



Developing teamwork skills in accounting students: is communication apprehension a potential barrier?

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ABSTRACT

Although research and pronouncements have identified the increased relevance of 'soft' skills for future professionals in accounting, graduates continue to exhibit deficiencies in those skills. Employers and practitioners emphasize that the dynamic business environment requires more than just technical knowledge; excellent teamwork, communication and analytical skills are also of paramount importance. Despite numerous attempts to improve teamwork skills there is evidence that the responses to the acknowledged deficiencies have not been successful and there is a lack of understanding about the constraints that could hinder the skills development. Some results point to anxiety towards communication as a reason for the unwillingness to interact in group situations and therefore as a constraint for skills development, although the connection between communication apprehension and development of teamwork skills has not been investigated. Therefore, the present study examines the relationships between communication apprehension and communication self-efficacy and teamwork skills self-efficacy, in order to understand to what extent communication apprehension influences self-efficacy beliefs and forms a potential barrier. Our results indicate a negative influence of communication apprehension on teamwork self-efficacy, both direct and mediated by communication self-efficacy; whereas there is a relevant positive association between self-efficacy beliefs. This pattern of relationships provides relevant insights about how the constraints could be alleviated, which that are discussed in the paper.

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Desarrollo de capacidades de trabajo en grupo en estudiantes de contabilidad: ¿es la aprensión comunicativa una barrera potencial?

RESUMEN

Tanto los posicionamientos de instituciones contables relevantes como los resultados de la investigación coinciden en destacar la importancia creciente de las capacidades transversales (soft skills) para los futuros profesionales en contabilidad y finanzas. Empleadores y profesionales resaltan que para desenvolverse en el dinámico mundo empresarial se requiere de algo más que conocimientos técnicos; así, las capacidades analíticas, de comunicación y trabajo en grupo son de la máxima relevancia. Sin embargo, pese a los intentos para desarrollar estas capacidades en la formación superior, siguen existiendo evidencias de que esas intervenciones no tienen el éxito esperado y parece haber una falta de conocimiento sobre las limitaciones que pueden estar dificultando el desarrollo de las mismas. Este estudio se centra en las capacidades de trabajo en grupo. Algunos indicios apuntan a la aprensión comunicativa (AC) como una posible causa de falta de interacción grupal, y por tanto como una posible barrera, aunque esta conexión no ha sido estudiada. En esta línea, el objetivo de este trabajo es examinar la relación entre la AC autoeficacia comunicativa y de trabajo en grupo, comprobando hasta qué punto puede constituir una limitación al desarrollo de capacidades. Los resultados indican que la AC tiene una relación negativa con la autoeficacia de trabajo en grupo, tanto directa como mediada por la autoeficacia comunicativa, mientras que las percepciones de autoeficacia están positivamente relacionadas entre sí. Este patrón de relaciones proporciona pistas, que se discuten en el trabajo, sobre cómo sería posible aliviar esta barrera.

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1. Introduction

There have been calls both nationally and internationally for changes in the objectives and pedagogic approaches to higher education (e.g. [Confederation of British Industry \[CBI\], 2009](#)) and specifically to accounting education (e.g. [Common Content Project, 2017](#); [International Federation of Accountants \[IFAC\]](#) from the 1996 Education Guideline to the recent 2017 version). The desired changes focus on the need to include the development of generic transferable skills as learning outcomes, particularly interpersonal and communication skills.

Among the most relevant soft, or transferable, skills are teamwork competences. The report *Graduate Employability - the views of employers*, published by the Council for Industry and Higher Education ([Archer & Davison, 2008](#)) states that 'soft' skills are vital and even more important than most 'hard' skills. Their research asked employers to indicate the skills and capabilities they considered important when recruiting new graduates; team-work skills are listed in the second place, only behind communication skills. The [National Association of Colleges and Employers](#), in the *Job outlook report* (2017) indicate that "employers look at the resume for evidence of problem-solving skills and the ability to work in a team (...). These two attributes are equally important, with almost 83 percent of responding organizations saying they seek them" (p. 29). The importance of team-working skills to facilitate employability in graduates has also been recognised by academics (e.g. [Andrews & Higson 2008](#); [Dacre-Pool & Sewell 2010](#)), students (e.g. [Arnold et al., 1999](#)) and graduates in the transition to work ([Roepen, 2017](#)). The recent research of [Tan & Laswad \(2018\)](#), examining the employability skills of accountants cited in job advertisements, found that a "team player with a positive attitude and good communication skills appeared to be the most valued behavioural skill as perceived by employers" (p. 403).

Therefore, as [Douglas & Gammie \(2019\)](#) affirm, the literature is conclusive on the importance of non-technical skills for accountants. Consequently, there have been numerous attempts to integrate these skills into accounting programmes ([Bunney et al., 2015](#)) through both content-orientated and instructional-orientated approaches ([Douglas & Gammie, 2019](#)). Among the instructional-orientated approach experiences, where alternative instructional teaching strategies are used to create favourable context, recent research has focused on business simulations ([Levant et al., 2016](#)), workplace simulations ([Bautista-Mesa et al., 2018](#)), internships ([Urquía-Grande & Estébanez, 2020](#)) or team-based learning ([Christensen et al., 2019](#)).

However, in the case of teamwork related skills there is evidence from both graduate recruiters in general, and accounting employers in particular, that the improvements are not meeting employers' expectations (e.g. [Albrecht & Sack, 2000](#); [Jones, 2014](#); [Wells et al., 2009](#)). [Jackling & De Lange \(2009\)](#), when commenting on the continuing skills gap, stated that it is a widely recognised problem that unifies all key stakeholders - educators, employers and professional accounting bodies- in their call.

