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Communication apprehension and students' educational choices. An exploratory analysis of Spanish secondary education students

Abstract

Purpose

- The literature evidences the effects of communication apprehension (CA), defined as the level of fear and anxiety associated with either real or anticipated communication, on educational efforts and suggests that (via the perceived desirability of certain professions) it could affect vocational choices.

The main objective of this paper is to investigate the link between CA and the vocational choice of secondary education students.

Design/methodology/approach

- Data were obtained from two sources: a self-administered questionnaire to measure the students' CA levels and their academic preferences, and the vocational counsellors' advice for these students.

Findings

- The results confirm the existence of a link between CA and both students' vocational choices and counsellors' advice. In general terms, apprehensive students tend to choose vocational education, whereas students with lower levels of CA prefer university for further education. Focusing on the latter, more apprehensive students tend to choose science degrees, which are perceived as requiring lower levels of communication skills.

Research limitations/implications

- Apprehensive students could be avoiding a path, with all the implications for their professional future, because it is perceived as frightening due to the apparent communication level required. As the literature notes, the links between CA and communication self-efficacy enables the development of educational interventions, resulting in a reduction of CA. Limitations include the use of a convenience sample in only one country.

Originality/value

- The scarce early literature has paid attention to occupational and educational choices in higher and further education, but there is no research focusing on the link between CA and pre-university academic decisions.

Keywords: communication apprehension, vocational choice, communication skills, employability skills.

1 Theoretical background

The selection of an academic course, or even whether to go to university, enrol in vocational education courses or not to study is one of the most difficult and relevant decisions that every student must face. Fernandes and Bance (2015) highlight that what to choose as one's future career is among the most significant decisions a young person makes in life. Given this significance, this problem attracted the attention of early research that linked this process with a wide set of variables, such as personality types (Holland 1966), tolerance for ambiguity (Budner 1962), motivation (Bordin et al. 1963) and a long etcetera that opened a productive field for research.

Daly and Shamo (1978) stress that research models focusing on the selection process generally suggest that individuals tend to select occupations or careers which they perceive could minimise associated negative consequences and/or maximise rewards. These authors also note that research indicates that the satisfaction with an occupation / career derives from a psychological fit between individual characteristics and the requirements of the job / career.

In this line (fit of characteristics and requirements), researchers have observed that students will avoid courses that require the use of certain skills where the individual exhibits a high level of apprehension towards those skills (Meixner et al., 2009). Therefore, students' perceptions of the skills required to succeed in the chosen career is one issue that may influence the selection of an academic course (e.g., Cohen and Hanno, 1993; Felton, Dimnick and Northey, 1995). One of the most relevant skills which explains this avoidance behaviour, not only in education but also in the professional domain, albeit not the most studied, is communication.

An inherent requirement of any college course is a certain amount of communication in writing (Daly and Shamo, 1978) as well as in other ways (public presentations, meetings, etc.), and undeniably every occupation requires some communication (Daly and McCroskey,

1975). However, beyond basic common requirements, academic courses vary in the amount and complexity of the communications skills demanded (Daly and Shamo, 1978). Also, one of the most important factors by which jobs differ is the degree to which they involve dealing with people (higher communication demands), as opposed to dealing with things or ideas (Harville, 1992). Therefore, the desirability of certain careers or occupations could depend on the perceived communication requirements of these careers or occupations and may be directly affected by a personality characteristic referred to as "communication apprehension" (Daly and McCroskey, 1975).

Communication apprehension (CA) was defined by McCroskey (1984: 78) as an individual's level of fear and anxiety associated with either real or anticipated communication. As Daly and McCroskey (1975) point out, for individuals with high CA (apprehensives) their apprehension about participating in communication outweighs any projection of gain from communicating in a given situation. Therefore, they anticipate negative feelings and outcomes from communication and will either avoid it, if possible, or suffer from a variety of anxiety feelings while communicating (Beatty, 1987).

