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RESEARCH ARTICLE

Embarrassment in English language classrooms

Conceptualization, antecedents, and consequences

Gholam Hassan Khajavy[1], Dávid Smid[1], Sarah Mercer[1] and Carlos Murillo-Miranda[2,1]

[1]Department of English Studies, University of Graz, Graz, Austria and [2]Departamento de Educación Secundaria, Universidad de Costa Rica, San José, Costa Rica
Corresponding author: Gholam Hassan Khajavy; Email: gholam.khajavy-fadafen@uni-graz.at

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Abstract

This study is designed to understand embarrassment in the second/foreign language (L2) context. Following a mixed-method design, in Phase 1, a sample of 141 tertiary-level Austrian English language learners were asked to write a narrative about their experiences of embarrassment in their language learning histories. Analyzing the narratives showed that L2 embarrassment is a multidimensional construct that is frequently experienced by a range of language learners. In Phase 2, we developed and validated an L2 classroom speaking embarrassment (L2CSE) scale among a sample of 402 international English language learners drawing on the literature and analysis of the narratives. Data showed that L2 embarrassment is best represented by a bifactor exploratory structural equation model, capturing both general and specific aspects of L2 embarrassment. We found that a supportive classroom environment and fostering a growth mindset can decrease the risk of L2 embarrassment. As expected, L2 embarrassment was a negative predictor of willingness to communicate and self-perceived language proficiency. These initial findings suggest that L2 embarrassment could be an important and influential emotion in the language learning classroom context which requires further research.

Keywords: classroom environment; emotions; growth mindset; L2 embarrassment; willingness to communicate

Introduction

Research on emotions in the field of second language acquisition (SLA) has increased significantly in recent years. However, for about three decades (from around the mid-1980s to the early 2010s), anxiety was the predominant single emotion that SLA researchers examined, while other emotions were largely ignored (Dewaele & Li, 2020). With the introduction of positive psychology to SLA, researchers began working on a broader range of diverse emotions such as enjoyment (e.g., Dewaele & MacIntyre,

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2014), boredom (e.g., Li & Wei, 2023), and shame and guilt (Teimouri, 2018). One emotion that has not yet been examined in language education (see Mackay, 1993 as an exception), but which we believe could play a critical role, is embarrassment. Embarrassment is a social, self-conscious emotion in which a person feels some level of discomfort or awkwardness (Miller, 1996). The fact that language learning is a highly communicative activity characterized largely by interpersonal, and social interactions, we anticipate that embarrassment is an emotion that may be experienced frequently by learners (and indeed possibly also teachers) during language learning and use. Mishaps in communication using a language are common but can be frustrating and face-threatening (Williams, Mercer, & Ryan, 2016), which heightens the risk of embarrassment.

The aim of this study is to better understand the concept of embarrassment in language education by first gathering narrative data about participants' experiences of embarrassment during language learning. Secondly, following an analysis of these qualitative data for core themes, we developed a valid and reliable questionnaire to measure embarrassment specifically in the language education context. We administered this questionnaire to a global audience of tertiary-level English language learners and analyzed in what ways second/foreign language (L2) embarrassment is linked to its conceptually related antecedents and consequences, thereby helping create an understanding of its role in language learning processes and ways in which teachers could thus respond to mediate its experience and effects.

Literature Review

Embarrassment as a social–psychological construct

Embarrassment is a common experience (Benziman, 2020). As Miller (1995, p. 322) claims, "[w]henever people care what others are thinking of them, embarrassment is possible so that total immunity to embarrassment is probably rare indeed. In fact, a capacity for embarrassment may be one marker of normality." Indeed, embarrassment is so commonplace in human lived experience that Crozier (1990, p. 7) explains that, "we might think that a person who is never embarrassed (…) is lacking some important human quality, is insensitive, thoughtless, or uncaring."

Embarrassment is a self-conscious emotion meaning that it is tied to the cognitive processes of self-awareness and self-evaluation (Lewis, 1995). It emerges out of social interactions (Miller, 1995, 2007) and is thus dependent on how we believe others evaluate us and how we judge ourselves. The social nature of embarrassment is evinced in Miller's (1995) list of possible antecedents, which, interestingly, includes not only negative contexts, for instance, poor performance, forgetfulness, losing one's temper, and criticism, but also positive settings, such as praise. This socially situated component means embarrassment "is not produced by any specific situation; rather, it is produced by an individual's interpretation of a situation" (Lewis, 1995, p. 210).

