCI. For example, one of the SCIs was *travel*; people were asked to write how and in what ways *travel* can discriminate among people from various SCs. Then, according to the gathered data, the stems of the items were written. Through the second pilot study, to write options for closed-response items, stems of the items were printed and distributed among people to answer. It was out of the people's answers that the options for closed-response items were extracted.

Next, the items underwent three more pilot studies for their form, meaning, and intended respondents. As for the form of the items, their length, clarity, completeness, and overlap were checked. To consider the semantic efficiency of the items, they were examined to ensure that they were not double-barrelled (merging two or more items into one item), loading (suggesting an automatic positive or negative answer), leading (encouraging to answer in a certain way), prestige-showing, embarrassing, or biased. In the third pilot study, difficulty level of the language items was taken into account to make them understandable to all participants. Finally, out of 35 items, 18 were regarded as suitable for the upcoming steps of the questionnaire development.

To order the items logically, Brown's (2001) guidelines were utilized. The guidelines require that attention be paid to a) Type, b) Function, c) Format, d) Topic and e) The Hierarchy of Importance. Since all the items were of the same type and function, the items were ordered based on their topics; the items which were measures of the same SCI accompanied each other. Finally, the measures of various SCIs were ordered based on their degree of importance. The following table presents detailed information on item types (cf. Pathon 1987), item functions (cf. Brown 2001), item formats (id.), item contents, and their SCIs.

| Items | IT | IFU | IFO | IC | SCI | SCF |
|---|---|---|---|---|---|---|
| **Q1** | Demographic | Biodata | Open-response (Fill-in Question) | Occupation | Occupation | POI |
| **Q2** | Demographic | Biodata | Open-response (Fill-in Question) | Income | Income | POI |
| **Q3** | Demographic | Biodata | Closed-response (Alternative-answer) | Paternal Education | Education | PE |
| **Q4** | Demographic | Biodata | Closed-response (Alternative-answer) | Maternal Education | Education | PE |
| **Q5** | Demographic | Biodata | Closed-response (Alternative-answer) | Illness Treatment | Health Care | LS |

| Q6 | Demographic | Biodata | Closed-response (Alternative-answer) | Sanitary Tools | Health Care | LS |
|---|---|---|---|---|---|---|
| Q7 | Demographic | Biodata | Closed-response (Alternative-answer) | Nutrition | Health Care | LS |
| Q8 | Demographic | Biodata | Closed-response (Alternative-answer) | Travel Type | Travel | LS |
| Q9 | Demographic | Biodata | Closed-response (Alternative-answer) | Travel Place | Travel | LS |
| Q10 | Demographic | Biodata | Open-response (Fill-in Question) | Travels Times | Travel | LS |
| Q11 | Demographic | Biodata | Closed-response (Alternative-answer) | Leisure Time | Leisure Time | LS |
| Q12 | Demographic | Biodata | Closed-response (Alternative-answer) | Social Service | Leisure Time | LS |
| Q13 | Demographic | Biodata | Closed-response (Alternative-answer) | Life Needs | Life Style | LS |
| Q14 | Demographic | Biodata | Closed-response (Checklist Question) | Properties | Property | Pro |
| Q15 | Demographic | Biodata | Closed-response (Alternative-answer) | Accommodation | Accommodation | Accom |
| Q16 | Demographic | Biodata | Closed-response (Alternative-answer) | Accommodation Type | Accommodation | Accom |
| Q17 | Demographic | Biodata | Closed-response (Alternative-answer) | Vehicle | Property | VT |
| Q18 | Demographic | Biodata | Closed-response (Alternative-answer) | Transportation | Life style | VT |

**Table 1: Detailed Information on the Types, Functions, Content, SCIs, and SCFs of the items of the SCQ.[1]**

At the next step, to gain the maximum clarity, the SCQ was formatted and spacing, type-facing, and highlighting techniques were applied to make the assembly of items more comprehensible. Enough spaces were left between items and sections, and the titles of the sections in the SCQ were type-faced and highlighted to make them distinguishable.

In the instruction section, the function and purpose of the SCQ were clarified to the respondents. As the majority of the items were on demographic issues and most likely subject to bias, care was taken in providing unambiguous directions to decrease the bias of the items. Finally, the SCQ was edited by an MA student of Persian Language and Literature for any mistake in language use, word choice, or mechanics.