The relevance of CA as an educational problem derives in the first instance from its high prevalence. McCroskey (2009) indicates an estimation of 15-20% of people as having high CA. Talking about situational (state) CA, this author estimated 70% of people in the U.S.A. experience CA when they have to give a public speech. But it is not only a question of the prevalence. The consequences of CA in education are fairly relevant. Although research has not found a link between CA and intelligence (e.g., McCroskey et al., 1976), the meta-analysis conducted by Bourhis and Allen (1992) confirmed a statistically significant negative correlation between CA and cognitive performance. As Hassall et al. (2013a) observe, the CA levels of individuals may shape the overall nature of their interpersonal relationships. High CA individuals are less able to communicate effectively. As they are seen by others as distant

and incommunicative, they are less likely to be welcomed as a member of a task-orientated group. High CAs tend to adopt avoidance behaviours, such as sitting at the back of classrooms, choosing modules that do not require communication, and not seeking tutor assistance. These behaviours will restrict the relationship between the student and the tutor, hinder the recognition of the student's progress and needs, and may impair educational performance (McCroskey and Sheahan, 1978; Fordham and Gabbin, 1996; Teven et al., 2010). Also, they seem to have a higher need to avoid failure, and they have less achievement or success motivation than other students (McCroskey and Anderson 1976).

Therefore, as high CAs tend to avoid failure, they will try to elude those situations where communication is more likely. In an educational context that means choosing educational paths that are perceived as having lower communication skills requirements (e.g., Meixner et al., 2009). In this line, Daly and Shamo (1978) remarked that we might expect individual differences directly related to writing (communication) to play an important role in making decisions about courses, and thus CA should predict students' educational path evaluations and choices. In a professional context (with closer links with the course decisions), Daly and McCroskey (1975) suggest that individuals' levels of CA, as well as their perceptions of the communication requirements of different occupations, may have significant effects on their perceived desirability of occupations and behaviours in terms of their occupation choices. Their results demonstrated that individuals can provide accurate descriptions of communication requirements of occupations, regardless of their apprehension level, and have clear preferences depending on their CA level: high CAs choose occupations having low communication requirements and low CAs prefer jobs with high communication requirements, establishing a strong link between the choice of occupations and the level of CA. To some extent, the strong links between CA and communication self-efficacy beliefs (well supported by the literature, e.g. Pajares and Johnson, 1994; Arquero et al., 2013 and

Hassall et al., 2013b) and the links between self-efficacy and actual performance could help to explain this avoidance.

Based on these premises, we propose the following research question:

RQ1: Is the level of CA of secondary education students associated with their preferences in terms of further education?

The alternative educational paths (mainly vocational training versus university) have been, and could be, perceived as being quite different in terms of communication requirements. Therefore, a first choice is between these two main alternatives. However, different occupations, and the university degrees that give access to them, could be also perceived as having different levels of communication skills in order to succeed (e.g., Meixner et al., 2009). Consequently, a second choice is the degree, or at least the main knowledge area. This enables the dividing of RQ1 into two sub-questions:

RQ1a: Does the level of CA of secondary education students influence their preference between vocational training vs. university (educational path)?

RQ1b: Does the level of CA of secondary education students influence their preference between knowledge areas for university level studies?

Previous questions focus on the individual's choice and preferences. Yet, career counsellors and academic advisers work together with students in the career decision-making process. As Meyer-Griffith et al. (2009) note, counsellors make inferences about persons' readiness for career assistance by listening to them talk about their thoughts or by examining their self-report responses to tests and inventories. Communication is an essential element of counselling. As was stated above, research found consistently negative relationships between the CA level and communication skills. As Hassall et al. (2013a) highlight, apprehensives fail to seek assistance, adopt behaviours that hinder the recognition of their progress and needs and, furthermore, "tend to avoid encounters, display poor cognitive processing during

interaction, are perceived to be less confident and are characterised as inattentive and unable to recall important information” (p. 168). Also, they present higher levels of dysfunctional career thoughts (Meyer-Griffith et al., 2009).