The question to be answered is then is why is the changed emphasis and pedagogy not succeeding? Although the literature points to several alternative barriers, there is a lack of understanding about the constraints that hinder teamwork skills development in our area, and one of these options (the effect of communication apprehension) has not been studied to date. Communication apprehension has been identified as of interest to accounting education research, but

the link between CA and teamwork skills development has not been investigated. This link is explained by the relationships between CA and self-efficacy beliefs, as defined by [Bandura \(1977\)](#). Students need to develop social communication skills in order successfully integrate in teams and to combine their individual learning ([Oosthuizen et al., 2020](#)). The level of confidence students have in their ability to perform tasks requiring communication, and subsequently teamwork skills, could be negatively affected by the fear and anxiety associated with either real or anticipated communication (communication apprehension). As individuals are likely to avoid tasks where they have low self-efficacy beliefs, this could result in a major constraint for the development of the aforementioned skills. Consequently, the main objective of this paper is to examine the role of communication apprehension (CA) as potential barrier to teamwork skills development through its impact on self-efficacy beliefs; contributing to the existing literature by providing evidence on a link not previously researched.

2. Literature overview

2.1. The employer's expectation gap in accounting

There exists an expectations gap in general, and in accounting specifically, between the knowledge and abilities that employers expect to see in potential employees and what applicants present to them. As [Arquero et al. \(2017\)](#) note, this gap led to a debate that started in the USA three decades ago with the publication of several reports ([American Institute of Certified Public Accountants \[AICPA\], 1988](#); [American Accounting Association \[AAA\], 1986](#); [Arthur Andersen and Co et al., 1989](#)) that resulted in the creation of the Accounting Education Change Commission who in its Statement Position number 1 ([AECC, 1990](#)) endorsed the views on the importance of generic skills. These views soon become global in all statements by relevant accounting institutions (e.g. [AICPA, 1999](#) in the USA; [Common Content Project, 2017](#) in Europe; or at international level: [IFAC from 1996 to 2017](#)).

Research in the area of accounting education supports the skills gap reported by employers, mainly in team skills, leadership potential, verbal communication and the interpersonal skills of graduates (e.g. [Fouché, 2013](#); [Howcroft, 2017](#); [Jackling & De Lange, 2009](#); [Lim et al., 2016](#); [Kavanagh & Drennan, 2008](#)). It should be noted that students themselves are aware of the gap, [Bui & Porter \(2010\)](#) note that students positively value the technical coverage of accounting programmes, but still consider that some courses are too theoretical and "irrelevant to the demands of the accounting profession and divorced from the real world" asking for a better alignment between academic objectives and the development of the skills sought by employers in accounting graduates (p. 44).

In reality accounting courses have tended to underestimate the importance of certain soft skills (e.g. communication) in favour of technical skills ([Dolce et al., 2020](#)). Nevertheless, as students become professionals or employees, their opinions also tend to become more aligned with those manifested by employers, supporting the existence of the gap ([Yu et al., 2013](#)) and increasing, also, their competence awareness ([Bautista-Mesa et al., 2018](#)).

There is also a consensus about where this gap should be addressed: the [CBI \(2009\)](#) states that all students should leave university with the employability skills that match the needs of the workplace. Quoted in the same report John Griffith-Jones (Joint chairman, KPMG Europe) highlighted

the importance of team-working and communication and stated:

At KPMG we seek to recruit the best graduate talent out there – regardless of which university they attended. We will give our staff the specific training they need, but it is very helpful to their careers that they come to us with the right foundation of employability skills (CBI, 2009, p.47).

Results by Plant et al. (2019) confirms that entry-level employees in auditing firms need adaptability, communication, critical thinking, time management, self-management and teamwork skills and that the possession of these soft skills by early-career employees could alleviate pressures associated with the challenges they must face and increase retention.

2.2. Teamwork and curriculum development

In response to accounting professional accounting bodies, universities have increased their efforts to develop these skills (Bunney et al., 2015) and the results of Douglas & Gammie (2019) highlight that recent graduates, trainees in accounting firms, acknowledge the effort of accounting degrees trying to develop a wider range of skills.

In the case of teamwork skills, there have been interventions in class in order to develop generic skills and improve content learning by using cooperative learning and teams (e.g. Ballantine & McCourt Larres, 2009; Healy et al., 2018; Lancaster & Strand, 2001; Palazuelos et al., 2018; Tan, 2019), simulations or serious games (e.g. Bautista-Mesa et al., 2018; Best & Schafer, 2017; Buckless et al., 2014; Calabor et al., 2018; Levant et al., 2016) or permanent strategic teams in a team-based learning design (Christensen et al., 2019).

Other in-class experiences are focused on more specific objectives, such as developing a leadership mindset (e.g. Bloch et al., 2012), give specific guidance to avoid individualistic behaviours (e.g. Seow & Gowri Shankar, 2018) or on the acquisition of meeting management techniques (e.g. Kennedy & Dull, 2008).

Cottell & Millis (1992) and Healy et al. (2018) also highlighted the advantages of using collaborative work in accounting education, due to it not only helping in the development of the specific generic skills sought by employers but also in fostering peer learning, which can improve the overall quality of learning (Johnson & Johnson, 1987) and performance (Ciccotello & D'Amico, 1997; Ravenscroft et al., 1995) and enhances attitudes and perceptions about the subject (e.g. Caldwell et al., 1996).

2.3. Barriers to the development of teamwork skills

Although the importance of teamwork skills and the existence of a vocational skills expectation gap are widely acknowledged in accounting, there is a lack of understanding about the constraints that hinder their development. The literature mentions several, not mutually exclusive, reasons. Students who before entering higher education have developed independent study habits and are strongly focussed on personal achievement may see little worth in team activities and be reluctant to engage (Seow & Gowri Shankar, 2018). Parsons & Drew (1996) and Berry (1993) are concerned about potential conflicts between individual and collaborative behaviours. Hansen (2006) points to the students' lack of training on how to work in teams effectively. Bunney et al. (2015) and Douglas & Gammie (2019) highlight that the development of generic skills is a time-intensive and complex process that also requires expertise by academics on how to

effectively teach those skills (Rebele & St. Pierre, 2019). Burgoon & Burgoon (1974) after testing the effect of a range of variables on the lack of interaction in small group situations, suggested other possibility: a major reason for an unwillingness to communicate in group situations could be related to anxiety towards communication.

