

The sex variable in foreign language learning: an integrative approach

PAULA LÓPEZ RÚA

University of the Balearic Islands

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ABSTRACT: The purpose of this article is to determine the role of the sex variable in foreign language learning success by reviewing and connecting data gathered from several tests and studies, all of them dealing with boys' and girls' achievement, attitudes, motivation, opinions and learning strategies as regards foreign languages. In the light of the data analysed, the hypothesis put forward for consideration is that girls' achievement in foreign language learning is enhanced by the interaction of neurological, cognitive, affective, social and educational factors. Each factor is activated in a different way for boys and for girls, with the result that girls are equipped with a combined network of variables whose mutual influence is eventually responsible for their success in foreign language learning.

Key words: interaction, Foreign Language Learning, sex, stereotypes, variables.

RESUMEN: El propósito de este artículo es determinar el papel de la variable del género en el aprendizaje de lenguas extranjeras. Para ello se procedió a la revisión de datos procedentes de distintas pruebas y estudios sobre competencia, actitud, motivación, opiniones y estrategias de aprendizaje de lenguas extranjeras por parte de niños y niñas. A la luz de los datos analizados, la hipótesis sometida a consideración es que los logros obtenidos por las niñas se deben a la interacción de factores neurológicos, cognitivos, afectivos, sociales y educativos. Cada uno de estos factores se activa de forma distinta para niños y niñas configurando una red de variables que, debido a su combinación e influencia mutua, es responsable en último término del mayor éxito de las niñas en el aprendizaje de una lengua extranjera.

Palabras clave: aprendizaje de lenguas extranjeras, estereotipos, interacción, sexo, variables.

1. INTRODUCTION

Age, sex, social class and ethnicity are the four social variables which have been most extensively studied in relation to language learning. This article delves into the connections between foreign language learning (from here onwards, FLL) and the sex variable, trying to determine to what extent the latter influences the former. Following Ellis (1994), the term *sex* will be used as a superordinate comprising both *sex* (which indicates a biological distinction) and *gender* (which points to the social distinction). Similarly, while keeping in mind the

differences between foreign and second languages, the term *second language* (or L2) will occasionally occur as a superordinate in contrast with first language or L1, particularly in quotations.

Over the past decades the study of sex differences in language acquisition and learning has received considerable attention, although almost all the investigations carried out in this respect have been focused on establishing isolated correlations between certain variables, namely sex and achievement, sex and motivation, sex and learning strategies, sex and cognitive abilities, or sex and speech styles. Therefore, no systematic attempts have been made at finding meaningful connections among all the correlations observed. In contrast, the hypothesis supported here is that the relationship holding between sex and FLL success is established by means of a series of factors (neurological and cognitive, affective, social and educational) which seem to operate in a different way for boys and for girls. Both might be equipped with separate systems of variables with respect to these factors, and their combination and mutual influence might eventually account for boys' and girls' dissimilar results in FLL. The final aim of this study is therefore to integrate the evidence gathered from different sources as regards sex differences into a global model which can explain why female language learners generally do better than males.

2. BOYS' VS GIRLS' ACHIEVEMENT IN FLL: AN OUTLINE OF THE EVIDENCE

Research on how the sex variable relates to FLL seems to confirm the existence of some fundamental differences between males and females. This study is based on the following general conclusions supported by most of the sources examined, both primary contributions and further references:

1. Although there is some disagreement as regards performance in individual skills (particularly listening), girls are regularly superior to boys in terms of overall achievement in languages in general (and foreign languages in particular).
2. The number of girls opting for foreign languages in schools and taking public examinations in languages is significantly higher than the number of boys.
3. Boys are superior to girls in tasks concerning spatial ability, but girls generally excel boys in tasks involving verbal skills (listening, speaking, reading and writing).
6. Girls consistently appear more interested in the study of a foreign language than boys, and manifest an evident liking for the culture, the country and the speakers of that language. Whereas boys' reasons for studying the language are mainly instrumental, girls' motivations tend to be integrative.
7. Girls are significantly more confident concerning their abilities to master the language. Boys, on the contrary, appear to be more self-deprecating of their linguistic competence.
8. The sex-stereotyping of jobs in society still endorses language learning as an accomplishment for girls. Consequently, girls tend to perceive languages as more vocationally relevant. In other words, they are generally more inclined to believe that languages will be useful to them in their future careers.

These conclusions seem to suggest that boys' and girls' contrastive success in FLL depends on a series of factors involving both the learner and the environment.