If counsellors are not aware of the existence and effects of CA, they may misinterpret the students' lack of communication, indecision, etc., reaching the same conclusion as students in their career choices. Therefore, apprehensives are advised to choose educational paths with lower requirements.

These arguments allow us to formulate the following research question:

RQ2: Are there relationships between CA levels and the career advice given by counsellors?

2 Methodology

2.1 Sample

The sample was composed of the 261 students enrolled in the three first courses of compulsory secondary education (*educación secundaria obligatoria* - ESO) in the school “SAFA-Patronato Vereda”, located in Seville (Spain). Table 1 shows the composition of this convenience sample in terms of course and gender.

-- Insert table 1 about here --

2.2 Instrument and measures

The data used in this study were obtained from two main sources. The first is a questionnaire designed to measure writing communication apprehension, some demographic information and students' preferences in terms of career choice.

This questionnaire was distributed during class time by a member of the research team (at this time doing a placement in this school) in the presence of a member of the teaching

staff. Following the recommendations by Podsakoff et al. (2003), the minimisation of common method variance was addressed via the research design. Therefore, the survey began with a brief introduction explaining the main objectives (in terms of the measures and information to be obtained), without suggesting any link between the variables. Second, the survey indicated that all the responses were confidential and would only be dealt with for research purposes at an aggregated level. Third, we emphasised that the respondents should answer the survey questions as honestly as possible, that there were no correct or incorrect answers and that the information provided would not have any impact on the course assessment.

As Hassall et al. (2013a) indicate there exist reliable measures of CA for both writing and oral contexts and many studies (e.g., Gardner et al. 2005 and Hassall et al., 2013b) have used questionnaires including scales for oral CA and writing CA or even composite measures of global CA derived from these instruments (Arquero et al., 2017). However, in the educational context in which the research took place, the most relevant form of communication, in terms of assessment and further educational consequences, is writing. Also, following Reeves (1997), who reviewed the work of Daly and colleagues from the 80s, writing apprehension (WCA) is considered to be related to selection – avoidance behaviours in terms of educational choice. For the reasons stated above, we focused on WCA. To measure WCA, we used the Spanish version (Arquero et al., 2013) of the WCA-6 (Arquero et al., 2012). The WCA-6 is a reduced version (6 items) of the WCA-24 (Hassall et al., 2000), an adaptation for university students of the Writing Apprehension Test (WAT, Daly and Miller, 1975). The WCA-6 has been used in several research papers along with measures of oral CA, reporting consistent and reliable sets of results (e.g., Arquero et al., 2013 and 2017; Hassall et al., 2013b). The statements in this questionnaire are to be answered on a 5-point

Likert-type scale, ranging from “Strongly Disagree” to “Strongly Agree”, where a higher score indicates a higher level of CA.

The two questions about students' preferences for further education were stated in the following terms with the following choices:

- *Educational path* - What kind of studies would you like to do after secondary education (ESO)?
 - Vocational training
 - A university degree
- *Knowledge area* - In which main knowledge area?
 - Arts & humanities (e.g., Geography, History, Art, Philology, etc.)
 - Sciences (e.g., Maths, Physics, Chemistry, Biology, etc.)
 - Social Sciences & law (e.g., business administration, economics, law, etc.)
 - Health Sciences (e.g., Medicine, physiotherapy, nursery, odontology, etc.)
 - Engineering, mechanics & architecture

A second set of data was provided by the school's counselling centre. This elaborates for each student in the third course a guidance report suggesting a choice. This report is based on interviews and on a questionnaire where students must write their reflections about the subjects studied in terms of level of effort, difficulties, grades obtained, reasons linked to the best and worst results, preferences, as well as on the consequences (negative and positive) of possible future educational paths. In terms of the present study, the advisors' relevant suggested choice is between vocational training and university studies and broad knowledge area (more science oriented or more literature, arts & humanities oriented).