Communication apprehension (CA) was defined by McCroskey (1984) as “an individual's level of fear and anxiety associated with either real or anticipated communication with another person” (p. 78). Richmond & McCroskey (1989) developed the categorization of communication apprehension as being *trait* or *state*. The *state* typology is not personality based but is seen as being situational and is related to the perceived context of the communication situation (McCroskey, 1984). Regarding *trait* CA, Kelly & Keaten (2000) highlight that initially researchers tended to presume that trait communication apprehension is largely the result of social learning processes, but Beatty et al. (1998) proposed later a biologically-rooted explanation for the etiology of CA: the *communibiological paradigm*. This paradigm is deeply linked to the personality theories by Eysenck & Eysenck (1985), proposing that high trait communication apprehension is a manifestation of two of personality types: neuroticism and introversion. As Kelly & Keaten (2000) note, Gray's (1991) theory of temperament also plays a crucial role in the definition of the communibiological paradigm. Beatty et al. (1998) used Gray's *behavioral inhibition system* to explain the tendency of high trait apprehensives to experience anxiety and avoidance behaviours. The inhibition is activated by novel stimuli and perceived threat of negative consequences or the cessation of reward. Inhibition systems of apprehensive individuals are more easily and frequently activated, leading to anxiety and avoidance.

As major effects of CA, apprehensives tend to present not only communication avoidance behaviours (Richmond & McCroskey, 1989) but also lower levels of effective communications skills (Allen & Bourhis, 1996). The failure to communicate can have far reaching consequences by affecting the overall nature of interpersonal relationships through impacts at both individual and group levels, and on the subsequent perceptions of others (McCroskey et al., 1976). CA has been found to be a significant indicator of small group interaction (Sorenson & McCroskey, 1977).

Taking into account that the perceived volume and quality of contribution of an individual influences their acceptance by other group members, apprehensives are perceived by others as ‘quiet’ (Richmond & McCroskey, 1989) and are less likely to be welcomed as a member of a task-orientated group (Riecken, 1958). In researching the emergence of leaders in small groups Limon & La France (2005) noted the importance of low levels of CA as a major determinant.

CA has been an area of study by accounting educators because despite the relevance of communication skills for professional development, accounting students (and even practitioners) tend to present high levels of CA (e.g. Stanga & Ladd, 1990 and Simons et al., 1995 for USA students; Arquero et al., 2007, Byrne et al., 2009 for European students and Gardner et al., 2005 for New Zealand students). Borzi & Mills (2001) examined the effect of CA on the skills development of upper level accounting students. Their study confirmed high levels of CA in accounting majors, as reported in previous research studies, and identified significant levels of group reticence in such students; specifically, difficulties to work in group settings outside the supervision of the instructor, pointing to a potential link between CA and teamwork skills.

High anxiety was also recognised by Bandura (1997) as

a problem that could occur when individuals are learning and mastering new skills, becoming an obstacle in itself to an individual's success in such development. The individual concerned develops, then, a tendency to over-assess the requirements of the tasks while undervaluing their personal capabilities leading to a focus on "worrying about the consequences of failing and imagining perturbing scenarios of things to come and otherwise think themselves into emotional distress" (pp. 235-236). Fundamentally, the individuals concerned convince themselves that they are unable to achieve the specific task or activity. In his study of newly-hired entry-level accountants, Saks (1994) found this negative relationship between self-efficacy and anxiety.

As Eun (2019) highlights, "the basis of social cognitive theory is an interactional view of individuals and their environment (...). The personal factors of an individual, such as his or her unique cognitive functions and affective dispositions all affect what types of environments and activities within that environment the individual will choose. These choices in turn affect the further development of cognitive and affective processes in an ongoing process of mutual influence." (p.76) being self-efficacy the most influential construct within social cognitive theory and the stronger predictor of future behaviour. Bandura (1994) defined *perceived self-efficacy* as the levels of confidence individuals have in their ability to execute courses of action or attain specific performance outcomes; and it is independent of the skill requirement to actually achieve the specific outcome (Bandura, 1977). If the individual's perceived self-efficacy is substantially below the skill required, then this will become a major barrier to development in that contextual area. Conversely, if the individual's self-efficacy is substantially above the skill required this can also create problems (overconfidence). Ideally, an individual's self-efficacy level for a particular task should be slightly above the skill required, encouraging individuals to attempt tasks and gain experience (Hassall et al., 2013).

Hassall et al. (2013) suggested that efficacy expectations will influence task selection and the effort expended towards task completion. If an individual believes that they will achieve a specific outcome, they will be more inclined to attempt that task and put more effort into completing it, even if they encounter obstacles along the way. Individuals will attempt tasks for which they have high self-efficacy and avoid tasks where they have low self-efficacy. Individuals with self-efficacy lower than their actual ability are therefore unlikely to develop their skills.

The need to communicate imposed by teamwork situations (Oosthuizen et al., 2020) could, to some extent, give an indication why barriers are encountered when using interventions to develop team working skills. Specifically, in an accounting context, communication apprehension has been suggested to constrain the development of communication skills and subsequently could hinder the development of any other competence that requires communication (e.g. teamwork). However, the potential effect of CA on teamwork skills development has been scarcely treated by the literature with no study providing empirical evidence. The main contribution of the present paper to the existing literature is to study this connection, including a key factor: self-efficacy beliefs. Self-efficacy beliefs are the antecedents determining actual behaviour, being the individuals' perceptions about self-efficacy and tasks skills requirements what triggers the avoidance behaviours (Hassall et al., 2013). Therefore, the main objective of the present research is to determine the relationships between communication apprehension, communication self-efficacy and then, the variable to be explained: teamwork

self-efficacy.

