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Impact of Social Class Background on General Cognitive Ability

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Abstract

Theorists and researchers have been discussing the relationship between social class background and differences observed in cognitive ability test points of children from lower social class families and their middle or upper SES peers. It has been discussed that for a *more detailed understanding* of these cognitive inequalities, it appears necessary to move beyond boundaries of psychology and consider sociological conditions or contexts as well. It has been asserted that social class background characteristics affect general cognitive ability over time. The present study introduces research exploring the impact of social class background on cognitive abilities of children. In Britain, the 1958 National Child Development Survey (NCDS), the *1970 British Cohort Study* (BCS70) and more recently, the *Millennium* Cohort *Study* (MCS *2000)* conducted at the start of the 21st century are particularly relevant and nationally representative broad-based studies for exploring the impact of social class background on general cognitive abilities of children. It was observed that they provided scaled data and emphasized the impact of social class, particularly the role of parental education as an indicator of social class in surveys. Social class affected children's cognitive abilities as early as primary school years and led to inequalities in their cognitive performance. Children from lower social class and lower socioeconomic status (SES) families *suffered a clear disadvantage*. Poor and disadvantaged conditions of the lower social class adversely impacted and impaired the cognitive ability of children. Given the fact that cognitive abilities play a role especially in later life, adverse impacts and impairment of cognitive abilities are regarded as alarming and undesirable situations in childhood.

Keywords: social class background, children's cognitive development, family stress theory, family investment model

1. Introduction

The present research deals with the impact of social class background on general cognitive abilities from early childhood and its role in generating cognitive differences in children. The study focuses on the advantages and opportunities or disadvantages and limitations of social class or socioeconomic status to explore the influence of social class background on the general cognitive abilities of children. The positions or statuses they occupy in the social stratification system, which is hierarchically graded according to criteria such as income, education, and occupation, can produce advantages and opportunities or disadvantages and limitations for individuals. Socioeconomic factors, including income, education and occupation, can provide access to economic and social resources and can determine the position, privileges, status, *social esteem* and prestige of individuals within the hierarchical system (Hauser & Warren, 1997).

In his discussions over class as a form of stratification, Marx emphasizes the economic power of classes in the modern society based on the concept of the capitalist mode of production and he asserts that the source of income is labor or wages for wage laborers, assets and profit for capitalists or capital owners, and property and rent for landlords (Marx, 1953, p. 941). Marx states that property, income and sources of income are in themselves a result of the structure of class and economic conditions, and that the capitalist society is split into two big classes as the bourgeoisie and the proletariat (Marx, 1947, p. 81). Marx discusses the class divisions between the two main social classes in society and identifies many other classes and fractions among workers. While the capitalist class is divided into fractions such as the big landowners and the financial and industrial bourgeoisie, the working class is divided into categories such as the proletariat and the lumpenproletariat, the two transitional classes as petty bourgeoisie and peasants, and middle-class groups holding high positions in the army, university, church, bar, academy and press (Marx, 1972, p. 28). Marx makes reference to the aristocracy of labor, in other words the best-paid section of the working class. He uses the concepts of middle class and lower

middle class to describe the self-employed and small-scale capitalists (Marx & Engels, 1848). Consequently, he is conscious of the expansion of the propertyless middle classes, those who stand between or in the middle of capitalists and landlords on the one hand and the workmen on the other (Marx, 1969, p. 573). In his theory of stratification, Weber views class as a group of people who share a common class situation defined by "the typical chance for a supply of goods, external living conditions, and personal life experiences, in so far as this chance is determined by the amount and kind of power to sell goods or skills for the sake of income in a given economic order." The type of chance or opportunity in the market presents a common condition for *fate* of the individual (Weber, 1961, pp. 181-182). Weber identifies major classes in society as (a) the working class as a whole, (b) the petty bourgeoisie, (c) non-property intellectuals, specialists, technicians, and, (d) the classes privileged through property and education, in other words, those above the hierarchy of ownership and employment (Weber, 1968, p. 305). He divides the positively privileged into two classes, namely the ownership or property classes, and the acquisition or commercial classes. It refers to classes that have different types of property, such as land, buildings, and people, and classes that have the goods, services, skills, and knowledge they can offer to markets, such as industrial and agricultural entrepreneurs, traders, bankers, workers and professionals who monopolize their skills and knowledge (Weber, 1968, pp. 303-304). Weber makes a distinction among three types of unprivileged classes as the unfree, the declassed and the poors, from the three types of negatively privileged commercial classes as skilled, semi-skilled, and unskilled workers. Weber points to the existence of various middle classes such as peasantry, craftsmen, or working groups with credentials, knowledge and skills, as well as liberal professions, civil servants working in the public and private sectors (Weber, 1968, pp. 303-304).

Theorists and researchers used economic, educational, and occupational determinants to analyze social class and socioeconomic status and highlighted the importance of cultural differences in worldviews, linguistic patterns, habits, preferences and tastes between lower and middle or upper social classes (Entwisle & Astone, 1994; Lareau, 2011). While some researchers often used a single indicator to assess the access to economic and social resources of individuals in a certain social class or socioeconomic status and also to determine their position in the social class hierarchy (Hauser & Warren, 1997), other researchers typically made use of a combination of many indicators such as maternal or parental education, occupation and income (Noble, Norman, & Farah, 2005; Noble, McCandliss, & Farah, 2007). Scales based on occupational status or occupational prestige are determined by the average education levels and average earnings required by given occupations. The Hollingshead Four-Factor Index (Hollingshead, 2011) mainly focuses on the level of educational attainment and occupational status or prestige of household adults (Duncan & Magnuson, 2003). Some researchers did not directly assess SES factors but instead used proxy indicators that might be highly correlated with socioeconomic status such as family structure, home possession and free or reduced lunch program situation. Another approach attempted to measure and assess social class or socioeconomic status subjectively, often by asking individuals to rank themselves on a ladder in social hierarchy graded as lower, middle or upper class (Goodman, Adler, Kawachi, Frazier, Huang, & Colditz, 2001). Some research alleged that income, education, and occupation were strongly interrelated as key indicators of SES, and established that the correlations among them were generally high (Geyer, Hemstrom, Peter, & Vagero, 2006).

Educational attainment and income were correlated and reflected different resources that were beneficial to children in *unique* ways (Duncan & Magnuson, 2012). While income served as a tool for families to purchase high-quality resources for their children, parent educational attainment directly benefited children through intangible assets such as cognitive enrichment of the home environment (Davis-Kean, Tang & Waters, 2019). It was discussed that the main indicators of social class or socioeconomic status such as family income level, parents' education level, and parental occupation mediated the association between social class background and cognitive abilities of children. Varying household resources at socioeconomic levels might play a role in the association between social class background and general cognitive abilities in children (Haveman & Wolfe, 1995). Economic models of child development denoted that families who had greater economic resources were better able to produce or purchase important and significant 'inputs' into development of their young children, such as nourishing foods, enriched learning environments at home and caring environments outside the home, as well as safe and encouraging neighborhood environments (Becker, 2007).

Besides economic resource or economic capital, human capital was also viewed as the second important resource related to SES. Human capital included such factors as parents' educational levels as well as their *knowledge* and *skills*, (Becker, 2007). Formal education was regarded as the most widely recognized and learned form of human capital. Parents' human capital not only reflected their educational level but also included the knowledge and skills they had acquired through formal and informal learning. As part of human capital, knowledge and skills could have a certain value both at home and in the business market. Irrespective of their income, parents could

shape their relationships, interactions and communication with their children through a set of knowledge, skills, values, attitudes and behaviors they acquired through formal education, and they could affect the cognitive, social and emotional development of their children. More educated parents spent more time with their children (Guryan, Hurst & Kearney, 2008) and they allocated most of their time to foster, nurture and enhance cognitive, social and emotional development of their children (Kalil, Ryan, & Corey, 2012). Parents with higher levels of education had higher educational and academic expectations for their children (Guryan, Hurst, & Kearney, 2008; Davis-Kean, 2005), and they could *provide cognitively stimulating learning materials* and *activities* at home (Raviv, Kessenich, & Morrison, 2004). More highly educated parents were more *involved* in *their children's education* or *engaged* in *their learning.* They fostered and nurtured their children's learning and education by using more diverse and *sophisticated* vocabulary and speech patterns (Richman, Miller, & LeVine, 1992; Hoff, 2003), and thus they could contribute to and enhance cognitive development of their children. Parent-child relationships and interactions were indicated as the factor that primarily mediated the impacts of parental education on cognitive, social and emotional development of children. Not only knowledge and skills but also values, attitudes, behaviors and approaches they acquired through formal education could make parents more effective in socializing, educating and rearing their children in the direction of desired and expected values and goals. Thus, knowledge, skills, values, attitudes and behaviors acquired through formal education could improve parenting skills to organize, mobilize and use their daily routines and economic, human, social and cultural capitals and resources for socialization, education and cognitive development of their children (Michael, 1972). Correlations between parental education and cognitive and academic outcomes of children indicated that parental attitudes and behaviors could foster, nurture and enhance children' education and cognitive development, or could enable them to become good learners through parental investments.