3 Results

Table 2 presents the choice made by the students in terms of their educational path by gender. The results show a significant difference (Chi square p : .002) in the paths selected by females and males. Female students clearly prefer to go to university (72.4% versus 27.6% opting for vocational training), whereas for male students university is the preferred choice but by only a small difference (52.6% versus 47.4% for vocational training).

-- Insert table 2 about here --

Table 3 presents the main knowledge area of preference by educational path and for the entire sample. More technical areas (Engineering, mechanics, etc.) are the choice most preferred by those selecting vocational education (41.7%), followed by social sciences & law (25%). For students opting for university as their further educational path, the preference is more equally distributed between areas, except for those careers related to arts & humanities, which appear to be the least desirable (6-7% regardless of the path chosen).

-- Insert table 3 about here --

The first research question aimed to examine a potential relationship between CA and students' preferences in terms of further education at two levels: in terms of the educational path (RQ1a) and in terms of the main knowledge area (RQ1b).

Table 4 compares the CA level of students that opted for vocational training versus university studies. The average level of students who manifested a preference for vocational education is significantly higher than the CA level of those opting for a university degree (17.27 vs. 14.40, sig: .000). Therefore, the answer to RQ1a is yes, there is a relationship and it seems that more apprehensive students prefer an educational path perceived as having fewer communication requirements.

-- Insert table 4 about here --

Regarding the CA and choice of knowledge area relationship, the results in Table 5 indicate that students opting for more numerate – technical studies present higher levels of CA than those students opting for social or health sciences. This difference is more acute if we focus only on students who opted for further education in a university, although it is not significant (ANOVA test).

-- Insert table 5 about here --

Traditionally, in Spain studies have been labelled as numerate oriented (sciences – *ciencias*) or more literate, humanities, law oriented (literate-arts - *letras*). This is not an exact, formal classification but it is still rather common and it is used even by advisors (probably because in the past the choice for the last courses of secondary education and pre-university was labelled that way: *ciencias* or *letras*). Table 6 regrouped the results of Table 5 on the basis of this classification.

-- Insert table 6 about here --

Using this simpler, traditional classification the differences appear to be clearer (and are statistically significant). Students opting for more numerate-oriented studies present higher levels of CA than those opting for less numerate-oriented courses. The difference is even higher (and statistically significant at a higher level) if we focus on students opting for university degrees (15.63 vs. 13.53, sig: .007). Thus, the answer to RQ1b is yes, there is a relationship and it seems that students who are more apprehensive prefer a further education area perceived as having fewer communication requirements (more related to *numbers*). Our results are also indicative of a stronger link for students opting for university.

As was explained above, students in the third course received a recommendation from the school's counselling centre. In this advice, the counsellors suggest to students an educational path (vocational training or university) and a broad area, defined in the wider traditional terms (*ciencias* vs. *letras*). Students' communication skills or CA levels are not formally assessed for this purpose, and the questionnaire used by the counsellors did not consider any question related to communication.

RQ2 focused on the existence of a relationship between the career advice given by counsellors and CA levels. The results in Table 7 indicate that those students who received advice to follow university studies present significantly lower levels of CA than their

counterparts who were recommended to enrol in vocational training courses. Therefore, it seems that, although this is not formally assessed, the CA level is associated with the recommendations that students receive from the counselling centre. Focusing on those students who receive a recommendation to go to university, there are no significant CA levels depending on the area suggested (Table 7, panel b), although contrariwise to what could be expected, students with a recommendation for a science degree present lower CA levels than those directed to more literate – humanities degrees (*letras*).

-- Insert table 7 about here --

According to Hassall et al., (2013) various studies have indicated that there is a relationship between CA levels and gender (e.g., Daly and Miller, 1975; Simons et al., 1995; and Arquero et al., 2007). Therefore, as some authors point to a connection between gender and CA levels and a link between gender and choice also appeared in Table 2, it could be relevant to test the interaction of CA, gender and choices at the same time.