Embarrassment also has unique behavioral and physiological characteristics. For example, embarrassed people tend to blush, exhibit clumsiness and discomfort (Miller, 2007), make stressful physical gestures and sounds (Withers, 2020), smile and touch their body, such as face and hair anxiously, and avert their gaze (Lewis, 1995; Miller, 1995). They are also likely to experience increased blood pressure (Miller, 2007). These behavioral and physiological outcomes can be important in telling embarrassment apart from other related emotions. For example, shame and anxiety/fear are rarely accompanied by smiling (Lewis, 1995), and shame, shyness, and anxiety/fear do not trigger nervous bodily actions, but are characterized by immobility (Lewis, 1995).

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Embarrassment seems to be a universal emotion experienced by all people (Miller, 2007). However, there can be cross-cultural differences in how embarrassment is experienced and managed as prior research comparing participants' responses from Asian and Western cultures has shown (Vaid, Choi, Chen, & Friedman, 2008). Furthermore, individuals' proneness to embarrassment, in other words, their embarrassability, can also vary (Miller, 1995). For instance, Kerschenbaum and Miller's (1991) study with college students linked embarrassability as an individual trait to fear of negative judgment, social disapproval and rejection, and motivation for social acceptance. At its worst, high embarrassability can result in timidity, social passivity, excessive imagination, and excessive preoccupation with and evaluation of oneself (Miller, 2007). In this study, we focus on the situation-specific, moment-to-moment emotional state of embarrassment experienced during language learning as opposed to the broader individual difference of embarrassability although we recognize that this trait may predispose someone to be more likely to report on state experiences of embarrassment.

Embarrassment in education

In the field of education, Martin (1987) collected qualitative data from high schoolers in Canada on their schooling experiences using an open-ended questionnaire item and identified various causes and consequences of embarrassment in the classroom. Reported causes included teachers' lack of understanding, patience, and care as well as excessive intrusion when it came to students' private lives, and high expectations. In terms of consequences, embarrassment was found to lead to disliking and being afraid of teachers, negative self-concepts, and learning setbacks (Martin, 1987). In a qualitative study among university students (Rowe & Fitness, 2018), it was found that embarrassment hindered help-seeking behavior as students felt uncertain about their teachers' reactions to their questions. Since a perception of public failure is an inherent part of embarrassing situations, Newkirk (2017) argues that there is a need for practitioners to create a classroom culture that promotes risk-taking and accepts failures as a natural part of the learning process without stigmatizing those who commit them, to minimize the occurrence of embarrassment.

Embarrassment in language learning

In language education specifically, research into language learner embarrassment is rare. This is perhaps especially surprising given the potential for its occurrence in this domain, which is known for the threat to face, the risk of social insecurity in expression, and the heightened risk of anxiety (Senowarsito, 2013). As Williams et al. (2016) point out,

> using a foreign language is closely connected with self-expression and if we feel limited in our ability to communicate personally meaningful messages, then we may feel that we are not projecting what we consider to be an accurate reflection of ourselves. This limited and restricted form of self-expression and the ensuing frustration can be extremely face-threatening and can undermine our sense of self, confidence, and feelings of security. (p. 87)

In one rare study on embarrassment in language learning, Mackay (1993) identified student behaviors accompanying embarrassment specifically in the L2 classroom

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based on classroom observations in a high school setting with English medium instruction in Canada. These behaviors included excessive delay in responding to a teacher's question or responding with silence or unintelligibly, among others. To complement these findings, strategies used by the teacher to deal with student embarrassment in the classroom were also established, for example, reasoning aloud and expanding minimal student responses. To the best of our knowledge, there is little or no research that has explored L2 embarrassment in diverse contexts or that has established a reliable scale for measuring it, and thus enabling it to be connected to other core constructs.

Hypothesized correlates of language learner embarrassment

L2 anxiety

L2 anxiety is perhaps the most well-known emotion in the domain of SLA (MacIntyre, 2017). Typically, L2 anxiety has been defined as "the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening, and learning" (MacIntyre & Gardner, 1994, p. 284). As such, it is regarded as a situation-specific anxiety as opposed to general anxiety, a personality trait, which entails experiencing anxiety in diverse situations (MacIntyre, 2017). Empirical research has predominantly provided evidence of the negative effects of anxiety ranging from lower grades to negative self-perceptions and weaker L2 self-confidence, among others (MacIntyre, 2017; Teimouri, Goetze, & Plonsky, 2019).