Occupations were regarded as the third important source associated with socioeconomic status. Occupations constituted an important component of socioeconomic status because they were closely associated with education and income, and thus were viewed as a good indicator of an individual's permanent economic position (Featherman & Selbee, 1988). Individuals occupying particular positions in business life with higher status and more prestigious occupations could obtain relatively higher earnings compared to workers, had controlling authority over workers and gained more social esteem and prestige due to their occupation and position (Jencks, Perlman & Rainwater, 1988). Their jobs and occupations might impact parental socialization practices and the values and goals they wanted to instill in their children during this process of socialization. Parents from a lower social class or socioeconomic status and parents from a middle or upper social class or socioeconomic status might differ from one another in terms of personalities, values, goals, priorities and life orientations they wanted to instill in their children during the processes of socialization, education and child-rearing. Menaghan and Parcel (1991, 1994) asserted that work conditions shaped the cognitive skills, values and personalities of workers. They argued that *jobs* with *low-prestigious* which required routinized *tasks, had low autonomy and* offered few *opportunity* for steadily *complex work* might wear out or harm cognitive abilities of parents and limit their self-management skills. Menaghan and Parcel suggested that parents' occupation and profession played an important role in children's socialization and education processes and that parents with lower cognitive skills ensured less cognitive support to their children. Theorists and researchers emphasized that parents from lower social class or socioeconomic status generally relied more on disciplinary strategies that required their children to obey authority during the socialization, education, and parenting processes. Parents from lower social class used less socialization practices which necessitate to express, explain and reason with them for socializing their children and prefered giving orders them. They discussed that parents from lower social classes did not demonstrate sufficient role-model behaviors and were not very effective in enhancing children's cognitive development as well as encouraging and developing their intellectual curiosity (Kohn, 1995; Lareau, 2011). Senechal and LeFevre (2002) asserted that low-income parents living in poverty communicated less with their children, displayed more authoritarian attitudes and behaviors, and did not set clear expectations or provide adequate encouragement for their children to engage them in complex and reflective thinking.

Parents with middle-class professions that required university education, such as medicine, law, engineering, architecture, worked in professional and managerial positions in the middle or upper social class. They performed jobs and tasks that required complex, deep, effective and creative thinking, self-management and management of others. High-prestige jobs could improve individuals' initiative, critical thinking and decision-making skills (Kohn, 1995; Parcel & Menaghan, 1994). Middle or upper SES parents were more likely to use interviewing, discussing, inductive reasoning and drawing conclusions, as well as strategies for enhancing autonomy. Parents tried to develop skills that they believed would help their children better in their future occupational and professional lives and wanted them to receive education towards this direction (Lareau, 2011; Kohn, 1995; Parcel & Menaghan, 1994). General cognitive ability in childhood was considered important

because it was related to individuals' later educational attainment, career attainment, health and well-being throughout their lifetime (Deary, Strand, Smith, & Fernandes 2007; Vanhanen, 2011). The present study seeks to understand how social class backgrounds contribute to differences or gaps in cognitive test scores *between students* from *families* in *lower social class* compared to *those* from *families* in the *middle* and *upper* classes. The study attempts to demonstrate the relationship of inequalities in the possession of economic, human, cultural and social resources and capital among social classes in society with the cognitive performance gaps observed between children from families in lower social class and their peers from families in middle or upper social classes as well as the mechanisms underlying this relationship. In comparison to the middle or upper social class, it is indicated that the lower scores of the children of lower-social class parents, who have lower economic, human, cultural and social resources and capital, form a base or mechanism that reproduces cognitive inequalities in the society.

1.1 The Study Objective

The objective of the present study is to address and explore the impact of social class background on cognitive development and cognitive abilities of children in the order of relative social class inequalities. The study attempts to explain how social class and socioeconomic status impact children's cognitive abilities by means of opportunities and advantages or limitations and disadvantages. The study focuses on introducing family stress theory and family investment model as a theoretical framework in order to explain the influence of social class background on cognitive abilities of children. The current study attempts to demonstrate the impact of social class background on cognitive abilities of children through cross-sectional and longitudinal studies based on family stress theory and family investment model.

2. Method

The current study establishes the relationship between family income, *parents' educational* attainment and parental occupation as indicators of social class and socioeconomic status, and children's cognitive development and cognitive abilities. It also discusses how social class and socioeconomic status impact cognitive development. The study concentrates on the adverse impact of poverty, low income and economic hardship on the lives of families as disadvantages of lower social class and socioeconomic status, as well as parental stress triggered by economic pressure. The author attempts to show how risk factors such as poverty, low income and economic hardship as well as the depression and stress they cause can damage socialization and educational practices that play a part in cognitive development, and also how these risk factors can reduce parents' capacity to treat their children in a responsible manner and provide them with cognitive encouragement and support.

The present study focuses on the advantages and opportunities resulting from middle and upper SES parents' relatively higher incomes, higher educational levels and more prestigious occupations compared to their lower SES peers. The study explores the role parental economic, human, cultural and social capital play in children's education and cognitive development. The study establishes parents' capacity to spend and invest both more time and more money in fostering, nurturing and enhancing their children's cognitive development and cognitive abilities as they achieve a certain purchasing power with their relatively higher income levels; as they gain more knowledge, consciousness and skills with their higher education attainment; and as they acquire more social environment, social network and communication skills with their more prestigious professions. The study emphasizes the resources and opportunities that parents from middle and upper social classes and socioeconomic status can purchase better services, activities and materials that can assist and contribute to their children's education, learning and their cognitive and academic development. While the impact of social class background on children's cognitive abilities generally emerges through the advantages and opportunities offered by parents in middle and upper social classes, disadvantages and limitations in lower social classes may play an adverse role in the development of children's cognitive abilities. The present study attempts to describe the impact of social class background on children's cognitive abilities within a theoretical framework based on family stress theory and family investment model. Disadvantages and limitations or advantages and opportunities offered by social class are addressed on the basis of family stress theory and family investment model and are displayed through cross-sectional and longitudinal study data related to these two theories. The author has utilized cross-sectional and longitudinal study data to demonstrate the impact of social class background on children's cognitive abilities.

3. Explaining the Influence of Social Class Background Based on Family Stress Theory and Family Investment Model

Theorists and researchers have explained the impact of social class background on cognitive development and cognitive abilities in term of family investment model and family stress theory. The family investment model

asserted that income and financial resources played an important and meaningful role in enabling parents to purchase certain services, activities, materials, and goods that affect cognitive development and cognitive abilities of children. When family income and financial resources increased, parents were better able to spend and invest more in their children's education and cognitive development as they could purchase better services, activities, materials, and goods that could assist and contribute to their children's learning, education, and cognitive abilities. Family income was associated with not only sufficient nourishment and nutrition expenses, but also investments in education of children (Loopstra & Tarasuk, 2013).

While poverty, economic hardships and disadvantages could exert pressure on the mental health of parents, they had an adverse influence on parental investments fostering, supporting and enhancing the cognitive promotion and academic achievement of their children (Bruckauf & Chzhen, 2016). By giving importance and priority to attitudes and behaviors such as sparing time and caring for their children, doing cognitive activities with them, and giving importance and priority to provision or purchase of experiences, activities, services, materials, products, which contribute and benefit to cognitive development and academic achievement, parents invested in their children and played a role in their cognitive development. Low-income or poor parents were obliged and forced to invest less in their children with their limited financial resources (Bruckauf & Chzhen, 2016). Children from low-income or poor families experiencing difficulties in supplying basic, urgent, vital, and essential requirements of children such as sufficient and regular nourishment, shelter, dressing and healthcare lived in worse conditions and were inadequately nourished. Furthermore, they had less toys encouraging and advancing cognitive skills and were fewer engaged in cognitive activities. When compared with middle and upper SES parents, lower-class parents who had relatively fewer income as economic capital; fewer knowledge and less skills with respect to human capital; and smaller social environment and less skills for communicating as social capital were less able to invest in promoting, nurturing and enhancing cognitive development in their children. Thus, lower-class parents spent less time for their children and ensured less social capital for them (Mayer, 1997).

Duncan et al. (2017) argued that parents from lower social classes might offer their children fewer opportunities to enhance their knowledge and skills in terms of human capital and to foster, nurture and increase their intellectual, cognitive, social and emotional development owing to their low income and restricted financial resources. Low income and poverty might limit the advantages and opportunities provided by parents to benefit from educational activities, services and materials that could contribute to cognitive and academic development. It was asserted that low-income and poor parents were unlikely to offer their children opportunities to benefit from activities, such as learning materials and educational toys and as well as private tuition and museum visits that required spending money. Theorists and researchers asserted that lower social class parents struggle with not only many difficulties stemming from insufficient and restricted resources but also anxiety and preoccupation associated with finding or shifting jobs had a detrimental and adverse influence on their mental health. Inadequate economic, social and cultural resources or opportunities were viewed as a continuous source of stress, tension and anxiety for low-income and poor family members, as they negatively affected and limited the achievement of set goals in the family (Daly & Kelly, 2015). Compared with parents who occupied with higher-income jobs, low-income parents more commonly experienced work instability and job loss. They particularly felt hurt, suffered and experienced more stress and tension when they mislaid their jobs and this had a negative influence on children's cognitive abilities and educational attainment. Parental unemployment or job loss reduced the probability of buying resources essential for physical, intellectual, cognitive, academic, emotional, social and behavioral development such as educational services, nutrition and shelter. These economic conditions have also reduced psychological resources of parents and their capacity and qualifications to socialize and educate their children (McLoyd, 1998; Elder, 1999).