The closed- and open-response items were differently coded. Since the possible answers were limited in number, in compiling the data of closed response items, the answers were codified based on their value. For example, in question 3, the answers were codified from 1 to 7; the higher the education level, the higher the assigned code.

As indicated in Table 1, some items had open-response format whose coding demanded more consideration. In coding the first item which measured occupation, Siegel's (1970) Prestige scores (NORC) were exploited. More specifically, all the data collected from the first item were put on a continuum from the lowest to the highest value determined by the NORC. They were then classified into 7 categories of occupations which were assigned codes from 1 to 7. In a couple of cases where the father of the family was unemployed, score 0 was assigned. The second item which measured income was an open-response item as well. Just like the

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[1] Note: IT = Item Type; IFU = Item Function; IFO = Item Format; IC = Item Content; SCF=; Social Class Factor
SCI = Social Class Index; SCQ = Social Class Questionnaire

first item, the data were classified into 7 categories with the lowest category receiving code 1 and the highest category receiving code 7. The same was done for the data collected from **Q**10.

Results from the application of Alpha Cronbach indicated a reliability index of 0.845 for the SCQ. As for its factorial validity, factorial analysis technique was applied which indicated 6 major classes of SCFs labelled as Life Style (LS), Property (Pro), Parental Education (PE), Paternal Occupation/Income (POI), Accommodation (Accom), and Vehicle/Transportation (VT) respectively (see Table 1). Further, two experts who had PhD and MA in sociology judged the construct and content validity of the SCQ. They confirmed that all the items in the SCQ were appropriate measures of SC backgrounds.

### 4.3    Language Analysts

Two research assistants with Masters and two others with Bachelor degrees in Persian Language and Literature were consulted to analyze the language data. A number of attributes made them qualified enough to carry out the task. They were native speakers of Persian and had the theoretical qualification to do the task, because they had received Persian Language and Literature and Humanities diploma issued by the Office of Education and held a Bachelor's or Master's degree in Persian language and literature. More specifically, they had passed many courses in Persian grammar and syntax in high school and university. Since they had already analyzed many texts in terms of syntactic and grammatical categories for their research or term papers during their study in high school or university, they were deemed to have the knowledge and expertise to do the task. Nevertheless, they were given orientation on how to analyze the grammatical categories in the language data. All the data were rated by two experts who have been selected from these four raters to determine inter-rater reliability indices. The results of Kappa Coefficients indicated that the two language analysts were more similar for TNWs (0.730), PPs (0.857), IPs (0.838), FPSPs (0.682), Adjs (0.60), Advs (0.803), Pres (0.782), Conjs (0.787), and MTULs (0.812).

The language and SC data enjoyed a series of descriptive and inferential statistics. All the statistical techniques were performed using SPSS version 17. In so doing, the mean scores of the analysts on each GC were computed. Next, through the division of the TNWs in each LPEP by the total number of T-units in that LPEP, the mean T-unit Length (MTUL) for that LPEP was measured. Attempts were also made to render a descriptive presentation of all the data collected in the study. Accordingly, the range, minimum, maximum, sum, mean, and standard deviation of the language and SC data were computed.

### 4.4    Procedure

The study was launched on May 18, 2010 and continued till May 27, in 9 elementary schools of districts 12 and 20 in Tehran. The study started after the researchers had gained the consent of Offices of Education in both districts. The exact time and places for the study were agreed upon in advance with the heads and teachers of the schools.

19 teachers administered the LPEP to the students at 9 schools. The rationale for choosing school teachers as administrators was to create relaxing and stress-free situations for students when they were engaged in the study. The presence of teachers who had friendly relations with the students could accomplish this purpose to a great extent. Before the administration sessions, the teachers were instructed on the quality of the LPEP, the SCQ, the purpose of the study, and how to administer the instruments.

To commence each administration session, all the physical conditions for the administration procedure were checked to ensure that participants were comfortably seated. The administrators then gave clear overall directions and clarified the theoretical and practical

purposes of the study to the participants. Next, the LPEPs were distributed among the participants in an orderly manner. During the task, the participants could ask questions if necessary. There was no time-limitation to the task.