As already mentioned, this article is primarily based on the findings of a series of studies concerned with young learners of foreign languages in traditional (i.e. classroom-centred) learning environments, that is, school and university students of a second language in a setting where that language plays no institutional or social role in the community. The integrative hypothesis is therefore consciously postulated from a restricted evidence base, both as regards the number of studies reviewed and their learning contexts. Nevertheless, it is expected that this contribution could be taken as the starting point for extensive research along these lines. The basic contributions reviewed are the following:

- Burstall (1975), a longitudinal study on the overall performance of British eight-year-old students of French.
- Powell and Littlewood (1983), a survey devised to measure the attitude of 337 British comprehensive school students towards French. It focused on ethnocentricity, self-image, motivation, social class and professional expectations.
- Powell and Batters (1985), an attitude survey measuring the importance of languages, ethnocentricity, self-image and attitudes to writing and oral work in British 12-year-old students of French and German.
- Pritchard (1987), an empirical study carried out in three grammar schools in Northern Ireland. It consisted of a questionnaire answered by 150 students which focused on their interests and preferences, and also on their opinions concerning their linguistic abilities and the degree of difficulty and usefulness of German and French as foreign languages.
- Palacios Martínez (1994), a study involving Spanish secondary school and university students of English as a foreign language. It examined the influence of sex on the students' answers to a series of questions related to the importance ascribed to the language, their preferences concerning tasks and materials, self-evaluation, and motivations for the study of the language.
- Dörnyei and Clément (2001), a study reporting the results of a large-scale survey on Hungarian students' attitudes and motivation with respect to five foreign languages (English, German, French, Italian and Russian). Sex-based generalizations were possible due to the representativeness of the sample (2,377 boys and 2,300 girls aged 13 to 14).

3. MEDIATING FACTORS BETWEEN SEX AND FLL SUCCESS

The three sources of interactive variables operating in the relationship between sex and FLL are the learner, the environment and the learning process, which will be separately discussed in this section.

3.1. Individual factors: the learner

3.1.1. Neurological and cognitive factors: verbal intelligence and aptitude

The role of aptitude in language learning is not easy to determine, mainly because the definition of the term is also quite controversial. Broadly speaking, and as Stern notices, “the concept of aptitude for languages is derived from everyday experience that some language learners appear to have a ‘gift’ for languages which others lack” (1990: 367). With respect to the relationship between aptitude and success in language learning, it is evident that aptitude alone (in the same way as other factors) cannot determine achievement. However, as Krashen recognizes, a bad language learner “might be the result of both attitudinal factors [...] as well as low aptitude” (1988: 38). The suggestion that aptitude seems to condition achievement, especially in formal environments, is supported by Krashen, whose investigations predicted the relationship between aptitude and language proficiency “in ‘monitored’ test situations and when conscious learning has been stressed in the classroom” (1988: 24). Some twenty years before, Gardner had come to the same conclusion, as he stated that “language aptitude appears to be of major importance in the acquisition of second language skills acquired through instruction” (Gardner and Lambert, 1972: 214).

Since it is generally accepted that both first and FLL involve language aptitude to some extent, and that this aptitude varies from one student to another, these premises may be the starting point to pose the following questions:

1. Could we speak of different aptitudes for first and FLL?
2. Can aptitude be developed by training?
3. Is there any correlation between sex and aptitude that might favour achievement?

The first question has been subject to considerable argument. Some authors such as Stern point out that “second language learning” seems to require specific cognitive learner qualities, although it has “much in common with language learning activities in the native language” (1990: 368). Van Els *et al.* illustrate the opposite view, concluding that “it has yet to be shown that there are two different linguistic aptitudes for L1 and L2” (1984: 112). In their opinion, it is equally reasonable to argue in favour of a general language learning ability for both L1 and L2 (verbal intelligence, or aptitude in a general sense), and different degrees of language mastering, that is, “variation in the innate ability to master the higher levels of skill in a language, first or second” (1984: 110). Therefore, it could be suggested that the cognitive abilities stimulated in the process of language learning have a common minimum limit for all non-pathological human beings, but they may be further developed so as to reach different degrees of language proficiency depending on the specific features of the learner, the environment and the learning process. As this gradient aptitude does not only depend on the learner, in theory it could be improved by formal training. Therefore, there are grounds for siding with those authors that suggest that “aptitude and intelligence [...] are, to some extent, both trainable and learnable” (Robinson, 2002: 7-8).