Family stress theory asserts that poverty and economic hardship in lower social classes and SES families have an adverse effect on families' lives, can harm family function and effectiveness, and negatively impact socialization and education processes in families. The theory indicates that economic hardship and poverty lead to economic pressure in families and parental stress (Conger, 2005). Poverty and low income levels reduced parental socialization and educational practices, such as exhibiting sensitive behaviors towards children, and providing cognitive encouragement and support, which played a role in cognitive development and cognitive performance of their children (Duncan, Magnuson, & Votruba-Drzal, 2017; Guo & Harris, 2000; Yeung, Linver, & Brooks-Gunn, 2002). Depression, stress and tension experienced by parents due to the economic pressure stemming from poverty and economic hardship could increase the harsh practices and parental conflicts in the family socialization, education and child-rearing processes. Depression, stress and tension caused by economic pressure and limitations in families adversely affected and weakened parents' ability for well-being, and they

could potentially harm their children (Threlfall, Seay, & Kohl, 2013). When they get depressed, upset, furious and disappointed due to poverty and economic difficulties, parents may behave their children fewer lovingly and warmly during their socialization and education processes; are fewer interested and less occupied with their daily social and cognitive activities and treat them harshly and act inconsistently. With such negative attitudes and behaviors, parents may harm their children's education and socialization. Both parents' education level and their involvement in their children played a significant and important role in the cognitive, emotional, social and behavioral development of children and their general well-being. When the negative impacts stemming from poverty and economic difficulties threatened parents' socializing and educating processes and practices for children, the children positively and successfully developing was at risk (Conger et al. 2002). Risk factors as stressful life events, parental stress and depression might harm socialization and education processes and reduce parents' capacity to cognitively stimulate, nurture and enhance their children and to treat them sensitively, thus threatening the positive and successful development of children (Bradley & Whiteside-Mansell, 1997; Conger et al. 2002; McLoyd, 1990). Children born into poor or low-income families could meet with the risk of having negative consequences such as lower intellectual, cognitive and social skills, lower academic performance, and behavioral problems such as anti-social behavior, aggression etc. (Conger & Donnellan, 2007).

Based on the family investment theory and the family stress model, theorists and researchers have argued that there are social class differences in the involvement of parents from low, middle or upper social classes in the field of education and in socialization, education and child-rearing practices. They have also asserted that these social class differences regarding parents' involvement in their children and their socialization, education and child-rearing practices are an important element contributing to the continuous social inequalities that are transmitted from one generation to the next (Bourdieu & Passeron, 1977; Horvat, Weininger, & Lareau, 2003). Bourdieu (1997) defines the three basic forms of capital as (1) easily transmissible economic capital, (2) social capital that consists of social obligations or connections, and (3) cultural products that can emerge, embody and objectify through internalized and adopted values, attitudes and tendencies and that are officially sanctioned, institutionalizable cultural capital or cultural capabilities. Bourdieu (1997) asserts that economic capital is closely related to future educational and professional achievement and provides not only the opportunity to buy resources to spend for and invest in developing children's cultural capital, but also the opportunity to allocate time, and thus contributes to children's economic capital accumulation in the future. For parents, cultural capital related to the education system is (1) personal dispositions, attitudes and knowledge gained through experience, (2) links to education-associated with objects such as books, computers, academic credentials, and (3) links to educational institutions such as schools, universities and libraries (Grenfell & James, 1998; Robbins, 2000). It has been emphasized that the greater the individuals' cultural capital, the greater their advantage in attaining additional cultural capital that will profit family members. It has been stated that during the process of "habitus" formation, some individuals inherit the cultural capital that helps them become comparably more successful actors in the field of education (Grenfell & James, 1998). Inversely, it has been emphasized that individuals who have less cultural capital experience constraints and difficulties that lead to unequal access to institutional resources (Lareau, 2001). Just as economic capital provides the power to buy products, cultural capital for parents in terms of education of their children ensures the power to foster academic improvement of their children (Grenfell & James, 1998).

It can be difficult to differentiate cultural capital from habitus (Robbins, 2000) as it includes a collection of cultural dispositions (Brubaker, 2004, p. 41); nevertheless, habitus may be defined as a set of characteristics that belong to individuals. The harmony between the aspects and perspectives of the habitus of the families and the values and practices of the education system in which the families interact is deemed significant. Bourdieu utilizes the concepts of habitus and field to define this harmony. The concept of field indicates the formal and informal rules and norms that govern the certain social world of activity, such as family, school, higher education, the arts, politics and economics. The degree of harmony between habitus and field has been underlined as a key issue. Bourdieu emphasizes that social class or socioeconomic status affects the socialization, education and child-rearing practices in the family and that children enter the school environment after going through certain socialization, education and child-rearing processes (Bourdieu, 1984). Within the family, parents try to teach children certain skills and attitudes through socialization practices. Bourdieu argues that skills and attitudes are deeply entrenched, rooted and developed as the first habitus in children during socialization, education and rearing processes. He describes habitus as a learned set of preferences or dispositions by which an individual orients to the social world. For Bourdieu, it is a system of solid, durable, permanent and transmittable cognitive schemata or structure for perceiving, grasping and acting in a certain way (Bourdieu, 2002, p. 27). Habitus is conceived as one of the dispositions arising from social education, socialization, and past experiences (Lareau, 2001) and it is defined as a disposition to think in a particular way,

grasp experience in a particular way, and act in a particular way (Grenfell & James, 1998, p. 15). Habitus is established and rooted in the family with socialization, education and child-rearing and is conditioned by the individual's position within the social structure. Bourdieu describes habitus as "socialized subjectivity" or "subjectivity conditioned by structural circumstances" and asserts that it shapes people's characteristic features related to the sense of agency and possibility (Bourdieu, 2002).

Bourdieu argues that the socialization process at school is associated with children's skills and attitudes as the first habitus learned in the family before formal entry to school. The socialization in the schooling process is viewed as an additional development of skills and attitudes in children and the formation of a second habitus (Bourdieu, 1984). It is asserted that this early habitus acquired in the family impacts later practices and is their basis, or they are based on this early habitus attained in the family. It is underlined that the early habitus acquired in the socialization process is a structure concreted in the actor that is employed to perceive and classify social life. Furthermore, it contains skills and attitudes and generates actions of individuals (Bourdieu, 1990). Primary socialization experiences are indeed foundational, and although total change is unlikely as new experiences are 'perceived through categories already constructed by prior experiences' (Bourdieu & Wacquant, 1992, p. 133), habitus continues to be molded by new experiences. The primary habitus constitutes "the basis for the subsequent formation of any other habitus" (Bourdieu & Passeron, 1977, p. 45) and is constructed by parental literacy activities for children. Bourdieu also distinguishes primary habitus resulted from the primary socialization of children and secondary habitus resulted from secondary socialization of children. Bourdieu asserts that children enter the school environment with a certain primary habitus shaped by a previous child-rearing process in the family (Bourdieu, 1990). Thus, primary habitus serves as the foundation for further socializing at school or the developing a secondary habitus in children. The habitus as well as its construction and development indicates the presence of chronological versions of the habitus in the course of time. The first chronological version has an influence on the later versions of the habitus and so on: "The habitus acquired in the family is at the basis of the structuring of school experiences ...; the habitus transformed by the action of the school, itself diversified, is in turn at the basis of all subsequent experiences ... and so on, from restructuring to restructuring." (Bourdieu, 1992, p. 134). Hence, this socialization and education in school depends on what was learned prior to the entry of formal schooling and may be interpreted as a further developing the habitus in children (Bourdieu, 1990; Bourdieu & Passeron, 1977).

Social class or socioeconomic status influences the socialization, education and child-rearing processes within the family and thus molds the habitus. The type and level of parental involvement in the education of their children may vary according to social class or socioeconomic status (Bradley & Corwyn, 2002; Guryan, Hurst, & Kearney, 2008; Buckingham, Beaman, & Wheldall, 2014). Through processes of socialization, education, and child-rearing, parents teach and instill in their children deeply established and ingrained attitudes and skills that affect their life decades later. During the early years, higher SES children tend to develop a concept of habitus that aids them become more successful in school, and thus may have higher "academic achievements or scholastic profitability" (Bourdieu & Passeron, 1979, p. 17). It is asserted that attitudes towards reading are a crucial and important component of deeply ingrained attitudes and skills that are first taught and instilled in habitus and further developed in school (Lutz Klauda, 2009). Parents tend to more involved in literacy activities transmit the value of reading to their children (Baker, 2003). Higher SES parents tend to focus more on teaching and instilling certain attitudes and shaping skills that are more compatible with the academic goals of the school, such as doing early literacy activities together prior to the start of primary school. Children of parents from medium and high SES families are able to experience more a successful passing or progression through primary school due to their earlier development. Their habitus tends to be better compatible with the school environment (Hanson, 1994). Bourdieu emphasizes that "support provided by the family takes on different forms in different milieus: the amount of explicit support (advice, explanations, etc.) perceived as such increases as social level increases (...), although it appears to decrease with a student's increased success" (Bourdieu, 1998, p. 21). On average, the reading attitudes of children of higher SES parents are more compatible with the academic objectives of the school, and the children of these parents tend to enjoy reading. Their habitus is more congruent and in line with the academic objectives of the school that focuses on reading (Bourdieu, 1990; Bourdieu & Passeron, 1977).

