Sociality and Culture Explaining Academic and Cognitive Differences of Immigrants: The Chinese Emigrant Students

Figueiredo S., Alves Martins M., and Silva C.

Abstract— **Sociality remains as an underestimated concept to explain the behavior of young immigrant students mainly considering life critical periods for the cultural and social development. Sociality and Culture, on the other hand, are intrinsically related to understand the cognitive mapping and the academic achievement of immigrant students. In Portugal schools are responding with different approaches to the inclusion of immigrants and of refugees' which became a concern for students, teachers and for communities. In this cross-sectional study we examined the vocabulary proficiency and the writing accuracy of 102 emigrated students but considering the nationality of their families as main variable. Children and families were selected both as Portuguese second language learners. The results demonstrated that the individuals differ in a significant manner in the tasks' performance. The data concerning the Chinese emigrants' group were focused in order to understand how they differ from the other immigrants' group (determined by parents' nationality), at the same schools, in different language and cognitive tasks. Children whose parents are Chinese revealed to have similar aptitude as the European peers have for vocabulary decoding; on the contrary, the first group of children presented high level of difficulty to perform writing narrative in Portuguese. Sociolinguistic characteristics involved in language and the academic pressures as related to the parents' culture are addressed.**

Index Terms—**Cognitive mapping, culture, Chinese students, second language, sociality.**

I. Introduction

Reactions of individuals during language testing, referring to second language (L2) and foreign language (LE), might be diverse according to their cognitive mapping and also considering the cultural barrier. Little research examined the culture-specific effect in the second language acquisition context and, particularly, in the testing situations. On the other hand, few studies considered the sociality factor as determinant to explain the academic and cognitive results variability in immigrant minorities. Sociality is related to the ability of relationships in community [1] and an emerging disability for those relationships could disentangle different effects such as low self-esteem, anxiety and depression [2]–[5]. There is abundant research on attitudes and motivation of immigrants mainly in their adaptation to schools in Europe and in the North America [6]-[8], but the sociality is not a well-studied concept in the immigrants' population issues. Sociality refers to a different dimension of the human behavior that differs from the widely used concept of "socialization" and others related. To be able and stimulated to develop meaningful relationships is a sociality skill for a specific context in order to be adapted and well succeeded. Still further studies are needed with an approach on the intergroup relations and their prejudice concerning immigrants and the specific minority groups [9], [10]. Those relations are intrinsically related to the sociality domain. Learning contexts matters are placed in that domain and they are a fragile environment for populations under special circumstances. Attending to the specific nature of immigration, the minorities are expected to experience different forms of sociality and not in a standard a manner [9]-[11]. Motivation and competition are some of the values experienced among the intergroup relations [10] and they are constructs that may be differently perceived by cultures and nationalities. The human being tendency to be able for sociality is evolutionary [12], [13], as all the behavior components, and this reality should be considered into the examination of recent generations of immigrants to understand how they perceive the new culture and language and how they interact with them. That perception is nonlinear considering that the first sociality patterns are stored based in mental concepts - representations based on internal relationships with objects and concepts [9] - acquired during life.

The immigration represents a violent change for the sociality behavior. New learning of patterns and contexts interacts with the concurrent urgent need to be proficient in a different language. We hypothesized that different nationalities and cultures might react differently to second language learning. The L2 learning is affected by the perceptual judgments that migrant minorities are dealing with. Those judgments could be external – from the native population of the host country – or internal - minority groups' judgments toward the host country, host school and host language [10], [14], [15]. In this current cross-sectional study we focused the internal perceptual judgments of immigrant groups. That judgment leads to insecurity and failure in social relationships and social adaption to the new culture [16]. Social failure varies according to the group of minorities.

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First, groups are determined by their culture and representations, second, the mobility have different reasons in their origin. They are the immigrants and the refugees', mainly, but the post-migration difficulties that they are facing are similar [16]. Considering the post-migration effects, a study [17] developed a meta-analysis based on research between 1997 and 2008, gathered from the Medline, EMBASE and PsycINFO databases, to analyze psychotic disorders eventually evolved in first and second-generations of immigrants. The data concluded that the post-migration effects, and not the events of pre-migration, are the main causes for those traumatic disorders. Attending to the previous literature, it is expected that the causes of mobility are likely affecting the degree of sociality ability in the new country (host country) as well they are contributing to explain the impact on children's achievement.