Concerning the relationship between sex and linguistic aptitude, neurophysiological studies have proved the existence of sex differences concerning the functioning of the brain, so that females outperform males in those tasks involving verbal skills whereas males excel females

in tasks involving visual and spatial skills: “According to behavioural tests and clinical data, women appear to be less lateralized for language functions, yet as a group they are superior to men in language skills” (Springer and Deutsch, 1989: 224). Sex differences as regards the development of cognitive abilities might account for females’ superiority in colour-naming tests in both native and foreign languages (as noted by Yang, 2001), and also for differences in learning styles: in that respect, Jiménez Catalán (2003) points out that research on vocabulary learning strategies suggests that visual and tactile learning is preferred by males, whereas females resort to auditory learning. In the case of boys’ and girls’ verbal abilities, Powell (1979) notices that girls are superior to boys in all aspects of the linguistic process, therefore showing a greater aptitude for language learning. Nevertheless, it must be noted that, although the research conducted on that issue points to the conclusion that sex differences begin very early, the amount of data available is in fact limited; thus the advantage of girls in verbal processes may be smaller than believed. Dale’s (1976) review of the research on sex differences in language development concludes that in preschool and early school years there are few differences or no differences at all between boys and girls. However, he posits that “around the age of ten or eleven years, girls establish a definite pattern of superior verbal performance, which continues through the high-school and college years” (1976: 311). Dale mentions the existence of a “consistent, though modest difference” in tests evaluating verbal skills, such as spelling, punctuation, verbal creativity or comprehension of complex written texts and logical verbal relations. Extralinguistic factors, such as society or personality, are likely to play a part in girls’ apparent superiority in verbal skills in adolescence.

The conclusion that can be drawn from the data is that, although both males and females have the same linguistic potential as human beings (aptitude in a general sense), females’ linguistic skills somehow seem more prone to be stimulated in order to reach higher levels of linguistic competence.

3.1.2. *Affective factors: attitude, motivation and personality*

Affective factors have usually been acknowledged to play an important role in second language learning. In fact, the so-called *affective filter* (Dulay, Burt and Krashen, 1982; Krashen, 1988) is said to control the input which is assimilated by the learner, thus influencing his speed of learning and eventually second language achievement. The affective factors analyzed in this study are attitude, motivation and personality (in particular self-confidence). Attitude and motivation are often simultaneously studied: for example, in Dörnyei and Clément’s (2001) report, these authors confirmed the existence of marked sex differences, girls tending to score higher on most attitudinal and motivational measures. Their study evinced that girls have more positive attitudes and are more motivated, although they did not consider the existence of different types of motivation.

a) **Attitude**

Concerning attitude, Spolsky suggests that “attitudes do not have direct influence on learning, but they lead to motivation, which does” (1990: 49). Therefore, attitude relates to achievement through motivation, that is, the learner’s positive attitude leads to the development of high motivation, which correlates with proficiency. Attitude may be defined as a person’s inclination to respond favourably or unfavourably with respect to an object. In that sense, the

surveys conducted by Pritchard (1987), Powell and Littlewood (1983) and Powell and Batters (1985) coincide in showing that, in contrast with boys, girls are more favourably inclined not only to the language, but also to the speakers and the culture. It is generally concluded that girls' favourable attitude and high motivation are determining variables in their success.

b) Motivation

Van Els *et al.* define motivation as "those factors that energize behaviour and give it direction" (1984: 116). Several types of motivation have been identified, but Gardner and Lambert's (1972) seminal distinction between instrumental and integrative motivation is still widely considered. The former is related to practical considerations (get a job, pass an examination) which stimulate the learner's activity, whereas the latter presupposes a positive attitude towards the speakers and the culture. It is integrative motivation that has been found to correlate with achievement.

According to the contributions consulted, girls generally show more positive attitudes towards learning a language (Burstall, 1975). Moreover, girls tend to manifest integrative reasons for studying foreign languages (namely their interest in the speakers and the culture of those languages), whereas boys' motives are usually of an instrumental nature: for example, they choose a foreign language because they need "a subject to fill in the timetable" (Powell and Littlewood, 1983: 36) or because of the grades obtained in former years (Palacios Martínez, 1994). There is, however, one type of instrumental motivation which is systematically associated with girls in most surveys: their belief that languages will be necessary for them in a future job or course of study. As the development of this kind of motivation is closely related to society's professional expectations and norms for boys and girls, it will be dealt with in detail in subsection 3.2. below (social factors).