Table 8 presents the result of a multiple analysis of variance (MANOVA), comparing the CA levels of students by gender and chosen educational path. In general terms, female students present lower levels of writing CA (as indicated in the literature), irrespective of the educational path. However, this difference is not enough to be statistically significant at a 5% level. Students opting to go to university present significantly lower levels of CA than their colleagues opting for a vocational training path.

-- Insert table 8 about here --

Focusing on students opting for university, the results in Table 9 indicate that the factor associated with significant differences in CA levels is the choice for the broad area.

Students opting for science degrees present significantly higher levels of CA than their colleagues opting for other degrees.

-- Insert table 9 about here --

4 Discussion

Since the early literature back in the 60s-70s, research models focused on the career and occupational selection process have suggested that individuals tend to select occupations or careers which they perceive could minimise associated negative consequences and/or maximise rewards, trying to make choices where their individual characteristics and the perceived requirements of the job / career could fit (Daly and Shamo, 1978). Consequently, students could develop avoidance behaviours for courses, educational paths or degrees which are supposed to require skills where the individuals exhibit a high level of apprehension (Meixner et al., 2009) or perceive a low level of competence, and this argument is also valid for later choices of occupations in their professional career. One of the basic skills for any educational or professional career is communication, and CA could be an individual's characteristic that would influence choices in very relevant decisions, such as what to study (or not) in the near future.

In this line, the present study aimed to answer a main research question: to what extent there is an association between CA and the educational choices made by students.

Our results suggest that such a relationship exists. Students opting for more technical, professionally oriented education paths (vocational education) presented significantly higher levels of CA than their colleagues, choosing to follow university studies (that could be perceived as requiring a higher level of communication skills). Focusing on students selecting university education, those who prefer to enrol in more numerate – technical degrees also

present significantly higher levels of CA than their colleagues. These results suggest that there is a self-selection process where high CA students avoid those educational paths perceived as needing higher communication skills to succeed.

Given that the level of CA could affect, among other things, the academic performance and the inferences about students' skills and aptitudes made by their teachers and counsellors, another question arose: to what extent the level of CA of a student is related to the recommendations made by academic advisers. Again our results indicate a similar pattern: students who receive a recommendation to follow their studies in vocational training programmes present significantly higher levels of CA than those who were recommended to enrol in a university degree. Therefore, to some extent students' CA levels are linked not only to their own choices, but also to the recommendations that they could receive from an academic advisor.

The results of this study have several implications. Students' CA level and perceptions about communication demands of a certain educational path seem to be related with their educational choices. Therefore, to some extent, students could be avoiding a path, with all the implications for their professional future, because it is perceived as frightening due to the apparent communication level required. As Hassall et al. (2013a) note there are links between situational (state) CA and communication self-efficacy. Therefore, educational interventions designed to improve students' communication self-efficacy could result in a reduction of CA, as future activities involving communication are perceived as less frightening and easier to accomplish, removing (or at least alleviating) the barrier to communication skills development. As a consequence, courses and degrees of professional careers involving higher levels of communication demands will be less likely to be avoided by these students.

In the same line, reducing students' CA level could help them to better communicate as students.

4.1 *Limitations and further research*

The students who made up the sample were enrolled in only one school. In order to obtain more generalizable results, samples obtained in other schools in other locations could be studied. The relationships between communication self-efficacy beliefs and apprehension and their effect on educational choices are also an interesting area of research.

Although the published research found no relationships between WCA and performance or intelligence, given that most exams are written and also many intelligence tests are based on written self-administered instruments, there could be an effect of WCA on these measures.