In what respects to the refugees' population, the most current mobility is caused by persecution with origin in several factors such as nationality, religion, race and others [18]. Compared to the scenario of the US, the schools and mental health institutions available in European contexts might be missing the main educational goals of the younger immigrants and refugees [19]-[22]. Following the recent results about post-migration effects in well-being [17] so the refugees' are depending greatly on the host country' action for integration to mitigate their mobility causes. This appears as a great responsibility task for schools, for instance. Early international studies in distinct areas such as Anthropology, Sociology, Psychology had interest in understanding the achievement and success of immigrant generations [23], [24] and in the last decade scholars are exploring how the social capital of minorities influence the academic achievement and the peers' relationships [25]. More recently, the immigrant school population have been investigated against their social engagement [26] in order to develop a comprehensive model that may help school community to assure inclusion. The American enrollment programmes concerning immigrant young generations presented currently a better prepared system as hosting system considering their large history of immigration. The increase of immigration in the US underscored the numbers that explained, in the past, the 'majority' concept against 'minority' when referring to immigrant population [27].

Recent studies in Portugal are concerned about the native children academic achievement and how their families (socioeconomic status and educational level) and their schools may influence [28]. Concerning the immigrant students, a previous study [29] also concluded on the influence of school, not family, as a factor to understand the performance and cognitive (and academic) difficulties. Family is greatly estimated for the equation of immigrants' school success and social adaption [30]. However few research has been developed toward the cognitive and academic achievement of non-native populations at national schools and taking account variables other than the family. Despite of the contribute to understand the behavior of second language learners in the academic contexts, other national studies with immigrations' samples do not show evidence of the immigrants' achievement and its dependence on specific variables over time as recently was examined for native

school-aged children [29], [31]. Sociality is lesser analyzed in the national context involving the non-native groups: specific minorities that involve the immigrants, ethnic groups and refugees. And those groups are not necessarily separated because several ethnic groups had emigrated or had experienced armed conflicts in their country of origin which motivates their mobility to new countries.

There is no enough knowledge to understand how sociality is related to learning success. Among the learning milestones we are interested in the specific cognitive outcomes of immigrants' young students specifically concerning language tasks in L2. A previous study [32] provided data that supported that young immigrants perform differently in a significant manner mainly considering the support of the host countries. They indicated that "traditional immigrant-receiving countries" are well prepared to achieve the educational goals for the immigrants than those countries recently involved as host contexts of immigration and refugees'. European countries such as Portugal are recently dealing with waives of refugees' and immigrants from different countries and this is a challenge for schools, specifically concerning the sociality competence and training. Sociality competence is expected to be also linked to the parental investment that is determined by cultural concepts. A recent study conducted in Europe concluded that different cultures and nationalities determine how immigrant students adapt differently concerning their parental support background [33]. The ability to develop social patterns and adequacy in a community is affected by that investment. Parental involvement was already strongly documented in its correlation for academic achievement and social orientation. However there are specificities to be examined related to immigrants' culture and their families' social concepts. That examination shed light in the cognitive and language proficiency of the recent generations of students. These students react differently to testing contexts and besides the intellectual scores that we have access, other factors might be influencing the results such as cultural blocks toward language of the tests and verbal stimuli.

In the present investigation, we develop a brief statistical analysis specifically for the children depending on the parents' nationality and taking into account the Chinese emigrant group enrolled in the Portuguese schools by comparing to other specific immigrant groups of children. Cognitive skills evaluation was determined through tests of vocabulary decoding and writing. Children whose families are from different origins are expected to perform differently in the tests, mainly concerning that Chinese emigrants would be likely less proficient for lexical and writing in a romance language such as Portuguese when compared to children with European emigrant parents (main factor: culture and language distance).

II. METHOD

A. Sample

Portuguese Education system is organized in a compulsory education of 12 years (Grades 1st to 12th). The sample recruited for this cross-sectional study represents all grades.

From the nuclear sample of 108 families, from our main research study, we selected 102 families (204 individuals) with two-parent families' immigrated context: 31 Chinese, 27 from Least Europe, 20 African, 13 Asian Indian (Indian subcontinent) and 10 parents showed different nationalities (father and mother with different origin). The children were examined in schools of Lisbon through a battery of tests to measure several language and cognitive skills. The sample and respective schools were informed on the procedures for the tests administration and data confidentiality. Immigrant children with special educational needs were not considered for the study. Only students with proficiency in Portuguese below B2 level (according to the European Framework) were admitted to the test. Children were accepted only with personal immigration experience and with parents also immigrated to the same country and at the same time (Portugal).