The participants who did the composition tasks were provided with the SCQs to be filled in by one of their parents. Due to time and financial constraints for both the researchers and the parents, group-administration of the SCQ seemed impossible. As no personal information, except for the age and gender of the respondents, was inquired, all the LPEPs and the SCQs were codified to be distinguished from one another in the upcoming stages of the study. More specifically, the codes applied to the LPEPs were similarly applied to the SCQs, in order to yield two outcomes. On the one hand, the respondents of the SCQ would be assured of the confidentiality of the gathered data which would encourage their honest participation in the study. On the other hand, in the upcoming stages of the study, making relations between the language and the SC data would be facilitated.

## 4.5      Analytical Framework

The language analysts analyzed the language data based on Ahmadi Givi and Anvari's (2006) classification of Persian GCs. This framework is the most recent index developed in the Persian language. According to the faculty members of Persian language and literature department at Ilam University, this index is the most comprehensive tool which includes all the variations of GCs which are common in the modern Persian language. In their classification of Persian grammatical categories, Ahmadi Givi and Anvari (2006) have included all the syntactic and semantic varieties of each class of parts of speech.

After collecting the data, first, the language analysts counted the total number of words (TNWs) in each LPEP. Then, they counted the numbers of individual GCs adjectives (Adjs), adverbs (Advs), personal pronouns (PPs), impersonal pronouns (IPs), first person singular pronouns (FPSPs), prepositions (Pres), and conjunctions (Conjs). In counting the GCs, all their semantic and syntactic variations were taken into account.

Since T-unit was a more challenging issue to overcome, its counting was left to the end of data collection. After the language analysts received enough instruction on the nature of T-unit and how to investigate it in the text, they started the real task. At the end of the data collection, four separate reports of the frequencies of GCs were presented by the language analysts.

Since the LPEPs were group-administered and the SCQs were self-administered, the return rate of the LPEPs was very high. However, common to all studies of the type embarked upon in the present research, some of the data were excluded from the study. The LPEPs which did not include two compositions on both the painting and the photograph were excluded from the study along with their counterpart SCQs answered by the parents. The SCQs which had more than 3 unanswered items were also left out along with their counterpart LPEPs. The researchers were also forced to exclude many LPEPs whose counterpart SCQs had not been returned. In short, only those LPEPs which included two compositions along with their counterpart SCQs were included in the study.

## 4.6      Data Analysis

To answer the first research question, Pearson Correlation Coefficient and Spearman's Correlation Coefficient were respectively run for the language data whose distributions were normal and non-normal. The same analytical procedures were run for the second research question. As normally and non-normally distributed data are subject to different inferential statistics, to answer the research questions, the language data were checked for their distributional pattern through One-Sample Kolmogorov-Simimov Test.

## 5        Results

Out of 350 LPEPs, 332 (0.948) were returned by the students. However, only 221 (0.631) SCQs were answered. After the exclusion of the redundant LPEPs whose SCQs counterparts were not returned and of faulty LPEPs or SCQs, 160 LPEPs along with their SCQs counterparts were left for analytical procedures.

### 5.1      Descriptive Analyses of the Data

Examination of the SCQ data indicated that 13 participants had not answered the items which were measures of the SCF POI, but in other five SCFs, all the items had been answered. The highest and lowest ranges of scores belonged to the SCFs POI (7) and Pro and Accom (1).The highest and the lowest mean scores were for the SCFs POI and Pro respectively. Total scores of the SCQs indicated rich varieties; the range of scores was 17.22 and the highest and the lowest SC scores were 21.33 and 4.11 respectively (see Table 2).

| SCFs and total SC Scores | N | Range | Min | Max | M | SD |
|---|---|---|---|---|---|---|
| POI | 147 | 7.00 | .00 | 7.00 | 3.0476 | 1.68630 |
| PE | 160 | 5.00 | 1.00 | 6.00 | 2.9125 | 1.00713 |
| LS | 160 | 2.00 | 1.00 | 3.00 | 1.7019 | .38972 |
| Pro | 160 | 1.00 | .00 | 1.00 | .3000 | .29673 |
| Accom | 160 | 1.50 | .50 | 2.00 | 1.3469 | .68908 |
| VT | 160 | 2.00 | .50 | 2.50 | 1.5125 | .84665 |
| Total SC Scores | 160 | 17.22 | 4.11 | 21.33 | 11.7738 | 4.13802 |