Assessing Bourdieu's treatment of the concept of cultural capital, Lareau and Weininger (2003) rather argue that cultural capital involves having intellectual and social skills such as cultural knowledge and vocabulary as well as cultural and social sufficiencies and competencies such as well knowing and familiarity with relevant institutional and eductional contexts, processes and expectations. Lareau emphasizes that parents and students in middle-social class are advantaged in terms of the greater harmony between and middle-class parents and

students' dispositional skills and institutionalized standards of evaluation of the school, which permits them to more successfully conduct relationships, interactions, and encounters with schools and teachers and impact positive academic consequences. Lareau asserts that middle-class parents can more display, and instill in their children the interactional attitudes and skills necessary for successful adaption to the academic and educational expectations of 'active, engaged, and assertive' parenting (Lareau & Weininger, 2003, p. 590). Socialization and education practices of middle-class parents tend to highlight reasoning and negotiating and to use talking as a form of discipline, whereas working-class parents were apt more to employ directives and physical discipline. Moreover, Lareau indicates that middle-class parents show a greater tendency to question and talk to institutional authorities such as teachers, doctors, compared to parents from working-class who tend to be more bashful and respectful, although they may also be distrustful in their approach (Lareau, 2011). These different attitudes, behaviours and interactional styles, in turn, tend to be transmited to their children. In addition, middle-class parents also can have greater institutional knowledge and problem-solving resources that enable them to facilitate educational trajectories of their children more effectively (Lareau & Cox, 2011). Lareau refers to the cultural logic of parenting in middle-class families and emphasizes that middle-class parents display a more interventionist approach, which she describes as 'concerted cultivation', to educate, socialize and develop their children. She states that middle-class parents are much more actively involved and engaged in providing their children with appropriate life skills that promote activities and experiences in life. Lareau argues that working-class parents do not attach much importance to extra-academic activities, and they display a more laissez-faire approach, which she terms the 'accomplishment of natural growth'. She notes that middle-class parents, on the other hand, intervene more in their children's socialization, education and rearing processes based on the belief in the necessity of actively fostering, nurturing and promoting their children's cognitive skills and talents. Middle-class parents seek to develop and enhance skills and talents of their children that are evident in later adolescence as they pass from high school to post-secondary education or the workforce. While working-class parents remained comparatively hand-off concerning educational paths of their children, middle-class parents are generally actively involved and engaged in strategic designing and planning educational careers of children (Lareau, 2011).

4. Studies and Findings Related to the Influence of Social Class Background on Cognitive Development of Children

Theorists and researchers defined cognitive ability as the mental capacity and ability to comprehend complex ideas, learn from experience, reason in various ways, overcome obstacles through thinking and reasoning, and effectively adapt to the natural and social environment (Neisser et al., 1995). Researchers expressed that cognitive ability tests were utilized for measuring cognitive capacity in individuals and they tried to reveal and validate the measures in terms of cognitive capacity differences (Deary, Strand, Smith, & Fernandes, 2007; Sternberg, Grigorenko, & Bundy 2001). As emphasized by researchers, it was consistently proven that there was a positive correlation between social class of parents and performance in cognitive ability tests of children. Compared with their disadvantaged peers from lower social class or SES families, more advantageous children from middle or higher social class or SES families generally scored better on cognitive ability tests (McCulloch & Joshi, 2001; Feinstein, 2003; Goodman & Gregg, 2010; Schoon, Jones, Cheng, & Maughan, 2011; Dickerson & Popli, 2016; Sullivan, Ketende, & Joshi, 2013). A cohort study based on 11-year-old children born in 1921 suggested that children's performance differences and gaps in cognitive ability tests emerged due to the opportunities and advantages or limitations and disadvantages offered by the social class or SES they were born and lived in (Shenkin, Starr, Pattie, Rush, Whalley, & Deary, 2001). In another cohort study of children born between 1950 and 1956, it was found that fathers' social class significantly predicted the scores of children at 7, 9, and 11 years of age on cognitive ability tests (Lawlor et al., 2005).

Various longitudinal studies addressed and examined the impact of social class background on cognitive development of children. Researchers used data from large-scale longitudinal studies such as the National Child Development Study (1958), the British Cohort Study (1970) and the Millennium Cohort Study (2000) to explore the impact of social class background on cognitive development of children. While the National Child Development Study, a series of longitudinal studies that followed and examined children as they grew up, was conducted on children born in 1958, the British Cohort Study focused on children born in 1970. The relatively more recent Millennium Cohort Study was conducted on children born in 2000 (Elliott & Shepherd, 2006). Researchers emphasized that these large-scale, long-term longitudinal studies offered invaluable sociological data sources. A more recent series of studies, the Millennium Cohort Study, displayed that children born and living in lower social classes throughout childhood performed worse on cognitive ability tests compared to their peers from middle or higher social class (Blanden & Machin, 2010; Schoon, Jones, Cheng, & Maughan, 2011;

Sullivan, Ketende, & Joshi, 2013). Prior studies on trends in social mobility compared these large-scale longitudinal studies in order to explore the influence of social class background on children's cognitive development (Blanden, Gregg, & Machin, 2005; Goldthorpe & Jackson, 2007; Tampubolon & Savage, 2012). Studies examined changes in educational inequalities (Breen, Luijkx, Muller, & Pollack, 2010; Shavit, Yaisch, & Bar-Haim, 2007) and changes in disparities in attaining advantageous occupational positions among original families (Erikson & Goldthorpe, 1992; Breen, 2004).

It was highlighted that two large-scale, nationally representative long-term longitudinal studies, namely the 1958 National Child Development Study and the 1970 British Cohort Study provided good datasets for examining the impact of social class background on children's cognitive abilities and demonstrating social class inequalities in childhood cognitive ability test scores. The National Child Development Study followed the lives of children born in England, Scotland and Wales in the week 3-9 March, 1958 (Power & Elliott, 2006) and recorded the subjects' childhood data at birth, 7 and 11 years of age. The British Cohort Study, on the other hand, followed infants born in England, Scotland and Wales in the week 5-11 April 1970, tracked them through their lives (Elliott & Shepherd, 2006) and obtained childhood data in surveys conducted at birth, 5 years and 10 years of age. It was asserted that the Millennium Cohort Study (2000), a relatively recent and nationally representative family background survey, differed significantly in overall design, choice strategy, and content compared to the other two longitudinal surveys (Connelly & Platt, 2014). The 5th sweep of the Millennium Cohort Study on 11-year-olds only used a subtest of the British Ability Scales, namely the Verbal Similarities Test. Researchers noted that this test was not enough to make an appropriate comparison between the tests in the National Child Development Study and the British Cohort Study, and to calculate the general aptitude test scores. The 5th sweep of the Millennium Cohort Study on 11-year-olds also included two cognitive tests obtained from the Cambridge Neuropsychological Test Automated Battery (CANTAB). However, it was highlighted that these tests were very different in nature from the tests applied in the National Child Development Study and the British Cohort Study (Atkinson, 2015). Drawing data from the 1958 National Child Development Study, the 1970 British Cohort Study and the 2000 Millennium Cohort Study, researchers conducted a comparative analysis on the impacts of low birth weight in children. They operationalized a cognitive measure by employing only the verbal test scores within the National Child Development Study and the British Cohort Study, and then compared them with the single Verbal Similarities Test in the Millennium Cohort Study (Goisis, Ozcan, & Myrskyla, 2017). Psychometricians warned that isolated subtests should not be used to assess general cognitive ability (McDermott, Fantuzzo & Glutting, 1990). It was indicated that comparing cognitive tests and determining test points over time involved challenging difficulties (Must, te Nijenhuis, Must, & Van Vianen, 2009). Flynn (2012) pointed out that performances demonstrated on different cognitive ability subtests developed at different rates.

A general ability test was administered to 11-year-old children selected as sample group for the National Child Development Study. This general ability test comprised 40 verbal and 40 non-verbal items (Shepherd, 2012). The general ability test was administered to the children selected as the sample group for the British Cohort Study at age 10. This test consisted of four sub-scales from the British Ability Scales: word definitions, word similarities, remembering digits and matrices (Parsons, 2014). Researchers used the total test scores to calculate the general cognitive ability test score. This method was also utilized by various previous studies exploring the role of cognitive ability in educational and occupational attainment (Breen & Goldthorpe, 2001). As an alternative, principal components analysis (PCA) could be employed to determine the association between cognitive ability subtests in order to assess or predict general cognitive ability. This method was applied in previous studies using ability test scores such as the National Child Development Study, British Cohort Study (Schoon, 2010). Researchers calculated points employing two alternative methods and found that total points and principal components analysis (PCA) scores were nearly perfectly correlated. Total points and the PCA points were $r = 0.999$, $p < 0.001$ for the National Child Development Study; and $r = 0.997$, $p < 0.001$ for the British Cohort Study. For this reason, researchers concluded that both approaches were suitable for this analysis, and used the total score measure as they were directly comparable with previous studies conducted in this field.

Table 1. Descriptive statistics for general ability test scores in the National Child Development Study and the British Cohort Study

Study	Age at test	Mean	Standard Deviation	Min.	Max.	n
National Child Development Study 1958	11	100.87	14.71	60.10	133.50	9.617
British Cohort Study 1970	10	100.84	14.77	45.38	151.19	8.099

(Connelly & Gayle, 2019, p. 94).

Researchers emphasized that the general ability test applied to children in the National Child Development Study was comparable to the test employed in the British Cohort Study (Shepherd, 2012). It was expressed that the general cognitive ability measures utilized in both longitudinal studies were appropriate for exploring the impacts of social background on the cognitive development of children. The research analyzed the influence of social background on cognitive abilities of children with specific focus on the relative social class inequalities in a sample group in the National Child Development Survey and the British Cohort Study. A cross-cohort measure using arithmetic standardization, which was also used in previous research, was created so as to operationalize the analysis (Schoon, 2010). Summary statistics for cognitive ability tests are presented in Table 1.