As already mentioned, integrative motivation predicts achievement quite effectively. In fact, it is "a stronger predictor of achievement than instrumental motivation" (Krashen, 1988: 26). Spolsky goes even further in his statement that the positive effects of integrative motivation on the learning of a second language are illustrated in "the development of a native-like pronunciation and semantic system" (1990: 51). The conclusion to be reached from these data is that girls' success in FLL may also be partially explained by their positive attitude and integrative motivation.

c) Personality: self-confidence

Nearly all the literature available suggests that self-confidence plays an important role both in general achievement and in FLL. With respect to the relationship between self-confidence and language learning, Dulay, Burt and Krashen explicitly mention that "the self-confident, secure person is a more successful language learner" (1982: 75). Furthermore, Krashen remarks that self-confidence and motivation are interrelated, as in theory "the self-confident or secure person will be more able to encourage intake and will also have a lower filter" (1988: 23). In short, self-confidence (together with associated variables such as lack of anxiety and lack of inhibition) is predicted to correlate with FLL success.

Lubbers and Menting (1987) or, more recently, Francis (2000),¹ for example, posit that society and education impose a stereotyping of activities which has been responsible for girls'

¹ Francis (2000) is a field study on how gender and gender-biased constructions influence classroom interaction, achievement and occupational expectations of British secondary school students.

lack of self-confidence and negative attitude towards ‘male’ (science) subjects, thus conditioning their lower achievement. However, with the introduction of the National Curriculum in Britain, girls’ results at GCSE level “now equal or exceed those of boys in all subjects” (Francis, 2000: 7). Sex differences have been spotted when studying linguistic self-confidence: in general, girls show more confidence in their linguistic competence for language learning and also tend to evaluate themselves more positively – Powell and Batters (1985) noticed that boys did not seem so self-assured concerning their abilities to master the second language. Van der Meulen (1987) quotes several studies which report higher scores for girls of 7 to 10 years of age on their perception of personal abilities, particularly their reading and spelling skills. Boys, on the other hand, give higher evaluations of their physical abilities. These results are significant because they seem to support the theory of the specialization of skills mentioned when discussing neurological and cognitive factors. As regards boys’ and girls’ perception of ability, however, some counterevidence is presented by Francis, whose study reports that about 75% of the students interviewed (more boys than girls) thought that male and female students “have the same ability at all subjects” (2000: 68). Therefore, although their subject preferences still reproduce “a traditionally gendered pattern” (2000: 68), students’ answers seem to reflect “discourses of equity” (2000: 70).

Lastly, it is interesting to note Powell’s (1979) correlation between aptitude and assurance in his suggestion that boys might be inhibited by girls’ greater aptitude and therefore confidence, which could in turn account for their underachievement. In contrast with Krashen’s view that “aptitude and attitude are not related to each other” (1988: 23) the closing section of this study shares Powell’s view, since it also points to the possibility that greater aptitude enhances confidence.

3.1.3. Learning strategies

As posited by Ellis (1994), individual learner differences, situational variables and social variables (including sex) may influence the choice of learning strategies in both quantity and type. In this respect, Ellis brings forward several studies positing a relationship between sex and learning strategies, for example Oxford and Nyikos (1989), which focused on foreign language learning of university students and concluded that conversation input elicitation strategies were more frequently used by females. Many self-report studies provide evidence for sex differences: Ehrman (1990), for instance, found that “females reported greater overall use of strategies than males” (Ellis, 1994: 545), whereas Bacon (1992) found that “men reported using translation strategies more than women while the women reported monitoring their comprehension more” (Ellis, 1994: 203). Along the same lines, Peacock and Ho’s (2003) report on the learning strategies used by 1,006 Chinese students of English concludes that “females reported significantly higher use of all six strategy categories [...]. They also report a much higher use of nine individual strategies” (2003: 186), seven of which are also associated with higher proficiency. Similarly, Jiménez Catalán (2003) summarizes the results of a study on sex differences in second language vocabulary learning strategies, and confirms that males and females differ in both the number and range of vocabulary strategies reported, females preferring formal rule, input elicitation, rehearsal and planning strategies, whereas males opt for image vocabulary learning. Moreover, she also points to some interesting correlations, for example, that females’ higher number of discovery and consolidating strategies “might be due

to a higher degree of motivation towards language learning” and that “males’ and females’ different percentages for formal rule strategies and memory strategies suggest distinct learning styles and learning preferences” (2003: 66). In spite of the results, as observed by Ellis, caution should be exercised in dealing with the conclusions of studies like those above mentioned, since there is no complete assurance that they reflect what learners actually do.

3.2. Social factors: the environment

This subsection turns to the influence of society’s rules and expectations on girls’ speech behaviour and employment prospects. It will be suggested that, together with other factors, society’s demands may also account for girls’ success in FLL. In that respect, it must be observed that some of the claims made as regards males’ and females’ social domains, although seemingly outdated, still hold true at least in Great Britain and Spain, the countries from which most of the data reviewed have been obtained.