2.4. Development of Hypotheses

The literature (e.g. Arquero et al., 2013; Hassall et al., 2013) provides evidence about the negative relationships between communication apprehension (CA) and communication self-efficacy (CSE), being a well-studied relationship. Therefore, we could state H₃ as follows: there is a negative relationship between communication apprehension (CA) and communication self-efficacy (CSE).

Teamwork (and related tasks in an academic context) require that members of the group communicate with other members (Oosthuizen et al., 2020) as well as to face different communication situations (e.g. to present the results of a case) and the literature supports the positive relationships in their combined development (e.g. Ballantine & McCourt Larres, 2009). Therefore, improvements in communication perceived efficacy may result in an increased confidence in teamwork tasks. Therefore, H₂ is stated as follows: there is a significant positive relationship between communication self-efficacy (CSE) and teamwork self-efficacy (TWSE).

Although the connection between communication apprehension and teamwork self-efficacy has been scarcely studied, Borzi & Mills (2001) linked CA with group reticence, level of discomfort when communicating in a group setting; Sorenson & McCroskey (1977) noted that individuals with high CA tend to avoid group participation and interaction, exhibiting more tension in such situations and Blume et al. (2013) reported a negative relationship between CA and students' willingness to take on leadership opportunities. Therefore, even the published evidence is limited, a negative relationship between CA and perceived self-efficacy in teamwork skills could be expected. H₃ is stated as follows: there is a negative relationship between communication apprehension (CA) and teamwork self-efficacy beliefs (TWSE).

It is to be noted that the three hypotheses presented (see also Figure 2, where a graphical model is presented) imply that the effect of CA on teamwork self-efficacy is not only direct (as H₃ suggests) but also indirect, acting communication self-efficacy as a mediating variable. This mediated effect (CA→CSE→TWSE) is suggested by the two links proposed by H₁ (CA→CSE) and H₂ (CSE→TWSE).

Additionally, the influence of communication apprehension on the other two variables (self-efficacy measures) is going to be tested by classifying the cases (students) in the sample into two groups by their CA level: those with lower scores in CA and those with higher score in CA (apprehensives) and comparing the self-efficacy scores for such groups.

3. Methodology

3.1. Sample and procedure

The sample consists of 300 final year undergraduates undertaking accounting modules on the accounting degree at Sheffield Hallam University. The gender composition of the sample is 69% female, 31% male with an average age of 22.5 years old.

The questionnaires were distributed during class time to all students. A member of the research team was present during this process. The minimization of common method variance was addressed following the recommendations by Podsakoff et al. (2003) for research design. First, the survey began with a brief introduction explaining the main objectives of the project without suggesting any relationship

between variables. Second, the survey indicated that all responses were confidential and only to be treated for research purposes at an aggregated level. Third, the member of the research team highlighted the importance of sincere answers, asking students to 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. Although participation was voluntary and there were no offers of rewards, all students present when the questionnaire was administered completed the questionnaire.

3.2. Instruments

The instrument used consisted of four sections¹. The first section gathered demographic information (age, gender and previous educational background). The second section focuses on oral communication apprehension and includes the Personal Report of Communication Apprehension (PRCA-24; McCroskey, 1984) in the version adapted to university students by Hassall et al. (2000) and used afterwards in accounting education research (e.g. Arquero et al., 2007; Hassall et al., 2013; Gardner et al., 2005). This questionnaire consists of 24 items to be answered on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree" resulting on 4 sub-scales as shown in Figure 2.

Figure 1. Measures (scales and subscales)

Oral CA (CA)	Formal Context	Presentations Interviews
	Informal Context	Conversation Group
Self-efficacy	Oral communication Self-efficacy (CSE)	Technical Context
	Team work Self-efficacy (TWSE)	Leader Follower-participant Conflict

The third and fourth sections of the questionnaire are focused on self-efficacy (Figure 1). The oral communication self-efficacy questionnaire (Hassall et al., 2013) asks students to what extent are they sure they could do a series of communication tasks or actions. It includes 16 items (see Appendix), split equally into self-efficacy to perform specific communication tasks in a wide array of contexts, e.g. "an extended individual presentation (30 minutes) on a given topic" (labelled *context*) and self-efficacy to fulfil the more technical requirements of communication situations (labelled *technical*), e.g. "make use of visual aids". The confidence level was to be rated using a scale ranging from 0 (*no confidence at all*) to 10 (*completely confident*).

The teamwork self-efficacy (TWSE) questionnaire was not obtained from the literature but developed *ex novo* for this research project. In the development the recommendations of Bandura (2006) were followed resulting in a 16 items instrument to be answered from 1 (not at all confident) to 7 (completely confident), where 4 is "unsure".

¹The appendix presents further information about the instruments, including all the items, descriptive statistics for items and scales and reliability scores (Cronbach's alpha). The resulting item-factor loadings of the exploratory factor analysis for TWSE items are also presented.

In order to identify the underlying factors (resulting in subscales), an exploratory factor analysis (principal components analysis, varimax rotation with Kaiser normalization) was performed. The resulting solution was a 3-factor structure that were interpreted and labelled as follows (all the items and their ascription to each scale is presented in Appendix):

- Leader (7 items): perceived confidence when adopting leadership roles and organising others.
- Participant or follower (6 items): perceived self-efficacy to integrate as a member of a team.
- Conflict (3 items): perceived self-efficacy of working in teams where there are potential conflict situations.

All the item-subscale loadings were 0.5 or higher (shown in the Appendix). The item-scale loadings as well as the internal consistency scores (alpha) are indicative of the reliability of the scales as defined.

3.3. Statistical procedure

The influence of CA on the self-efficacy measures is going to be checked in two complementary ways: by estimating the proposed model (Figure 1) where relationships between the three main variables are hypothesized and by comparing the level of self-efficacy (not the relationships) between high CA and low CA groups of students. Additionally, a correlation analysis (at subscale level) was performed to complement the results of the model.

Partial least squares path modelling (PLS-PM) was considered the best alternative to apply in this study to estimate the parameters of the proposed model (Figure 1). Among the major advantages PLS requires minimum assumptions for measurement scales, specification of measurement models (reflective or formative indicators), sample size, and data distribution (Chin et al., 2003; Hair et al., 2011). The model was estimated by using SmartPLS v3.2.7 (Ringle et al., 2015).