4.1 Parental Social Class

Researchers focused on parental social class and children's scores on general cognitive ability tests in order to examine the influence of social class background on cognitive development. In sociological studies, researchers widely utilized social class schemes, which indicated an individual's place in the stratification system as lower, middle, upper, or according to the criteria of income, education and occupational status in the social class hierarchy. Social class schemes included a social class structure as well as positions and socio-economic measures that rewarded individuals differently as material and non-material (Crompton, 2008). Researchers used occupation-based class schemes in their studies to determine the impact of social class or social class background on cognitive abilities of children. Occupation was regarded as one of the basic elements of social class or socioeconomic status, based on socio-economic criteria. It was asserted that although occupation-based class schemes provided a distinct and significant indicator of parents' social status (Connelly, Gayle, & Lambert, 2016), they were not sufficient to operationalize, assess and test social class or socio-economic status when income data were not available. Individuals can reach a certain level of income when they make use of their professional knowledge and skills depending on the education, status and prestige required by their profession. With the earnings they obtained through their professions, individuals were able to fall within the lower, middle and upper positions on the basis of income criteria in the stratification system and social class hierarchy in the society. Sociologists asserted that occupations did not reflect social class or socioeconomic status alone as a socio-economic measure regardless of the fact that they predicted education and income level of individuals. Education, occupation and income were the three main indicators used to determine social class or socioeconomic status, and parental social class or socio-economic status was measured and evaluated according to these three main indicators. Parental education, parental occupation, and household income were mostly associated with one another and considered as the three main indicators of parents' social class or socioeconomic status. Occupation-based class schemes were regarded as sociological measures designed to help us to better comprehend income inequalities and social relationships caused by different stages of earnings obtained by individuals working in different professional occupations in society (Rose & Pevalin, 2003). Goldhorpe's class scheme was used both in official statistics and sociological analysis, and in previous research exploring the influence of social class background on cognitive abilities of children. Researchers coded both the job titles of fathers of 11-year-olds in the National Child Development Study and job titles of mothers and fathers of 10-year-olds in the British Cohort Study into Goldhorpe's class chart (Gregg, 2012). These detailed occupational codes were regarded as an invaluable resource and were employed in cohorts participating in both the National Child Development Study and the British Cohort Study in order to determine socioeconomic classification.

Table 2. Descriptive statistics of gender and parental education variables in the National Child Development Study and the British Cohort Study

Variable		National Child Development Study	British Cohort Study
Gender	Male	51%	51%
	Female	49%	49%
Highest parental education	Compulsory school only	72%	51%
	Compulsory school + 1-3 years	22%	34%
	Compulsory school + 4 -5 years	1%	6%
	Compulsory school + 6 or over 6 years	4%	8%
Fathers' socioeconomic class (SEC) on the basis of Goldthorpe's class scheme	1.1 Large employers and higher managerial	3%	5%
	1.2 Higher professional	5%	6%
	2.1 Lower managerial and professional	12%	15%
	3. Intermediate	9%	9%
	4. Small employers and own account workers	12%	13%
	5. Lower supervisory and technical	17%	18%
	6. Semi-routine occupations	18%	15%
	7. Routine occupations	24%	20%
n		9.617	8.099

(Connelly & Gayle, 2019, p. 95).

Studies established gender differences in cognitive ability test points during childhood (Sullivan et al. 2013). Researchers determined and categorized years of education completed by mothers and fathers after the compulsory school leaving age in order to assess the place of parents in the social class hierarchy (Cheung & Egerton, 2007). Parental education levels were shown using the highest education level of parents in original families taking part in both the National Child Development Study and the British Cohort Study (see Table 2). Parental education was measured as a main indicator and dimension of families' socio-economic status and was included as a control variable.

Table 3. Mean and standard deviation of children's ability test points according by fathers' social class on the basis of Goldthorpe's class scheme

Variable		Children's cognitive ability test points in National Child Development Study		Children's cognitive ability test points in British Cohort Study	
		Mean	Standart Deviation	Mean	Standart Deviation
Fathers's socioeconomic class (SEC) on the basis of Goldthorpe's class scheme	1.1 Large employers and higher managerial	109	13	106	14
	1.2 Higher professional	110	12	110	13
	2. Lower managerial and professional	108	13	106	14
	3. Intermediate	105	14	105	13
	4. Small employers and own account workers	100	14	99	14
	5. Lower supervisory and technical	100	15	100	14
	6. Semi-routine occupations	99	14	98	14
	7. Routine occupations	96	14	95	14
n		9,617		8,099	

(Connelly & Gayle, 2019, p. 97).

The relationship between fathers's socioeconomic class (SEC) on the basis of Goldthorpe's class scheme and children's cognitive ability test points is presented in Table 3. At this point, very clear evidence of a social class impact was observed. On the average, children who had more occupationally advantaged fathers achieved higher cognitive ability test points in both the National Child Development Study and the British Cohort Study. In the upper social class of Goldhorpe's scheme SEC 1.1, children of the most advantaged fathers, such as large employers and senior managers (e..g. a chief executive officer), scored 109 points on the cognitive ability tests in the National Child Development Study and 106 points in the British Cohort Study, whereas children of least advantaged fathers in the lower social class category SEC 7, such as routine workers (e..g. a construction laborer), scored 96 on the cognitive ability tests in the National Child Development Study and 95 in the British Cohort Study. It was found that the average difference between the cognitive ability test points of children with the most advantaged fathers in the social upper class category SEC 1.1 and those of the least advantaged fathers in the lower social class category SEC 7 was 13 points in the National Child Development Study, and 11 points in the British Cohort Study. The greatest differences were detected between children of fathers in the upper social class category SEC 1.2, such as university professors, and children of fathers in the lower class category SEC 7, such as construction laborers. Children of fathers in the upper social class category SEC 1.2, such as university professors, scored on average 110 points on the cognitive ability tests in both the National Child Development Study and the British Cohort Study, whereas children of fathers in the lower social class category SEC 7, such as construction workers, scored on average 96 points on the cognitive ability tests in the National Child Development Study and 95 points in the British Cohort Study. The differences between the cognitive ability test points of children of fathers in the upper social class 1.2, such as university professors, and children of fathers in the lower class 7, such as construction laborers, were found to be on average 14 scores in the National Child Development Study and 15 points in the British Cohort Study, which meant roughly one standard deviation for both studies.

Children of parents who spent a longer time in education on average obtained higher cognitive ability test points. At this point, it was observed that social class had a large and significant effect on the scores obtained on cognitive ability tests. In particular, parental education as an indicator of social class and gender as a demographic indicator had a significant and observable impact on the cognitive ability test scores of children. Children from the lower social class of Goldthorpe' scheme SEC 7, such as the daughter of a construction laborer, scored on average 96 scores on the cognitive ability tests in the National Child Development Study and 95 points in the British Cohort Study, whereas children from social class category SEC 3, such as the daughter of a police officer, scored 105 points in both the National Child Development Study and the British Cohort Study. When compared with children from social class category SEC 3 in the middle of the class hierarchy, such as the

daughters of police officers, children from the low social class category SEC 7, such as the daughters of routine construction laborers, scored 9 points lower than their peers in the National Child Development Study and 10 points lower in the British Cohort Study. In both studies, cognitive ability test scores of children from higher social class category SEC 1,2, such as the daughters of university faculty members, was on average 5 points higher compared to their peers in SEC 3 in the middle of the class hierarchy. Research determined that social class background or socioeconomic status had an impact on children's scores on cognitive ability tests. The inequalities and gaps observed in cognitive performance or cognitive ability between children from families in lower social classes and those from middle and upper social classes were also expressed in previous studies (Shenkin, Starr, Pattie, Rush, Whalley, & Deary, 2001; Lawlor et al., 2005; Sullivan, Ketende, & Joshi, 2013).

Drawing data from four sweeps of the Millennium Cohort Survey conducted at the beginning of the 21st century on 19,000 children born in 2000, Dickerson and Popli (2016) asserted that poverty had a clear and observable influence on children's cognitive development in their early years. They focused on the impact of living in poverty on children and they followed and examined children's cognitive development assessed through a series of standard tests by age 7. Researchers discovered that children born into and lived in poverty obtained significantly lower test points at ages 3, 5 and 7 years, and that persistently living in poverty had an increasing negative influence on their cognitive development. Compared with children who never lived in poverty, children living in permanent poverty in their first years were found to have almost 20 percentile ranks lower scores on cognitive tests at age 7 years, even after controlling for a large number of background characteristics and parental investments (Dickerson & Popli, 2016, p. 553). Researchers established the average scores they obtained on the British Ability Scales vocabulary scale, which assessed the verbal ability of young children according to the parents' socioeconomic status. When poor children were compared with their peers from wealthier backgrounds by age 3, researchers discovered that there were great differences in children's cognitive outcomes, and that this cognitive gap was broadened, particularly by age 5 years, because children from the wealthiest backgrounds continued to improve their performance compared to other children. Young children from the poorest families scored on average approximately 34 points for cognitive outcomes at the age of 3 years, whereas their peers from the wealthiest families scored an average of 57 points. While the cognitive gap observed between rich and poor children was 23 points at age 3, it increased by approximately 27% by the time children arrived the age of 5 years (Dearden, Sibieta, & Sylva, 2010, p. 19).