Although both embarrassment and anxiety are negative emotions and have similarities, previous research has highlighted that embarrassment and anxiety are two distinct emotions (Hofmann, Moscovitch, & Kim, 2006; Lewis, 1995; Miller, 2010). These differences can be related to the physiological aspects as anxiety is related to a higher heart rate (Hofmann et al., 2006) and lasts longer than embarrassment (Miller, 2010). Moreover, while anxiety is a negative prospective emotion linked to possible future failures (Pekrun et al., 2023), "embarrassment is reactive and contingent on event, incident, or scenario" (Jones, 2013, p. 17). Therefore, we hypothesize that although both are unpleasant experiences, L2 anxiety and L2 embarrassment are markedly different emotions. As such, we argue that there is a need to study embarrassment on its own. To be able to test the discriminant validity of these two emotions, in our study, we sought to measure them using different questionnaire scales.

L2 mindsets

Since its introduction to our field almost 15 years ago (Mercer & Ryan, 2010), the construct of L2 mindsets has proved to be indispensable to our understanding of SLA. Based on Mercer and Ryan (2010), it can be defined as an individual's belief in the malleability of language learning competence and can be divided into two types typically now positioned along a continuum. A *growth L2 mindset*, also known as incremental theory, endorses the view that one's language learning abilities can be significantly changed or developed by investing effort into learning and having opportunities and motivation. In contrast, a *fixed L2 mindset*, in other words, entity theory, stands for the belief that one's language learning abilities cannot significantly be improved as they are essentially given or 'fixed.' Depending on which of

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these two beliefs a language learner endorses, there can be significant differences in the learner's attitudes to and approaches towards language learning (Lou & Noels, 2019).

Previous research has indicated that, when encountering failures, individuals with a growth mindset attribute them to factors within their control, and as a result, they employ more adaptive strategies to achieve their goals (King, McInerney, & Watkins, 2012). This can subsequently prevent them from experiencing negative emotions, such as potential embarrassment (Khajavy, Pourtahmasb, & Li, 2022; King et al., 2012). Thus, in this study, we anticipate a negative relationship between L2 embarrassment and an L2 growth mindset.

Classroom social climate

Classroom social climate can play a crucial role in language learners' emotional and communicative experiences (e.g., Khajavy, MacIntyre, & Barabadi, 2018; Peng & Woodrow, 2010). It consists of teacher support and student support (Patrick, Ryan, & Kaplan, 2007). Teacher support refers to the extent to which students perceive their teachers to be helpful, supportive, and friendly (Peng & Woodrow, 2010). Student support refers to students' perceptions of their classmates' help, support, and friendliness (Peng & Woodrow, 2010).

Regarding the link between classroom social environment and emotions, previous research has reported that it is positively linked to L2 enjoyment and negatively to L2 anxiety (Khajavy et al., 2018; Li, Dewaele, Pawlak, & Kruk, 2022). In other words, supportive teachers and peers foster enjoyment and decrease anxiety in language classrooms. We believe that the social classroom environment could significantly influence the likelihood of experiencing embarrassment, given its social nature when "we see ourselves through the (real or imagined) eyes of others" (Tracy & Robins, 2007, p. 14). Thus, we hypothesize that a supportive classroom environment can decrease experiencing embarrassment in the language classroom.

Perceived language proficiency

Previous studies (e.g., Li & Wei, 2023) have found that L2 emotions are related to achievement. To measure achievement in the SLA context, authors use a variety of measures, such as course grades, language tests, elicited imitation tasks, and self-perceived language proficiency (Brown, Plonsky, & Teimouri, 2018). In this study, we used self-perceived language proficiency as an outcome variable as it is more time-efficient and has shown to have large correlations with more objective measures of proficiency, such as elicited imitation tasks (r = .75 with self-assessed speaking proficiency in Bowden, 2016).

Two meta-analytic studies have already reported the relationship between self-perceived language proficiency and language emotions including L2 anxiety (r = –.40; Brown et al., 2018) and L2 enjoyment (r = .30; Botes, Dewaele, & Greiff, 2022). Previous research has also consistently found that boredom, as an unpleasant emotion, is negatively related to language learning achievement (Li & Wei, 2023). Therefore, considering the unpleasant nature of embarrassment, we anticipate a negative relation between embarrassment and self-perceived language proficiency in the present study.

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Willingness to communicate in an L2

WTC is defined as "a readiness to enter into discourse at a particular time with a specific person or persons" (MacIntyre, Clément, Dörnyei, & Noels, 1998, p. 547). MacIntyre (2007) emphasized the dynamism of WTC under the premise that it may increase or decrease rapidly depending on situational changes. As such, it can be anticipated that positive and negative emotions experienced within a classroom may correlate with WTC and affect those rapid changes in a learner's WTC (see Khajavy, MacIntyre, Taherian, & Ross, 2021).