Powell and Littlewood (1983) investigated the possible correlation between attitude and social class and concluded that the latter “played no significant role in the distinction of attitude scores” (1983: 36), so that, for example, all girls showed the same attitude towards French despite their social class (i.e. a more positive attitude than boys, which eventually contributed to their linguistic achievement).

Francis suggests that “increased ambition, coupled with a feeling that opportunities in the workplace are skewed against them, is what has provided girls with new motivation for achievement at school” (2000: 88). As regards girls’ better results in language learning, an explanation from a social perspective is that girls and boys are still expected to satisfy different requirements concerning both their future occupations and social roles. It cannot be denied that the division between women’s and men’s activities exists, females still holding a prominent position in the domestic sphere. It is also true that, in spite of the progress made towards equal job opportunities and salaries, since early childhood boys and girls are prepared to assume different occupational expectations and different relations to power. Francis recognizes that the gender dichotomy is still evident in future job choices, with girls “tending to opt for artistic or ‘caring’ professions, and boys opting for occupations that were scientific, technical or business oriented” (2000: 90). Besides, as noted by Crawford (1995: 88), “social patterns are mirrored and even exaggerated by mass media.”

According to the surveys consulted, one reason why girls are more likely to opt for foreign languages in their studies is their belief that languages will be useful to them in order to get a job. This belief is connected with the sex-stereotyping of jobs in society, a reality still present nowadays which might perhaps start with the sex-stereotyping of subjects at school (Science and Technology for boys and Languages for girls).

As regards boys’ and girls’ expected social roles and behaviour, Kramarae points out that, according to the sex-role differentiation hypothesis, “men specialize in instrumental or task behaviours and women specialize in expressive or social activities” (1981:145), for which, on the other hand, they seem neurologically better prepared. On her part, Holmes puts forward the theory that women are appointed to “the role of modelling correct behaviour in the community” (1992:172). Both ideas can be combined in the suggestion that women’s modelling role is carried out through a series of tasks involving verbal interaction in private contexts, such as that of child rearing. In other words, both society and home encourage girls

to care about language because it is a requirement for their future roles as mothers and emotional supporters in the family circle. Girls' communicative skills are therefore enhanced because of their expected patterns of interaction. In fact, it can be posited that it is markedly due to society's role division that girls develop a liking for languages, and that this division (which could have a neurological or evolutionary basis) is in turn shaped into a professional sex-stereotyping. The relationship between task division and speech style is put forward by Van Alphen as follows:

Women apparently learn a speech style which is more appropriate for the domestic sphere: it is supportive, harmonizing, open-hearted, 'cooperative'. Men apparently learn a speech style more appropriate for the domain of public discussion: it is dominant, fast, loud and 'competitive'. Those differences in speech styles reinforce the (unacceptable) division of labour between women and men: men are more visible in, and ideologically defined by, the public sphere, whereas women are relegated (either actually or ideologically) to the domestic sphere (1987: 71).

Concerning the importance of parents and home, Powell and Littlewood (1983) observed that parental occupations did seem to influence the students' inclinations, as "the pupils of professional and clerical supervisory parental occupations opted for French [...] whereas pupils from semi-skilled parental occupation backgrounds were much less likely to, as were skilled and unskilled parental occupation pupils" (1983: 38). Parental jobs seem to play a part in the relevance parents attach to language learning, a relevance which they instil in their children, either boys or girls. However, and as Pritchard remarks, parents' assessment also reproduces society's occupational expectations, so that girls receive "more overt encouragement to learn languages than boys" (1987: 70). As already mentioned, these occupational expectations would be a reflection of the specific roles that society assigns to males and females.

As regards social conditioning, it must be added that other social variables (for example, class or ethnicity) may interact with sex when determining foreign language proficiency and therefore alter the expected results. Ellis provides the following example: "Asian men in Britain generally attain higher levels of proficiency in L2 English than do Asian women for the simple reason that their job brings them into contact with the majority English-speaking group, while women are often 'enclosed' in the home" (1994: 204).

3.3. Educational factors: the learning process

In the chapter devoted to gender and achievement in the 70s and 80s, Francis points out that the "discrimination that girls and women experienced in the educational system explained the low achievement of girls at maths and science in compulsory education" (2000: 5). Formal education reduced girls' self-confidence and persuaded them "subtly or openly, that traditionally masculine subjects such as the 'hard' sciences and maths were 'not for them'" (2000: 5). Kramarae (1981) also alludes to the possible role of educational systems on girls' linguistic proficiency, suggesting that "the school systems in the United States and Great Britain may expect girls to develop better reading and writing skills [...], to be correct in their writing and speaking; and that expectation might enable girls to have a positive approach to some aspects of language learning" (1981: 6). Therefore, education could be inducing girls

to develop a positive attitude towards language learning in order to satisfy society's expectations. With respect to girls' success in formal learning environments, this same author hypothesizes that "girls, who are evidently somewhat more sensitive to negative comments, are more concerned about performing in the 'right' way ordained by the teacher" (1981: 7).