**Table 2: Descriptive Statistics of the SCQ Data.**

With regard to the language data, TNWs and MTUL had the highest (281.50) and the lowest (8.13) ranges respectively. While the TNWs were the most frequent GC (307.50), the frequencies of the GCs PPs, FPSPs, and Advs were 0 for three LPEPs of PPs, FPSPs and Advs. The maximum and minimum sums belonged to TNWs (26464) and FPSPs (420.50) respectively. On average, the GCs TNWs and FPSPs with the respective frequencies of 165.4000 and 2.6281 were the most and the least frequent GCs (See Table 3).

| GCs | N | Range | Min | Max | Sum | M | SD |
|---|---|---|---|---|---|---|---|
| *T-unit* | 160 | 26.00 | 3.00 | 29.00 | 2633.00 | 16.4562 | 4.71695 |
| *TNWs* | 160 | 281.50 | 26.00 | 307.50 | 26464.00 | 165.4000 | 56.80259 |
| *PPs* | 160 | 16.50 | .00 | 16.50 | 751.50 | 4.6969 | 3.26507 |
| *IPs* | 160 | 25.50 | 1.00 | 26.50 | 1405.50 | 8.7844 | 4.78356 |
| *FPSPs* | 160 | 12.00 | .00 | 12.00 | 420.50 | 2.6281 | 2.32517 |
| *Adjs* | 160 | 32.50 | 1.50 | 34.00 | 2805.00 | 17.5313 | 7.42524 |
| *Advs* | 160 | 23.50 | .00 | 23.50 | 1636.50 | 10.2281 | 5.35056 |
| *Pres* | 160 | 39.50 | 3.00 | 42.50 | 3064.50 | 19.1531 | 8.17920 |
| *Conjs* | 160 | 45.00 | 2.50 | 47.50 | 2698.00 | 16.8625 | 7.70035 |
| *MTULs* | 160 | 8.13 | 5.83 | 13.96 | 1594.21 | 9.9638 | 1.51657 |

**Table 3: Descriptive Statistics of the Language Data.**

### 5.2      Results of the inferential Data Analyses

To account for the normality of language data, 1-Sample K-S was run which indicated that language data represented different distribution patterns. Since the level of significance for GCs T-units, TNWs, Adjs, Advs, Conjs, and MTUL were higher than $p \leq 0.05$, their distributions were considered normal. Conversely, for the grammatical categories PPs, IPs, and FPSPs, the levels of significance were lower than $p \leq 0.05$, hence their distributions were not regarded as normal (See Table 4).

| | | T-unit | TNWs | PP | IP | FP | Adj | Adv | Pre | Conj | MTUL |
|---|---|---|---|---|---|---|---|---|---|---|---|

| N | | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NP | Mean | 16.4563 | 165.4000 | 4.6969 | 8.7844 | 2.6281 | 17.5313 | 10.2281 | 19.1531 | 16.8625 | 9.9638 |
| | Std. | 4.71695 | 56.80259 | 3.26507 | 4.78356 | 2.32517 | 7.42524 | 5.35056 | 8.17920 | 7.70035 | 1.51657 |
| MED | Abs | .085 | .056 | .128 | .108 | .146 | .083 | .101 | .065 | .107 | .045 |
| | POS | .085 | .056 | .128 | .108 | .146 | .083 | .101 | .065 | .107 | .045 |
| | Neg | -.066 | -.037 | -.075 | -.052 | -.129 | -.058 | -.056 | -.029 | -.061 | -.025 |
| K-S Z | | 1.080 | .713 | 1.622 | 1.365 | 1.842 | 1.056 | 1.280 | .826 | 1.355 | .563 |
| Sig. | | .194 | .690 | .010 | .048 | .002 | .215 | .076 | .503 | .051 | .909 |

**Table 4: The Results of 1-Sample K-S for Normality of Language Data Distributions.[2]**

### 5.2.1   Investigation of GCs based on SC Scores

The results of the correlation analyses to answer the first research question indicated several cases of significant relationships. The SC scores were correlated with the frequencies of the GCs Adjs (r = 0.274, p = 0.000), Advs (r = 0.307, p= 0.000), Pres (r =0.259, p = 0.001), Conjs (r = 0.203, p = 0.010), and FPSPs (r = 0.195, p = 0.014). Conversely, the SC scores were not correlated with the GCs T-units, TNWs, MTUL, PPs, and IPs (Table 5).