To perform the comparison between groups, the cases (students) in the sample had to be classified into two groups by their CA level. The *polar extremes approach* was used (Hair et al., 2014). Following this method (Hair et al., 2014), students were classified in three groups based on the distribution of the independent variable (CA); discarding the central range group for comparison purposes (George & Prybutok, 2015). SPSS was used to perform comparisons of means and correlations analyses.

4. Results

The internal consistency of all scales (Cronbach's alpha) is adequate (Appendix) ranging from 0.80 to 0.88 for CA subscales; from 0.81 to 0.95 for communication self-efficacy subscales and from 0.80 to 0.88 for team self-efficacy sub-scales.

4.1. Comparison of self-efficacy scores by CA groups

The application of the *polar extremes approach* resulted in the two comparison groups shown in Table 1, one comprising the low CA students (n: 110), with an average CA level of 58.48, and the other the high CA students (n: 105) with an average CA level of 83.54. The difference in CA level between both groups is relevant (43% of increase in CA average score) and statistically significant.

Table 1. Descriptive information for low – high CA groups

Groups	N	CA mean	SD	Range	Anova sig.
Low_CA	110	58.48	7.00	33-66	0.000
High_CA	105	83.54	6.16	76-110	
Total	215	70.72	14.18	33-110	

Note: The central group, discarded for comparison purposes, consisted of 85 students.

Table 2 presents the comparison of self-efficacy scores between high_CA and low_CA students. In all measures, *apprehensives* present significant lower levels of self-efficacy with relevant differences in communication self-efficacy and perceived confidence when adopting leadership roles and organising others (TWSE leader). These differences are more evident at scale level. The overall communication self-efficacy score of low apprehensive students is 111.86 whereas it is 85.02 for the students at the high CA group (26 points lower). The difference in overall teamwork self-efficacy scores is not as large, but still relevant: 94.68 vs 81.25.

Table 2. Comparison of self-efficacy scores by CA groups

		Mean	SD	Anova sig.
CSE_context	Low_CA	57.25	7.68	0.000
	High_CA	43.29	8.83	
CSE_technical	Low_CA	54.62	9.75	0.000
	High_CA	41.72	9.99	
CSE	Low_CA	111.86	16.37	0.000
	High_CA	85.02	17.59	
TWSE_leader	Low_CA	5.03	0.79	0.000
	High_CA	4.14	0.90	
TWSE_follower	Low_CA	5.76	0.62	0.000
	High_CA	5.14	0.66	
TWSE_conflict	Low_CA	4.97	0.81	0.000
	High_CA	4.25	0.81	
TWSE	Low_CA	94.68	12.05	0.000
	High_CA	81.25	12.51	

Note: TWSE and CSE scales were obtained by adding the scores of the 16 individual items.

These results are suggesting a negative influence of communication apprehension on efficacy expectations in both communication and team-working skills.

4.2. Relationships between variables: model estimation and correlation analysis

The hypotheses to be tested defined the structural model proposed in Figure 2. This model suggested a direct relationship between oral communication apprehension (CA) and both communication self-efficacy (CSE) and teamwork self-efficacy (TWSE) and a direct relationship between communication self-efficacy (CSE) and teamwork self-efficacy (TWSE). This pattern of links implied, therefore, that there is also an indirect relationship of CA over TWSE in which CSE acts as a mediating variable.

Figure 2 and Table 3, panel A, show the results of the estimation for the structural model, including the estimated coefficients (paths) and p values².

²PLS estimates the parameters using a bootstrapping procedure. A large number of random subsamples are created with randomly drawn observations from the original set of data (with replacement). Each subsample is then used to estimate the PLS path model and the set of estimated parameters for the subsamples allows the calculation of the p values. In our model case, 500 subsamples, bias corrected accelerated bootstrap and mean replacement for missing data was used. One tail estimation was used because our hypotheses included not only the existence of relationships but also the sign.

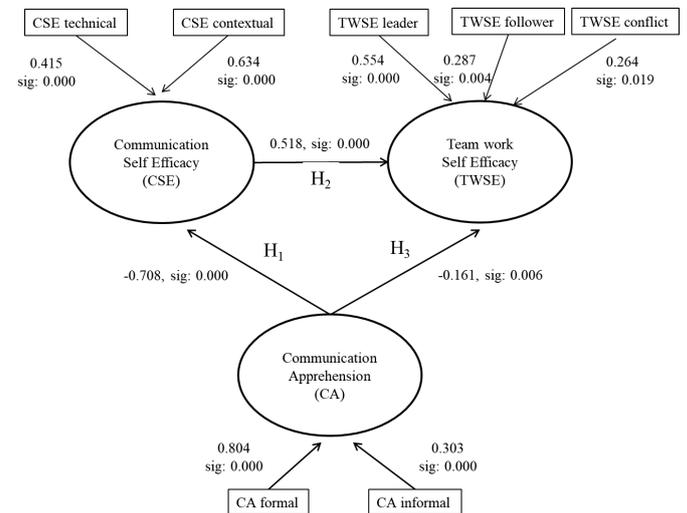
As it was expected in H₁ there is a negative relationship between communication apprehension and communication self-efficacy (CA→CSE) in this case the direct relation is strong and significant ($\beta=-0.708$, $p<1\%$). The results also support H₂: there is a positive moderate-strong relationship ($\beta=0.518$, $p<1\%$) between self-efficacy measures (communication – teamwork).