This subsection covers three components of the learning process which may affect boys' vs. girls' achievement: the teacher, the method and the materials used in language learning tasks. Concerning tasks and materials, the assumption of girls' superior verbal abilities, the apparent specialization of skills observed in males and females, and the differences in motivation (instrumental vs. integrative) allow the establishment of an interesting correlation between boys' and girls' abilities and their preferences as regards language learning tasks (as measured by Palacios Martínez, 1994). Therefore, girls' apparently superior verbal skills increase their interest in listening and reading comprehension tasks and, in general, in those tasks involving linguistic interaction. By contrast, boys' superior capacity to deal with form, distance and space relationships (that is, visual-mental manipulations) could explain their preferences for maps and machine instructions.

Se observa que las alumnas conceden más importancia que los chicos a la comprensión lectora y a la expresión oral [...], evalúan más positivamente que sus compañeros varones actividades como escuchar canciones y trabajar con sus letras, mantener conversaciones / debates y realizar ejercicios orales controlados [...] los chicos se sienten más atraídos por los mapas y las instrucciones de máquinas y aparatos que las chicas (Palacios Martínez, 1994: 109-10).²

3.3.1. The teacher

In formal learning environments the process is controlled by the teacher, whose figure may affect the students' achievement in several ways. As regards the teaching profession, the constant disproportion between the number of male and female teachers is the final stage in a process beginning with boys' and girls' job preferences. In one of the latest studies conducted in Spain on this issue – Pérez Alonso-Geta (2005) – only about 3.5% of boys in a sample of 12,300 boys and girls aged 6 to 11 expressed their preference for the teaching profession, in contrast with more than 20% of girls. Pritchard posits that, due to the feminization of the profession, boys may come to perceive languages as a feminine subject, lose interest and motivation because that subject "does little to encourage and confirm their emerging masculinity" (1987: 65), and therefore get poorer results than girls. On the contrary, girls may be positively stimulated by the control of a female teacher, develop their motivation and interest in the subject, get better results and close the circle by becoming language teachers. It must be noted that students of the same sex as the teacher's may come to look at him/her as a model to follow, and therefore develop the positive attitude and high motivation which will lead to achievement. This type of motivation would be instrumental, as the students' imitative goals imply the first step of getting good marks.

² 'It is observed that girls attach more importance to reading comprehension and oral expression than do boys [...], they assess more positively than their male peers activities such as listening to songs and working with their lyrics, keeping conversations/debates and doing controlled oral exercises [...] Maps and instructions of machines and devices are more appealing to boys than to girls'.

With respect to teachers' attitude and expectations, Rosenthal and Jacobson's (1968) research had already intended to show that, in general terms, pupils who were expected to be good achievers were more successful than pupils who were considered to be bad ones. In the case of male vs. female students, it has often been confirmed that teachers, as well as parents, display gender-biased attitudes and expectations: Crawford (1995: 14) noted that "observations in elementary school classrooms show that, although teachers believe that they are treating boys and girls the same, boys receive more attention, both positive and negative." Similarly, Francis's research on classroom interaction also verified that "some teachers did appear to respond to boys and girls differently" (2000: 32). De Bie's (1987) field study had also found that teachers behaved "sex-specifically" and often worked on assumptions: "boys are supposed to be good at figures on the assumption that they are more capable of analytic thinking than women, girls are supposed to be better at expressing themselves" (1987: 76). This prejudiced attitude again brings into play the hypothesis of skill specialization for boys and girls.

Taking all this into account, teachers' expectations may play a role in girls' language learning success because, if girls are expected to be good language learners, they will be encouraged and motivated accordingly, so they will get better results. If sex-specific social patterns and sex inequalities are reinforced by formal education, boys and girls learn to behave differently according to their expected social roles: as De Bie notices, "girls should be cooperative, modest and polite, boys are expected to be assertive and creative" (1987: 76). In formal learning environments, the stereotyping of 'male' and 'female' domains might start under the shape of 'male' and 'female' subjects (Science vs. Languages).