B. Measures

Vocabulary test: assesses the lexical retention and proficiency that non-native children have, placed in specific low proficient levels for Portuguese as L2. The vocabulary list was prepared for this test taking into account the difficulty levels (norm-referenced measure in Portugal – CORLEX) previously measured for Portuguese idiom. Those difficulty levels determined different lexical units for different domains of proficiency, even for native individuals. Based on that indicator, and considering adjustments for the non-native population, we developed the vocabulary test.

Writing test: assesses the writing capacity through an oriented sequence of images with the main goal to detect the ability to compose a brief narrative with utility and descriptive words, in a grammatical, strategic and sociolinguistic manner.

All the tests were administered in a computer and with paper and pencil method.

III. RESULTS

1) The results of one-way analysis of variance showed statistically significant ($F_{(3,569)}$, p= .009) differences between minority (immigrant) groups for the vocabulary test: children from Chinese families presented similar scores (approximately 11 points) to those of European and African families, and contrasting with Asian Indian groups (M=7 points). Also the group of children whose parents are from different countries of origin showed the highest mean (12) for vocabulary decoding.

2) Concerning age, we conducted additional comparison tests to verify the age groups' differences for the writing task, reporting only for the youngest children (7-12 years old): statistical differences ($F_{(3,884)}$, p= .015) were achieved mainly referring to the low levels (results of 6,4 against the 15 mean obtained as maximum score) of children from Chinese families.

Different tasks are differentiating the immigrant groups considering that children from Chinese families scored better in vocabulary but worse for the writing composition test. For all the cases the group of children, with both parents emigrated from different countries of origin, presented the highest performance. The means of performance are presented in the Table I.

TABLE I: MEANS OF CHILDREN FROM FAMILIES DETERMINED BY NATIONALITY FOR THE VOCABULARY AND WRITING EVALUATION TESTS

Families' nationality		Vocabulary	Writing
China	30	(N30) 11,1333	(N7) 6,4286
Least Europe	27	(N27) 11,0000	(N6) 8,8333
Africa	18	(N18) 11,7778	(N9)10,0000
India Asia	12	(N12) 7,2500	(N3) 4,0000
2nations	10	(N10) 11,8000	(N3)15,6667
Total	97	(N97) 10,8041	(N28)8,8214

IV. DISCUSSION

The results confirmed the variability and specificity of achievements among immigrants' groups in cognitive tasks that may have repercussion for the academic results of those groups in other areas of knowledge. The vocabulary and writing tasks are not addressed as language tests only. Sociolinguistic, strategic and discursive skills are evaluated throughout this writing task and also considering the vocabulary decoding. For the lexical task, there are mental strategies involved, such as the linguistic transfer and decoding of cognates, and the top-bottom or bottom-up method for the decoding ability during the assessment. Strategies and methods are different according to the prior cognitive mapping that each speaker present [34]. This cross-sectional study showed that children from different families, based on the nationality and culture criteria, could easily answer to some tests and harder to others, even when administered at the same period and simultaneously. Cognitive nature of measures determines the academic difficulties and the identification of the most needed areas of each minority at schools. The nationality factor of families has demonstrated to be a predictive variable considering also that more than one nationality (two histories of immigration: parents) coexisting at home could enhance the language and cognitive developing skills of younger immigrant children. The academic difficulties are the most felt by immigrant populations but in a very different way according to their nationality. Previous studies [2], [35], [36] confirmed that parental involvement determine the cultures' view on academic expectations and beliefs which affects the distress symptoms. The Portuguese Asian Indian immigrants appeared as the most risk group as we already concluded for other evaluation tasks [28]. On the other hand, Chinese children, with both parents from China, presented very different achievement for the two tasks, being less proficient for writing skills in Portuguese. Naturally the language distance factor is one argument [34], but the culture is other factor to consider for these cases as being discussed as a component that defines the ethnic and racial groups. Recent studies mainly developed by American scholars [2], [4] are demonstrating the great severity of behaviors and distress that different nationality groups, in a post-migration context, are

experiencing in the host country. This would have implications for the younger ones and for their academic success and failure. Parallel to that, the sociality ability is directly implicated considering the crucial period of children adaptation and integration capacity. In the general studies about immigrants' concerns, the educational problems shed light for the understanding of the sociality problem along with the psychological disorders [1] but for very specific nationality' groups. Other study [4] recently supported with a societal test in European context (United Kingdom) that social equality is failing for minorities, besides the immigrants. Our results in the present study suggest that academic failures might be a great area for the social intervention in schools with repercussions, in a simultaneous way, for the education of parents' conceptions and expectations about their children as the new generation of immigrants.

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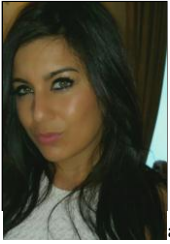
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