| | Pearson Correlation Coefficient | | | | | | | | Spearman's Correlation Coefficient | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | T-unit | TNWs | Adjs | Advs | Pres | Conjs | MTULs | | PPs | IPs | FPSPs |
| r | 0.108 | 0.142 | 0.274 | 0.307 | 0.259 | 0.203 | 0.130 | | 0.003 | 0.105 | 0.195 |
| Sig | 0.175 | 0.074 | 0.000** | 0.000** | 0.001** | 0.010** | 0.102 | | 0.974 | 0.186 | 0.014* |

**Table 5: The Results of the correlation analysis of the relationship between the SC Scores and the LPEP data.[3]**

### 5.2.2   Investigation of GCs based on SCFs

To investigate the relationship between GCs and each SCF and to answer the second research question, 60 correlation analyses were executed among which a total of 20 cases appeared as significant. The SCF LS was correlated with the GCs Advs, Pres, and FPSPs. The SCF Pro was correlated with no GC. PE was correlated with all of the GCs, except PPs and IPs. The SCF POI was found to be correlated with the GCs Adjs, Advs, Pres, Conjs, and FPSPs. Significant relationships were also obtained between the SCF of Accom and the GCs Adjs, Advs, Pres, and Conjs. Similar to Pro, the SCF VT was not correlated with any GC (Table 6).

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[2] Note: N= numbers of participants, NP= normal parameters, MED= Most Extreme Differences, K-S Z= One-Sample Kolmogorov-Smirnov Test, Abs= Absolute, Pos=Positive, Neg= Negative.
[3] Note: * $p < 0.05$; ** $p < 0.01$.

| SCFs | | Pearson correlation coefficient | | | | | | | | Spearman's rho | | |
|------|---|--------|------|------|------|------|------|------|---|------|------|------|
| | | *T-unit* | *TNWs* | *Adj* | *Adv* | *Pre* | *Conj* | *MTUL* | | *PP* | *IP* | *FPSP* |
| *LS* | r | 0.058 | 0.064 | 0.094 | 0.244 | 0.168 | 0.107 | 0.057 | | 0.024 | 0.010 | 0.209 |
| | Sig. | 0.467 | 0.424 | 0.237 | 0.002** | 0.033* | 0.176 | 0.475 | | 0.760 | 0.902 | 0.008** |
| *Pro* | r | 0.046 | 0.029 | 0.062 | 0.153 | 0.004 | 0.004 | 0.047 | | 0.002 | 0.066 | 0.053 |
| | Sig. | 0.565 | 0.717 | 0.434 | 0.054 | 0.957 | 0.956 | 0.554 | | 0.984 | 0.405 | 0.507 |
| *PE* | r | 0.270 | 0.298 | 0.377 | 0.356 | 0.415 | 0.268 | 0.167 | | 0.099 | 0.106 | 0.296 |
| | Sig. | 0.001** | 0.000** | 0.000** | 0.000** | 0.000** | 0.000** | 0.035* | | 0.213 | 0.181 | 0.000** |
| *POI* | r | 0.074 | 0.103 | 0.204 | 0.250 | 0.172 | 0.185 | 0.087 | | 0.015 | 0.040 | 0.192 |
| | Sig. | 0.371 | 0.213 | 0.013* | 0.002** | 0.037* | 0.025* | 0.296 | | 0.854 | 0.632 | 0.020* |
| *Accom* | r | 0.125 | 0.151 | 0.238 | 0.184 | 0.223 | 0.341 | 0.098 | | 0.008 | 0.049 | 0.098 |
| | Sig. | 0.115 | 0.057 | 0.002** | 0.020* | 0.005** | 0.000** | 0.216 | | 0.922 | 0.540 | 0.216 |
| *VT* | r | 0.004 | 0.006 | 0.115 | 0.099 | 0.086 | 0.124 | 0.025 | | 0.001 | 0.104 | 0.004 |
| | Sig. | 0.958 | 0.941 | 0.146 | 0.213 | 0.277 | 0.119 | 0.758 | | 0.987 | 0.191 | 0.959 |

**Table 6: The Results of the correlation analysis of the relationships between the SCFs and the LPEP Data.[4]**

## 6 Discussion

In order to investigate the GCs in the compositions of fifth-grade elementary school students in relation with their SC and SCF backgrounds, a survey which imparted both group- and self-administration techniques was conducted. Two instruments were administered to a group of male fifth-grade elementary school students and their parents to gather a rich corpus of language and SC data.