3.3.2. *The teaching method*

Concerning methodology, it must be remarked that the changes in language teaching goals and strategies have resulted in greater importance being attached to communication and to the learner. Both of them are emphasized in several methods of language learning such as the communicative approach (Johnson, 1982), some features of which might also contribute to girls' success in FLL. The communicative approach conceives language as a system for the expression of meaning, whose primary function is communicative interaction. Therefore, its theory of learning is centred on activities involving real communication. Listening, speaking, reading and writing are equally important, and learning is promoted by encouraging students to share and exchange information, to negotiate meanings: in short, to give as well as take.

Although researchers have paid little attention to girls' speech habits outside school, quite a few studies have been conducted in Western English-speaking communities to investigate women's vs. men's speech (see in this respect, for example, Crawford, 1995; Eckert and McConnell, 2003; Holmes and Meyerhoff, 2005). The differences observed reveal women as more supportive and facilitative conversationalists, and their goals in their patterns of interaction, as stated by Holmes (1992), seem to be solidarity stressing and the establishment of good social relations. Furthermore, as pointed out by Ellis (1994), sociolinguistic research shows that women use more standard forms but are also more receptive towards new linguistic items. Both principles could favour women's success in FLL because their combination implies that women are more open to new linguistic input and at the same time more ready to modify their interlanguage to adjust it to the norm. Ladegaard and Bleses trace the split between male and female language in terms of standard and vernacular forms back to boys'

and girls' reproduction of adults' speech: "boys model on their fathers or same-sex peers, and girls model on their mothers or same-sex peers" (2003: 225).

With respect to formal education, there is enough evidence of its role as a mirror of social demands and expectations, but apart from that, a specific teaching methodology could also be contributing to girls' language learning success. It has been confirmed that women's conversational aims are social and affective, and it may be postulated that women are moulded from childhood to adopt this pattern of interaction which implies a favourable disposition towards communication. In that sense, Shucard, Shucard and Thomas (1988) point out that social interaction is a significant variable in girls' language acquisition; similarly, Van Alphen states that girls, in contrast with boys, "are required to create cooperation through speech" (1987: 64). In short, boys and girls learn to use the language in different ways to satisfy different conversational goals (Crawford, 1995). In the light of these data, girls' conditioning and favourable disposition might lead to higher achievement in language learning when the teaching methodology emphasizes interaction and promotes communicative language use. In other words, a method such as the communicative approach might enhance girls' natural abilities and reinforce their trained patterns of interaction, eventually contributing to learning success. In this respect, De Bie's (1987) study is particularly worth mentioning, since he observed that girls' response improved significantly when monitored and structured classroom interaction was promoted.

4. THE INTERACTION OF VARIABLES IN GIRLS' SECOND LANGUAGE ACHIEVEMENT

So far, boys' and girls' FLL processes have been discussed by taking into account the possible role of several factors related to the learner, the activity and the environment. This section will be devoted to an integrative description of the combination and interrelation of these factors, which will result in two different networks of interactive variables for boys and girls. The focus will be on how these variables operate in the case of girls in order to account for FLL success.

1. Variables related to the learner:
 - a) **Neurological factors: verbal intelligence → Cognitive factors: aptitude.** It has been suggested that girls' verbal intelligence (aptitude in the general sense) enables them to reach higher levels of language learning mastery (aptitude in the restricted sense), which is in turn related to FLL success.
 - b) **Affective factors: attitude → Affective factors: motivation.** Girls' positive attitude towards language learning, and also towards the speakers and culture of the L2, results in the development of high motivation (particularly integrative motivation), which is connected with language proficiency.
 - c) **Cognitive factors: aptitude → Affective factors: attitude and self-confidence.** Although a systematic relationship cannot be postulated, high aptitude may generate positive attitudes through achievement. Besides, it may help to increase self-confidence and reduce anxiety. In the present case, it can be posited that girls' high aptitude enhances their confidence, and that both variables thus related contribute to girl's achievement in FLL.

2. Variables related to the environment:
 - a) **Social factors à Learner.** Society's sex-stereotyping of jobs and patterns of interaction may influence girls' behaviour and expectations, and also their positive attitude towards language learning. It was concluded that society's requirements with respect to boys and girls (transmitted both at home and among peers) play an important role in the account of girls' FLL success.