Table 3

Panel A: Estimated paths (original sample and bootstrapping) and bias corrected confidence intervals							
	Original sample	Boots-trapping			Bias corrected interval		
	Path	SD	Path (mean)	t value	Bias	5.0%	95.0%
H ₁ CA→TWSE	-0.161	0.064	-0.166	2.54	-0.004	-0.267	-0.062
H ₂ CSE→TWSE	0.518	0.057	0.519	9.071	0.001	0.415	0.607
H ₃ CA→CSE	-0.708	0.028	-0.709	25.015	-0.001	-0.751	-0.662

Panel B. Total effect communication apprehension - teamwork self-efficacy					
	Original sample	Bootstrapping			
	Path	SD	Path (mean)	t value	P value
H ₁ CA→TWSE	-0.528	0.045	-0.534	11.827	0.000

Figure 2. Estimated model. Paths, weights and p values



The less studied relationship of our model in the previous literature, H₃ proposed a negative relationship between communication apprehension and teamwork self-efficacy (CA→TWSE). The results support H₃; there is a significant negative direct relationship, not strong ($\beta=-0.161$, $p<1\%$) but statistically significant. Therefore, there is evidence of a negative direct impact of communication apprehension on teamwork self-efficacy. However, the effect of apprehension is not only direct, but also indirect, with communication self-efficacy (CSE) acting as a mediating variable. To assess the strength of this combined effect, direct and indirect, the total effect must be calculated. The total effect of communication apprehension on teamwork self-efficacy (Table 3, panel B) indicates that the real influence of CA over teamwork self-efficacy (TWSE) is not weak, but moderate-strong and statistically significant (-0.528, $p<1\%$), due to the indirect effect mediated by communication self-efficacy. Therefore, the final effect of CA on teamwork self-efficacy is much higher than the direct one due to the relevant negative impact of CA on communication self-efficacy and the strong relationship between both self-efficacy measures.

Although some aspects of teamwork self-efficacy could be

expected to be more closely related to informal communication (which is defined by the *group* and *conversation* CA subscales, as shown in Figure 1), CA related to formal (academic) contexts have a much greater influence than informal CA in the formation of CA in the model. This can be observed in Figure 2, for the proposed model, CA formal subscale presents a weight of 0.804 on CA scale, whereas CA informal presents a much lower weight (0.303). The additional correlation analysis (Table 4) confirms the stronger influence of formal CA: teamwork self-efficacy (TWSE) is strongly correlated with CA in *formal* settings (-.487 vs. -.434 for CA *informal*), being *interviews* the subscale with the highest correlation coefficient with TWSE (-.444) whereas CA related to *group* situations is the subscale that presents the lowest correlation coefficient with teamwork self-efficacy (-.334). It is to be noted, that, also, CA in formal settings (presentation and interviews) are the areas where students exhibit higher levels of CA (40.10 of average score for CA formal vs. 30.69 for CA informal, detailed data in the Appendix).

Table 4. Correlations TWSE – CA and CSE

	CA formal	Interview	Presentation
TWSE_leader	-.480	-.430	-.420
TWSE_participant	-.399	-.368	-.339
TWSE_conflict	-.427	-.395	-.362
TWSE	-.487	-.444	-.419
	CA informal	Group	Conversation
TWSE_leader	-.407	-.332	-.370
TWSE_participant	-.423	-.364	-.369
TWSE_conflict	-.345	-.214	-.368
TWSE	-.434	-.334	-.410
	CSE	CSE context	CSE technical
TWSE_leader	.606	.567	.586
TWSE_participant	.543	.514	.518
TWSE_conflict	.545	.528	.507
TWSE	.634	.599	.605

Note: All Correlations coefficients (Pearson) are significant ($p < .000$).

The strong positive link between self-efficacy in communication situations and teamwork self-efficacy obtained in the estimated model is confirmed by the correlation analysis (Table 4) which shows a correlation coefficient between TWSE and CSE of .634; indicative of the solid connection between communication and team-working skills (frequently included in the same category of competences: interpersonal). At subscale level, both CSE subscales (context and technical) seems to be equally correlated with TWSE (.599 and .605, respectively). However, the weight of CSE subscales in the formation of the CSE scale showed in the model (Figure 3) is indicative of a higher influence of CSE context (.634 vs .415). It should be highlighted that two of the context related items (extended individual presentation and full individual presentation) have the lowest self-efficacy scores (5.2 and 4.5 out of a maximum of 10, all items and scores presented in the Appendix). Therefore, again are formal contexts linked to presentations where students present the highest apprehension and the lowest self-efficacy.

The model presents a good predictive power, yielding a R^2 of 0.502 for communication self-efficacy and 0.413 for teamwork self-efficacy (adjusted R^2 of 0.500 and 0.409 respectively). From the literature review we could expect a significant influence of communication related variables on teamwork self-efficacy but not necessarily a high explained variance for TWSE, given that other factors that potentially could affect TWSE are not included in the model. However, the influence of communication variables (CA and CSE) on teamwork self-efficacy is able to explain around 40% of the

variance for TWSE, and only communication apprehension is able to explain 50% of CSE variance, which, given the simplicity of the model could be considered high.

Finally, the goodness of fit indicators, calculated in the PLS procedure, are indicative of a good fit: the NFI (Bentler & Bonett, 1980) is 0.98 (above .95) and the SRMR is 0.026 (below .08), which is generally considered a good fit (Hu & Bentler, 1999).

5. Conclusions and implications

The main conclusions of the paper are as follows:

Teamwork self-efficacy beliefs are explained in a high degree by communication apprehension and communication self-efficacy. The relevant influence of communication apprehension on teamworking is not direct but mediated by communication self-efficacy beliefs. A high level of communication apprehension can be a strong barrier to teamwork skills development by negatively influencing communication self-efficacy beliefs and consequently teamwork perceived self-efficacy. Apprehension and self-efficacy linked to communication in formal contexts seems to have a greater influence in the formation of teamwork self-efficacy and therefore will require a special attention.

The main implications for educators are as follows:

As self-efficacy beliefs are a strong predictor of future behaviour (Eun, 2019) any intervention trying to develop teamwork skills and improve teamwork self-efficacy should pay attention also to increase communication self-efficacy and decrease communication apprehension at the same time.

Special attention should be directed to communication in formal contexts, in which students appear to present higher apprehension and lower self-efficacy.