### 6.1 Investigation of GCs based on SC Scores

The results of the correlation analyses indicated certain cases of significant relationships between language and SC data. It was found that participants with higher SC scores produced Adjs and Advs more frequently. As Adjs and Advs are used to specify the meaning of nouns, verbs, general statements, or sentences, they add to the semantic and syntactic elements of language. They are, therefore, regarded as language elaboration devices (cf. Ahmadi Givi and /Anvaric 2006). The relationship between the SC scores and the frequencies of the GCs Adjs and Advs implies that individuals from higher SCs tend to use more Adjs and Advs to elaborate their language.

The participants' SC scores were correlated with the frequencies of the GCs Pres and Conjs as well. Pres and Conjs are linguistics devices which are applied to explicitly signal the logical relationships between the semantic and syntactic elements of the language. That is why they are so widespread in formal and academic discourses which call for a high degree of explicitness. Therefore, similar to Adjs and Advs, prepositions and conjunctions are used to produce elaborated language codes. What the results of the study indicate is that people of higher SC backgrounds using Pres and Conjs, keep logical relationships between the elements of their language and thus, produce a more formal language code.

A significant relationship was also found between the SC scores and the frequency of the GC FPSP. As Bernstein (1973a) argues, FPSPs are typical of the language of people from higher SCs. The frequent use of FPSPs indicates that the individual has developed an individualized identity to self-present in a variety of situations. As children of higher SCs are subject to more discussions and parental attention, and are included in many family discussions, they are attributed many roles; therefore, their self-identities develop more quickly than children from lower SCs.

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[4] Note: * $p < 0.05$; ** $p < 0.01$.

Although certain GCs were correlated with the SC scores, no significant relationship was found between the frequencies of the GCs TNWs and T-units on the one hand and SC scores on the other. As the TNWs and T-units are measures of linguistic productivity, this finding indicates no difference in the linguistic productivity of the participants according to their SC backgrounds. Although review of the literature indicated that persons from higher SES backgrounds were linguistically more productive than lower SC individuals, the findings of this study contradicts those of the earlier ones (Richardson et al. 1976; Walker et al., 1994; Bornstein et al. 1998; Dollaghan et al. 1999; Hart/Risley 1992, 1995 and 1999; Bornstein et al 1998). This counterevidence may be due to the channel of data collection. More specifically, writing is a language skill mainly attained through schooling, not family discussions. More clearly, since children's language acquisition procedes through listening and speaking, perhaps, examining the correlation between respondents' SC and speech would yield different results.

The relationship between SC scores and MTUL was not significant either. As a measure of syntactic complexity, MTUL has been found to be longer in the language of people from higher SCs (cf. Van den Broeck 1977; Richardson et al. 1976; Huttenlocher et al. 2002; Allafchi 1998; Hoff-Ginsberg 1997; Hoff-Ginsberg 1998). Yet, the present study did not confirm such a finding. As mentioned above, writing is a language skill which would enable students to reproduce what they learn at school not at home. Thus, similarity of the participants writing in terms of syntactic complexity does not necessarily mean that they perform equally in their oral language skills. Perhaps, investigation of the speaking skill of younger children whose LPs are more family-oriented could better manifest the social class related syntactic complexity in their language.

The correlation analysis also indicated no significant relationship between the frequencies of the GCs PPs and IPs on the one hand, and the SC scores on the other. It deserves notice that PPs and IPs perform two distinctive functions. While PPs replace the proper and common nouns in the real context, IPs are utilized to express facts and ideas anonymously. In other words, unlike PPs which are indicators of context-dependent language use, IPs are context-free. The findings of the study indicated no difference between the compositions produced by the participants from various SC backgrounds in terms of their dependence on the context. Nevertheless, it should be mentioned that PPs and IPs are only two indices, among others, which would indicate the extent to which a sample of language is context-dependent.

## 6.2    Investigation of GCs based on SCFs

In order to ascertain if participants from various SCs differed in their use of certain features of their mother tongue, the probable relationship between SCF and the GCs was investigated. SCFs were found to represent different correlation degrees with the GCs addressed in this study.