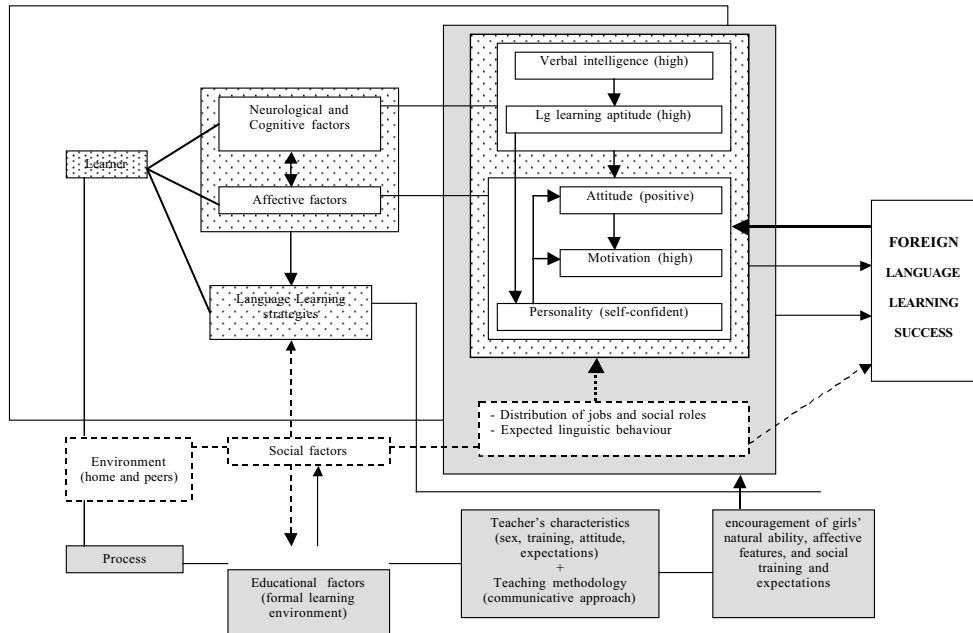
3. Variables related to the learner and the environment:
 - a) **Cognitive factors + Affective factors + Social factors → greater use of language learning strategies.** It was also suggested that girls' individual differences (interests and abilities) plus social conditions may enhance at least a higher use of strategies, which in turn contributes to language learning success.

4. Variables related to the process:
 - a) **Educational factors ← → Social factors.** There is an obvious interrelation between society and education, the latter being the means by which the former ensures the permanence of its system of values and beliefs. Society's division of tasks, aims and assumptions according to sex starts being conveyed to boys and girls through formal and informal instruction (school and home). The alliance society-education constitutes a powerful influence to explain boys' and girls' different concerns, attitudes and expectations. Consequently, both should be included as determining variables in the relationship between sex and language learning success.
 - b) **Educational factors: teacher and method → Learner + Social factors.** The correlation here is established between a learner who is already being instilled society's rules (inside and outside the school) and two aspects of formal instruction, the teacher and the method, which perhaps reinforce boys' and girls' different orientations. These educational variables may encourage girls' natural abilities, support their social training and expectations, and favour the positive development of affective variables. As a result of this network of influences, girls' progress and ultimate success in FLL is made considerably easier.

5. Variables related to achievement:
 - a) **FLL success → Affective factors: attitude, motivation and self-confidence.** Lastly, the mutual influence of achievement and affective factors should also be considered. This connection is not directly related to sex, as it works for both boys and girls, but it is included here because it may favour the stagnation of contrastive levels of achievement. The relationship between proficiency and affective factors is mentioned by Oller and Perkins (1978), who report Savignon's theory that "it is attainment in the target language that causes a positive or negative attitude. High achievers tend to develop positive attitudes as they go along and low achievers become increasingly disenchanting" (1978: 94). Therefore, girls' success in language learning may encourage the development and persistence of positive attitudes, high motivation and self-confidence, which in turn are influential factors in language achievement. On the contrary, boys' indifferent or negative attitude, low motivation and lack of confidence would be both the cause and the consequence of their poor results.

By way of a summary, Figure 1 displays a schematic representation of the interrelation of variables influencing girls' achievement in FLL.

Figure 1. Girls' network of interactive variables in FLL



5. CONCLUSION

The aim of this article was to determine the extent of the influence of sex differences on FLL success. The conclusion drawn is that this influence is mediated by a combination of factors which operate differently for boys and girls, giving rise to two systems of variables which ultimately account for boys' and girls' contrastive levels of achievement. Although none of these variables conditions achievement by itself, they may do so in combination with other variables.

The hypothesis put forward here is that girls' achievement in FLL is enhanced by the interaction of neurological, cognitive, affective, social and educational factors. Each factor is activated in a different way for boys and for girls, with the result that boys and girls are equipped with different systems of variables: in the case of girls, superior verbal intelligence, high aptitude, more motivation, a social role of modelling behaviour and supporting communication, the assumption of tasks requiring verbal interaction (teaching, child-caring), etc. These variables build a network of influences which is posited to be eventually responsible for girls' FLL success.

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