Research has shown that L2 WTC can be impacted by language learners' positive and negative emotions (Khajavy et al., 2021; MacIntyre & Gregersen, 2022). For example, among positive emotions, L2 enjoyment has been found to be a positive predictor of L2 WTC (Khajavy et al., 2018). Moreover, negative emotions such as anxiety have been linked to L2 WTC (Dewaele & Dewaele, 2018; Fattahi, Ebn-Abbasi, Botes, & Nushi, 2023; Khajavy et al., 2021). Therefore, we believe that embarrassment could be an important emotion related to L2 WTC. Research has indicated that embarrassment is linked to neuroticism and fear of negative evaluation, as a result of which individuals might show timid and inhibitory behavior in social contexts, which makes them unwilling to participate in social actions (Miller, 2007). Thus, we propose that language learners who are embarrassed in their language classrooms would be unwilling to communicate in the target language.

The present study

The present study sought to conceptualize the concept of embarrassment in the SLA context. For this purpose, we relied on an exploratory sequential mixed-method design consisting of two phases. For the first phase, a sample of English as a foreign language (EFL) learners at a tertiary level were asked to write a narrative about situations in which they had felt embarrassed during their language learning history. They were given the choice to write about having observed someone else's embarrassing situation if they did not feel comfortable sharing or if they had never been embarrassed. Participants wrote about their own (84%) or peer (16%) embarrassment. The narratives were analyzed to devise a framework from which to build an item pool to measure embarrassment in language learning. For the second phase of the study, we piloted and validated the L2 Classroom Speaking Embarrassment (L2CSE) scale among a sample of international tertiary-level EFL learners to investigate the theoretical antecedents and consequences of embarrassment. We aimed to answer the following research questions (RQs):

RQ1: What is the nature of EFL learners' experiences of embarrassment in language learning?

RQ2: To what extent do EFL learners experience embarrassment during language learning?

RQ3: Is the newly developed L2 Classroom Speaking Embarrassment scale a valid and reliable tool?

RQ4: To what extent do classroom social climate and L2 speaking mindset predict L2 classroom speaking embarrassment?

RQ5: To what extent does L2 classroom speaking embarrassment predict L2 WTC and self-perceived speaking proficiency?

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Phase 1

Methods

For the first stage of the data collection, 141 EFL tertiary-level learners in an Austrian university were asked to participate. The students were attending six classes with four different instructors, two of whom were researchers of the present study, and the other two were their colleagues. Four groups attended the preservice English teacher education program at the bachelor's level, two at the master's level, and so the students' English proficiency levels were between B2 and C1 (Council of Europe, 2020). They were invited by the instructors to write a short narrative about their experiences of embarrassment in their language learning histories. They were also given the option to write about their perceptions of embarrassment experienced by others. Taking part in the study was entirely voluntary and students could choose whether to opt in or not. No incentives or compensation were given for participation. The exact prompt students were given was the following:

> For homework, you should write a short narrative (around 250 words or more) describing a moment during your language learning history when you were embarrassed using or engaging with the language. If you feel uncomfortable describing your own experience, you can also describe an incident where you observed someone else and felt embarrassed for them. Please, provide details of what happened, how you felt, why you think you felt this way, and how it affected your behavior, if at all. In the final paragraph, reflect on what you have learned looking back on this experience for your future career as a teacher. What implications does it have for how you would like to teach? These narratives will form the inspiration for an in-class oral discussion.

A total of 50 narratives were received making the return rate 35%. Given that participation was voluntary, it is not clear whether students who did not choose to participate did so because they had not experienced situations of embarrassment before. Considering this, it can be suggested that embarrassment may be a common emotion for L2 learners, though more research is required to determine its prevalence. As six students submitted their narratives without including their consent, only 44 were transcribed and used for data analysis.

The four researchers on the team carefully read the narratives and memoed the data in a shared online file. Then, the team met to discuss the memos, differences in contextual interpretation, and emerging themes. Then, by taking an inductive approach and line-by-line coding (Charmaz, 2014), two researchers conducted a first wave of coding. Both researchers met and discussed the codes and came to an agreement on codes that needed merging. The second wave of coding was completed by two members of the research team based on the agreed approach to coding. Then, the team of four researchers met once more to discuss the final code list and refined it up to 47 codes from which four categories emerged: Situation, Social Comparison, Interpersonal Behavior, and Competence. An emerging factor from the data was how salient (n = 29) the emotion of embarrassment was in speaking-related activities and situations. Therefore, despite the analysis of the data originally being intended to help develop a general L2 classroom embarrassment scale, the data were instead used to create the L2 classroom speaking embarrassment scale, which was validated and implemented in the second part of the study. It is also telling that many participants

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had an experience of embarrassment to share (either own or of peers), suggesting the widespread commonality of this emotion among language learners.