Among socio-cultural factors PE was found to be correlated with all of the GCs, except PPs and IPs. Based on these results, one may argue that those parents who are more educated would pay more attention to their children education and their language input through different media. This finding is congruent to those of Farran and Haskins (1980), Snow, Dubber and de Blauw (1982), Hashima and Amato (1994), and Hoff (2003) on the basis of which they concluded that parents with various SES behave differently towards their children. Perhaps it is right to say that the PE can have a great role in parents-child interactions.

The POI was also correlated with the frequencies of five GCs. Contrary to the PE, a less provoking role was attributed to POI in its relation with GCs. Although, occupation and income can provide children with learning facilities which may contribute to their linguistic

developmental outcomes, it appeared that parents' level of education can better predict gain in language capital.

The Accom was reported correlated with the frequencies of 4 GCs. As home environment provide children with chances for family discussions and talk which in turn can enhance the process of language learning (Bradley/Caldwell 1984; Belsky 1984; Murray/Hornbaker 1997), Accom also can be regarded as a situation where children can be subject to many language input.

Nearly similar to Accom, LS was found to correlate with the frequencies of 3 GCs. LS as a behavioural SCF can discriminate between individuals in exposing them to learning situations. More specifically, it is through travelling, and leisure time activities that children communicate with others, thus improving their LP. Therefore, life style can be regarded as a minor factor which influences language development among children.

Pro and VT, as mere financial SCFs, were correlated with no GCs; therefore, it can be claimed that such financial aspects of SC cannot directly influence LP. That is, they cannot necessarily discriminate between people's linguistic capital.

According to the correlation varieties of the 6 SCFs with the frequencies of the GCs, they can be categorized into three classes: educational, behavioural, and financial. Parental education is regarded as the educational SCF. Health care, travel habit, and leisure time activities are considered as behavioural SCFs and Pro and VT are financial SCFs. It was found that educational SCFs had the highest relationship with the LP. The relationship between Behavioural SCFs and LP was found to be partial. Surprisingly, financial SCFs had no relationship with LP. Therefore, education is regarded as the main important factor in one's development of language ability. Conversely, although property and wealth can discriminate between individuals socially, no linguistic difference was found between individuals concerning their financial well-being. Behavioural SCFs did not appear as powerful as educational factors since they have a partial relationship with LP.

## 7        Conclusion

From the discussion on the relationship between SC scores and the frequencies of GCs in the compositions of fifth-grade elementary school students, it can be concluded that individuals from higher SCs use more language elaboration devices than those of lower SCs. There are logical relationships between the semantic and syntactic elements of the language produced by people with high SCs. Individuals from higher SCs usually develop an individualized identity to self-present in a variety of situations. It was also found that writing cannot show the linguistic productivity, linguistic complexity, and context-dependence variation in the LP of individuals; maybe, speech could render some different results. The investigation of GCs in terms of SCFs indicated that those SCFs which usually discriminate between people educationally and behaviourally are better predictors of linguistic differences than mere financial SCFs.

Nevertheless, research needs to be continued to investigate further aspects of socioeconomic factors or social class variables. Since the research population here was limited to male participants, it is not clear whether the same findings could be obtained from female learners. In addition to the effect of gender, more studies can be conducted on different levels of education to examine the extent to which level of education may affect the results. Another avenue for further research is investigation of the role of age in relation to the factors under question. That is, more research can be devoted to the extent to which age and maturity can be influential in coping with social and economic limitations.

## 8    Implication

The conducted research, its findings and the conclusions can provide theoretical as well as practical implications for education in general and language teaching in particular. The important role of language capital and the strong relationship between grammatical categories and language productivity accounts for the necessity of improving students' language knowledge in all levels of education and designing language courses prior to or along with any educational program. No doubt, such a need is more strongly felt in foreign or second language teaching and learning.

The important roles of educational, behavioural and financial factors imply that teachers and instructors should learn to expect variation in their students' language capital. They should also be oriented to easily face socially heterogeneous classes with participants from different socio-cultural backgrounds and accept it as natural and inevitable fact. Additionally, the study implies that teachers should be trained to overcome this dilemma and aim at educating and directing them all to an educationally homogenous community simply because such mutual understanding is urgent for social and cultural understanding of the community.

The study further implies that though learners may receive different financial support, as long as teachers put emphasis on educational and behavioural factors, common achievement and success is not out of reach. In other words, teachers may not be able to overcome learners' socio-cultural variations; yet, they can help them attain educational equity.

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