Children from poor families experienced large differences in early childhood caring environments to which they were exposed before birth and from the moment they were born. Children from poor backgrounds and those from wealthy backgrounds differed as regards variables such as maternal education, family health and well-being, parent-child interaction, childcare, home learning environment as well as styles and rules of parental socialization, education and child-rearing. The proportion of mothers who had no formal educational qualifications was only about 6% in the middle quintile and less than 1% in the wealthiest quintile; whereas, it increased in the poorest families and soared to more than 33% (Dearden et al., 2010, p. 20). When compared in terms of family health and wellbeing, it was found that children from poor families typically had lower birth weights than children from wealthier families. Although the average gap was just a few hundred grams and seemed insignificant, even such differences in birth weight were closely related to many important outcomes in later life. While mothers were significantly more likely to sorrow from demoralization and depression when their baby became 9 months old, infants from poor social class backgrounds were far less likely to have been breastfed; 50% of the poorest infants, compared to almost 90% of the wealthiest infants, to be exact (Dearden et al., 2010, p. 20). Children from poor families generally exhibited more behavioral problems until the age of 3. They were likely to be spiteful towards other children. Observations on maternal attitudes and behaviors such as mother-child closeness, interaction and automatic praise of children revealed that children from poor families obtained significantly lower scores. When assessed with respect to childcare, it was seen that differences in participating in formal childcare among children from different social class or socioeconomic status backgrounds were less explicit compared to the other differences observed in the early childhood caring environment. Nevertheless, poorer children were slightly less likely to have participated in a play group by the age of 5 although they were more likely to have attended a nursery school. On the other hand, it was indicated that poorer children were significantly less likely to have a rich learning environment at home. Reading to a child every day in poor families was about half as much as in wealthy families. While reading to children in the richest families was 79% on a daily basis, it dropped to 42% in poorer families (Dearden et al., 2010, p. 20). The assessment of parental socialization, education, and child-rearing styles and rules revealed that children from poorer social class or socioeconomic status backgrounds typically experienced less regularity in their routines than children from wealthier social class or socioeconomic status backgrounds. It was asserted that children were less likely to have regular bedtimes or regular mealtimes at the age of 3.

Theorists and researchers discussed the impact and role of differences in the early caring environment during childhood to explain why children from poorer backgrounds demonstrated lower cognitive development by the age of 3 and 5 compared to children from wealthier backgrounds. Through some channels, socioeconomic status brought about lower cognitive outcomes in the poorest children, revealing a 23% score gap in cognitive test scores at age 3 among children from the poorest and wealthiest families. Differences in the learning environment at home in early childhood played the biggest role in cognitive development of children. Differences in the early caring environment during childhood could explain nearly 25% of the cognitive gap between children from the poorest and richest families at the age of 3 (Dearden et al., 2010, p. 22). Differences in parental education and social class or socioeconomic status background factors significantly affected the cognitive outcomes of children from affluence and poor families at the age of 3 years. When 'prior ability' at age 3, which was considered as an explanatory variable, was included, analysis revealed similar findings for cognitive outcomes at the age of 5. Researchers tried to comprehend the expanding of the cognitive gap between the poorest children and their peers from wealthier social class or socioeconomic status backgrounds between the ages of 3 and 5. Nearly half of the cognitive gap at age 5 may be elucidated by prior ability and it was discovered that cognitive consequences between children at ages 3 and 5 persistently remained unchanged. Children who were already advance as regards cognitive development at the age of 3, typically continued to be advance by the age of 5. Differences in the home learning environment at the age of 3 played a greater role in the widening of the gap between the ages of 3 and 5. Consequently, it was suggested that policies designed to narrow the cognitive gap between affluence and poor children at the age of 5 would be more efficient when they concentrate their attention on the learning environment home at ensured to children at the age of 3 years, rather than age 5 (Dearden et al., 2010).

Drawing data from the 1970 British Cohort Study, which is a longitudinal research, Feinstein (2003) discovered that parental socioeconomic status had a significant and long-term impact on cognitive development and educational attainment of children. He claimed that children from low socioeconomic status families were less likely to obtain high scores on cognitive tests during their early childhood years, and even if they initially displayed good and positive signals of cognitive development, they soon lost that advantage. A comparison between the cognitive abilities of children as young as 22 months born in 1970 in low social class families and the cognitive abilities of their peers in middle or upper SES families revealed the influence of social class background on cognitive abilities and socio-economic inequalities observed in cognitive abilities. The research also found similar inequalities when children were evaluated at 42 months, 5 years and 10 years. Children from middle and high socioeconomic status families displayed upward mobility even if their educational attainment was low in the beginning. Social class background played a significant role in influencing children's mobility within the distribution of cognitive abilities at different ages. Children from families with the lowest socioeconomic status, who were in the bottom quartile of the cognitive ability distribution at 22 months of age, still remained in the bottom quartile of the cognitive ability distribution when they reached the age of 10. Children from higher socioeconomic status families displayed substantially greater upward mobility and were more likely to be in the top quartile of the cognitive ability distribution at age 10 rather than in the bottom quartile, even when they were in the bottom quartile at 22 months of age (Feinstein, 2003, p. 89).

Goodman and Gregg (2010) conducted a research project on parents who were born in 1970 and participated in the 1970 British Cohort Study as samples and their children who were about 6 years old in the 2004 follow-up. In the report they published, the researchers found it noteworthy that children from poor families obtained the lowest scores on cognitive ability tests. Researchers also determined that the connection between children's growing up in poverty and getting low scores on cognitive ability tests had very long roots, and that poverty persisted in these families across generations. They expanded their analysis back in time to demonstrate the importance of the conditions of the parents while they were flourishing in elucidating these cognitive gaps. In order to understand the characteristics and qualities passed on across generations, attitudes and behaviors among children, parents and grandparents in socializing, educating and rearing children across generations as well as their similarities were addressed and explored. At this point, a very strong correlation was discovered between the cognitive development of children and that of parents during their own childhood. Rather than analyzing genetic components complexly interacting with environmental factors in establishing this link, it was clearly seen that the link between the cognitive development of parents and children remained very strong, even after considering a great deal of environmental factors, which indicated a genetic constituent. Researchers also discovered evidence for a great number of other characteristics and qualities that were passed or conveyed from parents to children, and which played an important role in expounding the cycle between poverty and poor cognitive consequences. It was asserted that lower cognitive outcomes of children from poor families often stemmed from or were attributable to their parents. Researchers also pointed to strong intergenerational connections in some health and wellbeing measures, such as breastfeeding, maternal depression, and social and

emotional wellbeing of the child. Many educational attitudes and behaviors such as children's thinking that good marks at school were crucial and parents' thinking that university was likely, as well as the learning and reading environment at home such as parents' reading stories to preschoolers every day, mediated the strong cognitive connection between children's cognitive development and parents' own childhood cognitive development.

Goodman and Gregg emphasized the significance of parents' early childhood influences to explain the cognitive gap observed between children from wealthy and poor backgrounds today and indicated the strong connection between the significance of cognitive skills and educational attitudes and aspirations transmitted and conveyed across generations. Researchers conducted analyses to understand the importance of the qualities and circumstances of parents obtained during the long period before their children were born in elucidating cognitive gaps. They discovered that children at all ages who grew up in poverty obtained lower cognitive outcomes compared to their peers who grew up in wealthier families, and that there was a gap of 14.1% in the cognitive test points of children from the wealthiest and poorest socioeconomic status families. This analysis illustrated the direct impact of circumstances associated with parents' own childhood and revealed that the direct impact of the parents' childhood explained about 40% of the gap in cognitive test points between children living and growing up in wealthy and poor families (Goodman & Gregg, 2010, pp. 47-48). The research established that parents' cognitive ability affected the gap in cognitive test scores between children who grew up in wealthy and poor families and that approximately 17% of this gap was explained by parents' cognitive ability at the age of 5 and 10. The contribution of the cognitive ability of the parents continued even after considering a great number of channels that could operationalize cognitive ability, including the later educational attainment of parents, socioeconomic status in adulthood, attitudes towards education, etc. (Goodman & Gregg, 2010, p. 48). The relationship between the cognitive ability of parents and the cognitive gap observed between 5 and 10-year-old children who grew up in wealthy and poor families displayed the intergenerational cycle of poverty and low attainment. Compared to parents from wealthier backgrounds, parents who were born and grew up in poverty themselves performed poorly on cognitive tests as children, and once again this pattern was emerged in the next generation. Then again, 9% of the gap in cognitive test scores between children who grew in wealthy and poor families was explained by observable direct effects of parents' and grandparents' attitudes towards education while the parents were children (Goodman & Gregg, 2010, p. 48). Here, the expectations of grandparents played an important role, especially with respect to the parents' possibility of staying on at school after the age of 16. It was observed that the attitudes and behaviors of parents and grandparents towards education when the parents were children were indirectly associated with the cognitive gap, either by influencing parents' later educational consequences or educational attitudes and aspirations in the next generation. It was pointed out that differences in educational attitudes and aspirations, the learning environment at home, risky and positive behaviors of young people, and their social skills were important circumstances for explaining the gap in cognitive points observed between children from wealthy social class or socioeconomic status backgrounds and poor social class or socioeconomic status backgrounds in the current generation and it was found that these circumstances explained 44% of this gap (Goodman & Gregg, 2010, p. 49). Especially important factors used to explain the gap in cognitive scores included parents' assessment of the probability of the child's attending university, whether the child wanted to stay in education beyond the age of 16, and whether the child read regularly for pleasure, and whether the child smoked. On the whole, attitudes and behaviors in the previous generation explained 40% of the gap in cognitive test points between children from wealthy social class or socioeconomic status backgrounds and poor social class or socioeconomic status backgrounds (Goodman & Gregg, 2010, p. 49). It was indicated that attitudes and behaviors in the previous generation were important factors contributing to the tendency of children who grew up in wealthy families to obtain higher scores on cognitive tests compared to children who grew up in poor families in the current generation. Intergenerational influences played a significant role in maintaining the cycle of poverty and low attainments. In their analysis of the 1970 British Cohort Study, Goodman and Gregg emphasized the probability of a significant transmission of genetic capabilities from one generation to the next. They also established that 20% of the cognitive gap between children from the wealthiest and poorest families was explained by a direct connection between cognitive abilities of parents and asserted that the environmental factors observed in the research did not mediate this connection (Goodman & Gregg, 2010, p. 51).