As insights about how to alleviate effect of communication apprehension and increase self-efficacy the following are suggested.

Regarding communication apprehension, although the communibiological paradigm links trait communication apprehension to personality (nature), Beatty et al. (1998) highlight that environment (nurture) also plays a relevant role in trait communication apprehension; a role that is determinant for state communication apprehension (which is associated with specific contexts and situations). Kelly & Keaten (2000) note that Eysenck & Eysenck (1985) admit that although environment is only half as important as heredity, the is still very relevant and for any given individual, environment may have even a more substantial impact and, therefore, treatments may have a strong effect in communication anxiety.

Kelly & Keaten (2000) lists the following main types of treatment to reduce CA:

- Systematic desensitization,
- Cognitive therapies (such as rational-emotive therapy or cognitive restructuring),
- Visualization and
- Skills training.

From these alternatives, *skills training* is the most likely to be implemented by educators; the others being the domain of specialists. Kelly (1997) indicates that the essence of skills training is to teach individuals the skills required to perform competently in certain communication contexts adding that there is substantial evidence that skills training programs are effective in reducing fear of communication.

As was indicated previously the inhibition systems of apprehensive individuals are more easily and frequently activated leading to anxiety and avoidance and this activation occurs under the presence of *novel* stimuli and perceived threat of *negative consequences* and/or the cessation of reward.

The “sink or swim” approach to introduce activities supposedly with the intention of developing skills, but without a previous training for students and a proper mentoring can only lead to an increase of anxiety and perceived threat by apprehensives; resulting in avoidance and low performance and reducing, as [Bonura \(2006\)](#) notes, a potentially competent student to an insecure and discouraged one.

As [Kelly & Keaten \(2000\)](#) suggest, apprehensives have been taught, through association, that certain stimuli (communication situations) possess the potential for punishment or a decrease in reward; and the punishments they fear and rewards they seek pertain to social evaluation and approval. Therefore, skills training can act in a first instance by providing experiences that reduce the perceived novelty in a controlled environment that should not be considered as threatening by the individual (e.g. not formally assessed in terms of grades, using mainly for constructive feedback). The reduction of threats of negative consequences could be also attained by giving anxious students clear instructions and structures (e.g., how to organize a speech, the parts of an introduction and conclusion, etc.) and thus may enable them to feel they are following the rules that result in a satisfactory performance. It is interesting to remember that the highest apprehension and lower self-efficacy scores were related with communication in academic formal contexts: presentations and interviews. Those communication situations are not usually present out of classroom (or workplace), therefore are perceived as novel stimuli, therefore training and specific formation on how-to perform well could be helpful reducing novelty and providing technical guidance.

A professional area in which the attention to communication skills development has been firmly established is healthcare. The need to communicate with patients, and their relatives, under critical conditions as well as the need to share relevant information between specialists resulted in an increasing focus for researchers on communication training. The results published in this area supports the positive effect of specific training (e.g. [Hagemeier et al., 2014](#); [Nørgaard et al., 2012](#)) providing evidence that communication training is translated into a better communication performance that remains effective in the long term ([Gulbrandsen et al., 2013](#)). Comparing the results obtained by two different interventions: traditional training course vs scenario-based simulations, [Hsu et al. \(2015\)](#) found that both had positive effects, but scenario-based simulations provided better results in terms of performance improvement and learner satisfaction.

Therefore, there is enough empirical support for the beneficial effects of the skills training. Although the introduction of specific communication and teamwork courses or seminars is recommended, the integration of skills development into the accounting curriculum should not be neglected. An accompanying instructional-orientated approach ([Douglas & Gammie, 2019](#)) developing non-technical skills within accounting topics is also needed, but once the communication training has provided students with the proper techniques to deal with formal communication situations increasing their self-confidence.

Focusing on self-efficacy, from a socio cognitive theory point of view, training models are able to improve self-efficacy and performance by *enactive mastery experiences* as

well as *vicarious experiences* ([Eun, 2019](#)). Although the most influential source of self-efficacy is enactive mastery, the strength and influence of other sources differ due to contextual factors ([Usher & Pajares, 2008](#)). [Bandura \(1986\)](#) identifies three elements that describe enactive mastery experiences; the event is real (contrariwise to *visualization* techniques), the individual concerned directly experiences a sense of success in performing the action and the event is seen as contributing to the attainment of an overarching immediate or long-term goal. It follows that individuals will measure and interpret their performance, and those experiences interpreted as successes will raise self-efficacy while those interpreted as failures will erode self-efficacy. The more difficult the task performed, as perceived by the individual concerned, the greater the increase in self-efficacy.

Vicarious experience, a weaker source of self-efficacy belief, is where an individual observes a peer succeed at a task which in turn can strengthen the individual's belief in their own abilities. Credible feedback can be an important source of *verbal persuasion*. Although verbal and social persuasion are considered weaker sources of self-efficacy belief than those previously mentioned, ‘persuaders’ can play an important part in building self-efficacy belief. It must also be noted that it may actually be easier to undermine an individual's self-efficacy through persuasion than to enhance it ([Usher & Pajares, 2008](#)). Finally, an individual's emotional state can also influence self-efficacy beliefs; therefore, a positive approach can be beneficial whilst anxiety is a strong undermining factor. These sources of self-efficacy beliefs need to be considered carefully in terms of pedagogic approaches that can be used in accounting courses and specifically in communication situations.

6. Limitations and future research

The present paper has several limitations that define at the same time future research lines. The students who made up the sample were enrolled at one University. In order to obtain more generalizable results, samples obtained in other Universities should be studied. Samples of students enrolled in different courses (e.g. entry level and final courses), along with information about their experiences on skills development could give an insight into the effect of formal education on their apprehension and self-efficacy levels. A future line of research could be to incorporate in the model variables measuring actual performance in teamworking and communication skills as well as measures of academic self-efficacy.

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Conflict of interests

The authors declare no conflict of interest.