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Table 1. Sample by course and gender

	<i>1st course</i>	<i>2nd course</i>	<i>3rd course</i>	<i>Total</i>
<i>Male</i>	52	33	31	116 (52.5%)
<i>Female</i>	37	37	31	105 (47.5%)
<i>Not indicated</i>	5	17	18	40 (n.a.)
<i>Total</i>	94 (36%)	87 (33.3%)	80 (30.7%)	261 (100%)

Table 2. Students' choice of educational path by gender

		<i>Vocat. training</i>	<i>University</i>	<i>Total</i>
<i>Male</i>	N	55	61	116
	%	47.4%	52.6%	100.0%
<i>Female</i>	N	29	76	105
	%	27.6%	72.4%	100.0%
<i>Total</i>	N	84	137	221

Table 3. Students' choice of knowledge area by educational path

		<i>Vocat. training</i>	<i>University</i>	<i>Total</i>
<i>Arts & humanities</i>	N	6	9	15
	%	7.1	6.6	6.8
<i>Social Sciences & law</i>	N	21	41	62
	%	25.0	29.9	28.1
<i>Engineering, mech. & architecture</i>	N	35	28	63
	%	41.7	20.4	28.5
<i>Sciences</i>	N	6	29	35
	%	7.1	21.2	15.8
<i>Health Sciences</i>	N	16	30	46
	%	19.0	21.9	20.8
<i>Total</i>	N	84	137	221

Table 4. CA level by educational path

	<i>N</i>	<i>CA Mean</i>	<i>SD</i>	<i>Anova sig.</i>
<i>Vocational training</i>	84	17.27	4.53	.000
<i>University studies</i>	137	14.40	4.54	
<i>Total</i>	221	15.49	4.74	

Table 5. CA level by knowledge area of preference

	<i>All students</i>				<i>Students opting for university</i>			
	N	CA Mean	SD	Anova sig.	N	CA Mean	SD	Anova sig.
Arts & humanities	15	15.07	4.49	.112	9	13.67	4.69	.111
Social Sciences & law	62	14.65	4.03	(n.s.)	41	13.73	3.59	(n.s.)
Engin., mech. & architecture	63	<u>16.78</u>	4.90		28	<u>15.79</u>	5.63	
Sciences	35	<u>15.63</u>	4.63		29	<u>15.48</u>	4.93	
Health Sciences	46	14.91	5.31		30	13.20	3.78	
Total	221	15.49	4.73		137	14.40	4.53	

Table 6. CA level by knowledge area of preference (reclassified)

	<i>All students</i>				<i>Students opting for university</i>			
	N	CA Mean	SD	Anova sig.	N	CA Mean	SD	Anova sig.
Social & health sciences, arts, etc.	123	14.80	4.57	.014	80	13.53	3.75	.007
Pure sciences & eng., architecture	98	16.37	4.82		57	15.63	5.25	
Total	221	15.49	4.74		137	14.40	4.54	

Table 7. Panel a. CA level by suggested educational path

	N	CA Mean	SD	Anova sig.
Vocational training	27	15.59	3.25	.004
University studies	34	13.15	3.07	
Total	61	14.23	3.35	

Panel b. CA level by suggested area for university

	N	CA Mean	SD	Anova sig.
Sciences - numerate	20	12.65	3.26	.265
Humanities	14	13.85	2.71	n.s.
Total	34	13.15	3.07	

Table 8. CA level by chosen educational path and gender

<i>Educational path</i>	<i>Gender</i>	<i>N</i>	<i>CA Mean</i>	<i>SD</i>
Vocational training	Male	55	17.60	4.56
	Female	29	16.65	4.45
University studies	Male	61	15.08	5.06
	Female	76	13.85	4.02
total		221	15.49	4.74

Manova results: Sig. of F for educational path, .000; Sig. of F for gender, .071; Sig. of F for model, .000

Table 9. CA level by educational area and gender (university oriented students)

<i>Educational area</i>	<i>Gender</i>	<i>N</i>	<i>CA Mean</i>	<i>SD</i>
Social & health sciences, arts, etc.	Male	24	14.00	3.36
	Female	56	13.32	3.92
Pure sciences & eng., architecture	Male	37	15.78	5.85
	Female	20	15.35	4.03
total		137	14.40	4.54

Manova results: Sig. of F for education area, .022; Sig. of F for gender, .484 (n.s.); Sig. of F for model, .021

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