Researchers tracked the 1970 British Cohort Study cohort members based on information on children from a selected group of parents in 2004, handled differences between siblings within the same family and examined factors influencing cognitive development. They particularly explored whether or not siblings within the same family, who were exposed to different home environments or had different attitudes and behaviours, showed differences in their test points. Siblings who attended a nursery and a private school had a tendency to obtain higher cognitive test points compared to siblings who did not attend a nursery or a private school. Siblings whose parents presumed that they were highly or fairly likely to go to university had a tendency to obtain higher test

scores compared to siblings whose parents did not believe they would go to university. Siblings who read for pleasure tended to have higher cognitive test points compared to those who did not do so. In the same manner, siblings with good social skills had a tendency to obtain higher cognitive test scores compared to siblings without good social skills. Nevertheless, siblings who had tried smoking did not experience negative results such as obtaining lower cognitive test scores compared to those who had not (Goodman & Gregg, 2010).

Previous studies unveiled findings that supported the family stress theory and the family investment model. In their research on a nationally representative sample of 753 preschool children between ages 3 and 5 who were from very different and diverse families with regard to socioeconomic status, Yeung et al. (2002) determined that lower income or poverty was associated with lower letter-word points in children. When parents experienced depression and stress resulting from poverty and economic hardship, they were fewer involved in activities that benefited and contributed to their cognitive development, such as having productive, substantial and effective conversation with their children and engaging them with reading. In a study they conducted on a nationally representative sample of 21,255 kindergarten children, Gershoff, Aber, Raver, and Lennon (2007) discovered that poverty and economic hardship not only increased parental stress but also decreased parents' investment in their child's education and practices related to positive socialization and education. As the family income enhanced, so did parental investments and resources contributing to cognitive, intellectual and academic skills in children. Another previous study addressed the relationships between family income and maternal depression, distress and stress, and also explored connections between parent-child attachment and self-regulating in the preschool period and cognitive consequences in first grade during socialization and child rearing processes. Researchers established that family income most significantly predicted children's cognitive development through its direct impact on socialization, education, and child-rearing processes (Nievar, Moske, Johnson, & Chen, 2014). Another research highlighted that family income and poverty were related to family structure, psychological factors of parents and parents' capacity and quality to socializing and educating for children. It was asserted that these factors mediated the association between family income and cognitive or intellectual skills of children (Mayer, 1977).

In their study, Grant et al. (2006) emphasized that relationship processes within the family mediated the association between the income level of parents and cognitive development of children. Oxford and Lee (2011) asserted that negative emotions such as depression, stress, and distress stemming from low income and poverty decreased parental responsiveness and that this process reduced parents' capacity to provide a family environment fostering, nurturing and enhancing cognitive development such as parents initiating teaching and learning activities for their children at home. In another previous study, it was asserted that parents who were depressed, distressed, stressed and disappointed for living in poor conditions displayed less concern, less verbal communication and less interaction with their children, and behaved in a less sensitive, less affectionate less encouraging manner towards them. Children of parents demonstrating such behaviours obtained lower scores in cognitive ability tests during early childhood and had difficulty to concentrate and focus on their attention in order to perform complex tasks in middle childhood (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). Another previous study determined that children living in poverty were more likely to score worse behavioural, cognitive, intellectual and health consequences compared to their wealthier peers (Berger, Paxson, & Waldfogel, 2009).

Theorists and researchers underlined that when parents in low socioeconomic status who had lower education, less prestigious professions and lower incomes behaved harshly and negatively towards children especially during socialization process, children and adolescents could meet with risk having undesirable and negative outcomes such as lower cognitive abilities and problem behaviours (Bradley & Corwyn, 2002). In a similar manner, Şirin (2005) emphasized that low income levels and poverty in families played a negative and detrimental role in cognitive development of children and had a strong association with low intelligence points, low academic achievement and low educational attainment in children and adolescents. In another previous study, Burchinal et al. (2008) discovered the existence of an adverse association between poverty and reading and math achievement of children. They stated that when mothers communicated with children, could read to them and could engage them in teaching and learning activities at home, they could play a contributing role in cognitive development of children. Cooper and Stewart (2017) revealed that socialization, parenting and child-rearing styles mediated, indirectly affected and explained the negative relationship between poverty and cognitive and behavioral consequences of children. A research conducted on the impact of poverty on 5-year-old children determined various factors such as promoting of reading and learning; parent-child associations, interrelations and communication; family structure; and negative discipline. Researchers indicated that children from low-income poor families were less likely to be exposed to positive and appropriate socialization practices and processes compared to their non-poor peers from medium and high SES families. Socialization, education

and child-rearing styles elucidated 40-50% of the association between poverty and cognitive and academic consequences of children (Holmes & Kiernan, 2013).

In her research, Votruba-Drzal (2003) discovered that compared with mothers in middle and upper socioeconomic status, mothers in low-income and poorer socioeconomic status endeavoured less to teach them reading as well as letters, numbers, and shapes for their children. Reardon (2013) emphasized that the gap observed in cognitive development and academic achievement between children from low social class or socioeconomic status and their peers from middle and upper social class or socioeconomic status particularly became clear and observable at school entry. Duncan et al. (2017) emphasized that compared to their peers from middle and upper SES families, children from poor and low SES families exhibited lower performance and receieved poorer scores on cognitive tests, could more complain about physical and mental conditions and could meet with a greater risk for academic failure and early school leaving. Another study followed the same group of children as they grew up and revealed that children from families in wealthier socioeconomic status tended to perform better in cognitive tests from as early as the age of 2 or 3 years (Waldfogel, 2013). Low income and poverty played an important and significant role for children under 5 years of age and affected negatively and detrimentally their cognitive development and preparing for school (Anand & Lea, 2011; Burney & Beilke, 2008). Theorists and researchers highlighted that it was necessary to take into account and consider sociological contexts by moving beyond the standard disciplinary boundaries of psychology for a more comprehensive and thorough understanding of the inequalities observed in the cognitive development of children. Despite the fact that there are a great number of studies that have explored trends in children's and adolescents' educational test points and inequalities in formal educational outcomes, just a few studies have addressed the influence of social class background on childhood cognitive test scores or the changeable impact of class background on cognitive test scores of children in lower, middle, or upper social classes so far. Researchers tried to explain the mechanisms underlying the relationship between social class background and differences and gaps in childhood cognitive test scores. Furthermore, the important and significant role of social class background on cognitive test points and educational consequences of children and adolescents were discussed (Bradbury, Corak, Waldfogel, & Washbrook, 2015; Erikson, Goldthorpe, Jackson, Yaish, & Cox, 2005).

5. Discussion on the Impact of Social Class Background on General Cognitive Ability

The clear and observable impact of parental education as an indicator of social class, and gender as a demographic indicator on the cognitive abilities of children were shown in previous studies. Children of large employers and higher managers in the upper social class category SEC 1.1, and those in generally more occupationally advantaged SECs such as university professors and higher professionals in the upper social class category SEC 1.2 performed better on general cognitive ability tests. The negative trend of social class and the differences and inequalities between social classes indicated the fact that parents from lower socioeconomic status or social class both had less income as economic capital and less education, less knowledge, fewer human skills, cultural and social capital as well as lower-prestige and lower-status occupations. Owing to lower income, less education, less knowledge and fewer skills and less prestigious occupations, low SES parents were more able to feel and experience economic and social instability, tensions, pressures and difficulties under disadvantaged conditions (Layte, 2017; R. D. Conger, & K. J. Conger, 2002). Poverty, low income and stressful work resulted in negative parental emotions such as depression, stress, distress and disappointment and also diminished parents' capacity to ensure a warm, affectionate and supportive family environment for their children. Parents living in poverty or parents in low social class or socioeconomic status who had lower education, less prestigious professions and lower incomes could experience difficulties to motivate, encourage, and stimulate their children in order to strive and engage in learning opportunities offered by the school, and to acquire new experiences that would help develop and enhance cognitive abilities (McLoyd, 1998; Elder, 1999).

In Goldhorpe's class scheme, fathers from the 'managerial and professional' class were placed at the top of the social class hierarchy. Upper social class included fathers in lower supervisory, administrative and professional occupations in SEC 2 and those in higher professional occupations in SEC 1.2, as well as large employers in SEC 1.1 with higher managerial and administrative occupations. People with more complex occupations that involved higher knowledge and skills and required a longer university and post-university education, and relatively higher intelligence and ability could take place in the higher managerial and professional class. The managerial and professional class of individuals with higher professional occupations often enjoyed a high degree of employment security and had a regular fixed monthly salary (Goldthorpe & McKnight, 2006). In their work life, salaries of fathers from the 'managerial and professional' class increased and reached relatively higher levels through increasing pay scales. They were able to display upward vertical mobility and progress in lower, middle and upper hierarchical positions appropriate for their profession, business life and work area, realistically

up to the age of 50 and beyond. As fathers in the 'managerial and professional' class displayed upward mobility and progressed to relatively higher positions in their profession and business life, SES or social class indicators increased and their advantages strengthened, and they were more likely to gain greater income, professional status, prestige, prominence, influence, potential and power. Thanks to such advantages and their economic, human, cultural and social capital, fathers from the 'managerial and professional' class spent more time and money for their children and were able to invest in their cognitive, intellectual, academic and educational development. Fathers in managerial and professional classes were able to create advantageous conditions for their children by utilizing and spending their economic, human, cultural and social capital to foster, nurture and enhance their children' general cognitive abilities. They were also able to make important contributions to their children's cognitive, intellectual and academic development and provide economic, social and cultural opportunities (Connelly & Gayle, 2019).