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Appendix

Instruments: Items, descriptive statistics and internal consistency (Cronbach's alpha)

Oral Communication apprehension

(Please indicate the degree to which each statement applies to you.)

item -subscale	Min.	Max.	Mean	Std. Dev.
OCA formal contexts (alpha: .879)	21	58	40.10	7.06
Interview (alpha: .849)	9	30	19.93	4.00
Generally, I am nervous when I have to participate in an interview	1	5	3.75	0.90
Usually I am calm and relaxed while participating in an interview	1	4	2.52	0.86
I am very calm and relaxed when I am called upon to express an opinion at an interview.	1	5	2.56	0.85
I am afraid to express myself at interviews.	1	5	2.92	0.94
Speaking at interviews usually makes me uncomfortable	1	5	3.07	0.93
I am very relaxed when answering questions in an interview	1	5	2.72	0.82
Presentation (alpha: .818)	8	29	20.17	3.96
I have no fear of giving a presentation.	1	5	2.45	0.87
I feel very tense and nervous while giving a presentation.	1	5	3.54	0.95
I feel relaxed while giving a presentation.	1	5	2.41	0.72
My thoughts become confused and jumbled when I am giving a presentation.	1	5	3.28	0.97
I face the prospect of giving a presentation with confidence.	1	5	3.04	0.81
While giving a presentation I get so nervous, I forget facts I really know.	1	5	3.25	1.10

For the purpose of this questionnaire "interview" means a formal conversation between you and a lecturer/employer and* "presentation" means a formal verbal communication given to an audience.

item -subscale	Min.	Max.	Mean	Std.Dev.
OCA informal contexts (alpha: .876)	12	55	30.69	6.71
Group (alpha: .799)	6	27	14.44	3.49
I dislike participating in group discussions.	1	4	2.04	0.71
Generally, I am comfortable while participating in a group discussion.	1	5	3.85	0.68
I am tense and nervous while participating in group discussions.	1	5	2.43	0.91
I like to get involved in group discussions.	2	5	3.79	0.78
Participating in a group discussion with new people makes me tense and nervous.	1	5	3.01	0.99
I am calm and relaxed while participating in group discussions.	1	5	3.39	0.83
Conversation (alpha: .876)	6	29	16.25	4.25
While participating in a conversation with a new acquaintance, I feel very nervous	1	5	2.81	1.01
I have no fear of contributing my ideas during conversations	1	5	3.26	0.90
Usually I am very tense and nervous in conversations.	1	5	2.6	0.86
Usually I am very calm and relaxed in conversations.	1	5	3.32	0.85
While conversing with a new acquaintance, I feel relaxed.	1	5	3.12	0.84
Im afraid to express my opinions during conversations	1	5	2.54	0.88

For the purpose of this questionnaire "group discussions" means an informal discussion involving several of your colleagues and "conversation" means an informal discussion involving you and a colleague.

Oral Communication self-efficacy

(How sure are you that you could do the following?)

item -subscale	Min.	Max.	Mean	Std. Dev.
Tasks-contextual (alpha: .911)	22	76	50.78	10.26
A brief discussion with your friends on a topic you enjoy	4	10	8,4	1,3
An informal discussion with a lecturer on a topic you enjoy	3	10	7,3	1,5
A class discussion	3	10	7,1	1,3
A group presentation in class	1	10	6,5	1,6
A short individual presentation (5-10 minutes) on a given topic	1	10	6,0	1,7
An extended individual presentation (30 minutes) on a given topic	0	10	5,2	1,9
A full individual presentation (45 60 minutes) on a given topic	0	9	4,5	2,0
A formal individual interview with an employer	0	10	5,7	1,7
Technical (alpha: .948)	8	73	48.61	10.93
Identify the audiences requirements	0	10	6,0	1,5
Prepare a well organised and sequenced presentation with good introduction, body and conclusion	1	10	6,2	1,5
Control your fear	0	10	5,9	1,7
Speak clearly and confidently	1	10	6,1	1,7
Deliver the presentation staying focused and without getting off the topic	1	10	6,3	1,5
Display appropriate body language	0	10	5,9	1,7
Make use of visual aids	0	10	6,6	1,6

Teamwork self-efficacy items
I feel confident in my ability to...)

<i>item -subscale</i>	Min.	Max.	Mean	Std. Dev.	Loading
Leader (alpha: .884)	1.29	6.86	4.60	0.91	Factor 1
Work with others in a group adopting a leadership role	1	7	4.42	1.33	0.6
Critique the work of other group members	1	7	4.46	1.19	0.6
Express my opinions forcibly	1	7	4.57	1.11	0.7
Organise other group members	1	7	4.65	1.12	0.7
Motivate other group members	1	7	4.82	1.14	0.7
Make final decisions on behalf of the group	1	7	4.65	1.22	0.7
Deal with personal opinions within the group	1	7	4.62	1.15	0.7
Participant (alpha: .834)	2.17	7	5.48	0.68	Factor 2
Work with others in a group adopting a relevant role	2	7	5.27	0.88	0.6
Work in a group on work that is assessed	1	7	5.10	0.98	0.5
Work in a group where everyone contributes equally	2	7	5.77	0.80	0.8
Work in a group where there are no personal conflicts	1	7	5.78	1.01	0.8
Contribute my ideas in a group situation	2	7	5.40	0.91	0.6
Accept criticism of my work from other members of the group	1	7	5.55	0.96	0.5
Conflict (alpha: .798)	1.6	6.6	4.67	0.86	Factor 3
Work in a group where individual contributions are unequal	1	7	4.61	1.27	0.8
Work in a group where personal conflicts arise	1	7	4.30	1.29	0.8
Work in a group on work that is not assessed	1	7	4.89	1.01	0.6

Notes: As each TWSE sub-scale consists of a different number of items, the total scores are divided by the number of items to allow comparisons. The column *loading* presents the loading of each item in the resulting factor (principal components analysis, varimax rotation with Kaiser normalization). No item presented a load higher than 0.3 in other factor (cross loading).