In Goldhorpe's class scheme, occupations and workers based on routine, manual labor, and physical strength were placed in categories SEC 5, SEC 6 and SEC 7 at the bottom of the social class hierarchy. SEC 5 consisted of workers in lower supervisory and technical positions, while SEC 6 comprised skilled manual workers or semi-routine workers. SEC 7 at the bottom of the social class hierarchy included routine workers such as semi-skilled or unskilled workers based on manual labor. Among the participants in both the National Child Development Study and the British Cohort Study, children born into families with routine and manual labor occupations and placed in categories SEC 5, SEC 6 and SEC 7 at the bottom of the social class hierarchy received strikingly lower scores on cognitive ability tests compared to children from families with managerial and professional occupations in social class categories SEC 1.1, SEC 1.2 and SEC 2 at the top of the hierarchy. Skilled manual, semi-routine fathers in category SEC 6 and those working in manual semi-skilled or unskilled routine occupations in SEC 7 comprised the waged working class in lower-skilled occupations that were often of a routine nature. Theorists and researchers asserted that working-class fathers faced relatively high risks in their economic life, such as lower wages, job loss, finding a new job, and often long-term unemployment. Skilled manual, semi-routine workers in category SEC 6 and those working in manual semi-skilled or unskilled routine occupations in SEC 7 were often paid and rewarded on a weekly basis rather than on a fixed annual salary. The wages of the workers could change depending on the existence of conditions such as overtime, piece-rate pay or shift premiums and bonuses in their business life (Goldthorpe, 2016). Emergent risks such as job loss and unemployment could directly affect economic as well as social lives and circumstances of families. It was highlighted that the risky and unstable nature of the working conditions of those in categories SEC 6 and SEC 7 in the lower social class hierarchy who worked in routine and manual occupations, continued to hang like the sword of Damocles over the heads of these families as a source of risk and tension. It was asserted that lack of economic security and lower financial rewards related to occupations in categories SEC 6 and SEC 7 might contribute to the poor cognitive ability of children of fathers in these categories (Connelly & Gayle, 2019).

The lower-grade supervisory and technical occupations, jobs, in social class category SEC 5 often require certain skills and organizational knowledge. Occupations in this category ensure more stable employment and contain some typical work conditions in the managerial and professional class category, such as an annual salary. The added occupational complexity, together with the developed economic security and profits related to occupations in category SEC 5, can contribute to the development of cognitive ability in the children of fathers in this category (Connelly & Gayle, 2019). Intermediate occupations in categories SEC 3 and 4 are placed in the middle among professions based on labor between managerial and professional occupations in upper categories SEC 1.1, 1.2, and 2 in the social class hierarchy, and routine and manual occupations in lower categories SEC 5, SEC 6, and SEC 7. It was emphasized that although intermediate occupations had distinctive and observable characteristics in the social class hierarchy, they could not be organized into a hierarchical order. As category SEC 4 comprised self-employed workers and small employers, self-employed own account workers in this category theoretically displayed characteristics distinctive from those in intermediate SEC 3 category. SEC 4 included not only those engaged in largely manual work but also others engaged in non-manual work. As opposed to large employers and fathers in occupations in higher managerial positions in the upper social class category 1.1, fathers in the intermediate category SEC 4, who were engaged in non-manual or largely manual work, fulfilled most of the entrepreneurial and managerial functions thanks to the spirit of their entrepreneurship. When compared with children of fathers in higher-level management and commerce or middle-level commerce, sales, and services who routinely work in category SEC 3 and lower-grade technicians in non-manual occupations in category SEC 5, it was found that children of fathers in category SEC 4 had cognitive test scores more closely resembling those obtained by their peers in SEC 5 than other children of fathers in SEC 3. Researchers attributed the better performance demonstrated by the children of fathers with higher-level management and commerce or middle-level non-manual, routine occupations in the field of commerce, sales and services in category SEC 3 to

their engagement in intermediate occupations that could be reasonably defined as 'white-collar' and regarded this as a reflection of fathers. Also, fathers occupied with white collar occupations generally had better working conditions and economic rewards.

Theorists and researchers focused their attention on job characteristics and conditions related to class positions or categories in Goldhorpe's social class scheme. It was discussed that the observable negative trend associated with differences and inequalities in social class or socioeconomic status and quite significant differences in economic, social and cultural environments within families led to certain outcomes. It was asserted that parental differentiation in lower social class as well as middle or upper social class with respect to cultural values, child socialization, parenting styles and family activities played a crucial role in reproducing social class inequalities in the society (Bourdieu & Passeron, 1977; Ermisch, 2008; Kiernan & Mensah, 2011; Lareau, 2011; Vincent & Ball, 2007; Sullivan, Ketende & Joshi, 2013). Researchers working in scientific fields such as psychology asserted that genetic transformation of general cognitive ability was possible and this was another prospective dimension that potentially contributed to social class trends (Tucker-Drob, Briley, & Harden, 2013; Hill, Davies, & Lagemaat, 2014; Deary, Spinath, & Bates, 2006).

6. Conclusions

The present study explored the impact of social class background on cognitive ability test scores of children. Here, it was indicated that sociologically informative and important differences existed among social classes in general. Research revealed that social class had an impact on children's general cognitive abilities and led to inequalities or gaps in cognitive ability performance between children from lower social class families and those from middle or upper class families. In the relative order of social class inequalities in the society, social class background played a crucial role on the general cognitive ability performance of children as well as their scores on general cognitive ability tests. The research provided clear and convincing evidence that the gaps and inequalities observed in childhood performances and general cognitive ability test points among children from lower-class families and those from middle or upper-class families were remarkably persistent, remained unchanged and continued to exist. The existence and persistence of social class differences and inequalities in general cognitive ability test performances and points during childhood was regarded as a major educational problem that should be resolved in society. It was established that parental education, one of the main indicators of social class or socioeconomic status, had constructive and formative influences on general cognitive ability in childhood. Flynn (2012) highlighted the profits of moving beyond the boundaries of psychology and considered the sociological context to better comprehend the impacts of social class background or socioeconomic status on cognitive development and cognitive inequalities in childhood.

Theorists and researchers asserted that concerns about social and opportunity inequalities in education continued to exist in societies. In spite of a great number of new educational policies and initiatives, the structure and organization of primary schools in England, for instance, remained relatively unchanged during the second half of the twentieth century. While children participating in the National Child Development Study entered primary school in the early 1960s, children participating in the British Cohort Study started primary school 12 years later. Longitudinal studies on original families or cohorts, such as the National Child Development Study, the British Cohort Study and the Millennium Cohort Study, revealed that social class affected general cognitive abilities in childhood and played a role in generating the inequalities observed in cognitive ability test performance and scores between children from lower class families and those from middle or upper class families. In the relative order of social class inequalities, it was primarily and prominently expressed that social class inequalities and gaps in cognitive ability test points during childhood remarkably, strikingly and obviously persisted, remained unchanged and continued to exist. This social fact remains as an area to be explored in the future. For future research, the questions that need to be explored should be whether social class background affects children's cognitive abilities or whether social class inequalities and gaps in children's scores on general cognitive ability tests change in time. As for the present, appropriate tests and nationally representative datasets assessing general cognitive ability appear to be important for exploring the impacts of social class background on cognitive development and cognitive abilities of children, and carrying out research with more recent original families and cohorts.

Cognitive ability test scores demonstrated children's capacity to understand complex thoughts, learn from experience, engage in various forms of reasoning, and adapt effectively to their environment. Most of the time, findings revealed social class divisions, differences and gaps in cognitive ability when children were still in primary school, otherwise stated, the observed inequalities in cognitive ability performance between children from lower social class families and those from middle or upper class families. As indicated previously, the existence of social class divisions and inequalities in cognitive ability in society was viewed as a worrying,

disturbing, and alarming problem. Children of fathers from lower social class or socioeconomic status who worked in routine and manual occupations were clearly and distinctly disadvantaged. The research asserted that primary and secondary school students from lower social class or socioeconomic status families were already living under and restrained by the negative effects, difficulties and limitations of disadvantaged conditions. The finding that disadvantaged conditions in lower social class or socioeconomic status had a negative and detrimental effect on children's cognitive abilities was viewed as important in view of the fact that cognitive abilities played a significant role throughout the lives of individuals (Deary, Spnath, & Bates, 2007; Nettle, 2003; Vanhanen, 2011; Schoon, 2010).

7. Recommendations

Governments should implement deliberate policies designed to protect children from the negative and detrimental impacts of social class background on their cognitive abilities. The income level of families from lower social class and socioeconomic status should be increased in order to prevent and eliminate the economic pressure, tension and stress caused by poverty and economic hardship in families and their detrimental and negative effects on child socialization and education processes. Poor and low social class families should be able to meet their fundamental, basic, urgent and vital needs such as adequate food, shelter, clothing and health care. Moreover, families from lower social class and socioeconomic status should have a certain income level so as to meet the investments and spendings to be made for fostering, nurturing and enhancing cognitive development and cognitive abilities in their children. Required income levels of poor parents should be increased and they should be provided with the opportunity to purchase experiences, activities, products, materials, services that foster, nurture and increase cognitive development and cognitive abilities of their children. The Government or the Ministry of Education should undertake the implementation of effective intervention programs for families to eliminate the potential disadvantages and negative cultural conditions of children from the lower social class. Lower social class parents should be informed, instructed and enlightened through face-to-face sessions, interviews, conferences or using mass communication media and social media on a variety of topics such as parental behaviors contributing to the development of children's cognitive abilities, and home learning and teaching activities.

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