Results

Situation

The participants described situations when they were embarrassed while using their L2 in the classroom. Many of those situations (n = 27) gravitated towards specific tasks within the classroom where they felt embarrassment: "during a presentation," "discussion in pairs," "in front of the class." They also elaborated on the nature of the specific activity and the type of audience which influenced their L2 speaking embarrassment: "[I]t was a class discussion about travel experiences, and my excitement quickly turned to embarrassment," "it is hell for me to present in front of an audience." Therefore, the nature of the situation, in particular the specific social interlocutors or audience, was determining when the participants experienced embarrassment.

Social comparison

A key contributor to feeling embarrassed was when learners compared themselves to their peers (n = 26). For example, nine learners indicated that they felt embarrassed when there were students with perceived higher proficiency: "During a speaking task, I had to communicate with one of my classmates and was completely overwhelmed by the vocabulary he was using," "Also, when my peers had a better language level than myself, I felt embarrassed about potential mistakes I might make, which is why I did not speak up at all." Additionally, the idea of other learners evaluating them was a cause of embarrassment, to the extent that the memory of that situation lasted for years:

> I remember that it was a tiny mistake and that 15 or more peers were listening to me making this mistake, bothered me very much as a student – to the point that I still remember the situation almost 10 years later.

This shows the potential extent of damage and inhibition embarrassment can cause and thus how important it would be to understand and mitigate this. Indeed, social comparison seemed to be an inhibitor of student participation. For example, one of the learners mentioned, "During the first lesson, I already noticed that some students were a lot better than me, so I became afraid of talking to them."

Interpersonal behavior

Another situation that caused embarrassment was when interpersonal communication failed such as when receiving negative feedback from teachers and peers or failing to participate in a conversation (n = 22). For example, they mentioned: "The professor was almost insulting me while giving her feedback." In some cases, despite learners trying to overcome the embarrassment produced by the received feedback, the feeling of embarrassment was strong: "After trying to answer one or two questions of the teacher during the lesson and always getting really bad feedback and the feeling of not being able to produce any good and correct English, I just felt embarrassed." Another aspect causing embarrassment was the frequency with which corrections were made: "I found the teacher's constant corrective measures discouraging and rather embarrassing."

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Peers also provided negative feedback about each other, which could trigger embarrassment: "[H]e stopped trying to have a conversation with me, went to the language teacher and told her, that my English [sic] was too bad for communication." Failure to participate in a conversation was also mentioned by some participants as a trigger: "I was much more focused on listening to the other person in a conversation and as a result, would not talk much at all. This led to me having some troubles [sic] speaking," and another participant explained, "I felt weird engaging in conversations with the locals because I felt I was not proficient enough."

Competence

Relatedly, embarrassment also emerged in the learners ($n = 24$) in the form of how they perceived their competence in the language. For example, in some cases, the embarrassment originated due to the feeling of not having the vocabulary knowledge to communicate: "I think those feelings originated in a lack of vocabulary as well as the emotions in the situation." Additionally, embarrassment also stemmed from the learners' perfectionism against which they always perceived a lack of competence: "My English seemed far away from 'perfect' at this moment" and "I feel that by now I should have reached a professional standard of English."

Phase 2

Methods

Participants

For the global survey, the sample comprised 402 adult tertiary-level, English language learners (40.8% female, 39.3% male, 4.2% who chose "other" or did not reveal their gender, and 15.7% missing). The participants were from 18 countries, but the majority were European and from Lithuania (n =153) and Austria (n = 111) followed by other nationalities (n = 71), while 67 did not reveal their nationality. The average age of the participants was 20.94 years (SD = 2.95, range = 18–40). Participants rated their overall English language proficiency at B2 (n = 165), C1 (n = 174), and C2 (n = 63) levels based on the Common European Framework of Reference (Council of Europe, 2020).

Regarding the participants' current level of study, most participants ($n_{\text{missing responses}}$ = 64) reported studying in a bachelor's program (n = 282), followed by the foundation or preparatory (n = 34), master's (n = 14), and PhD (n = 8) programs. Moreover, 140 respondents were English majors and 195 were non-English majors (e.g., engineering, education); 67 did not report their area of study. The majority of the participants ($n_{\text{missing responses}}$ = 65) reported their first language to be Lithuanian (n = 154) or German (n = 109) followed by 16 other languages (n = 74). Participants had experience of studying English from two to 30 years (M = 11.70, SD = 3.62). Finally, regarding studying abroad ($n_{\text{missing responses}}$ = 68), 295 participants did not study abroad, 27 studied in an English-speaking country, and 13 studied in a non-speaking English country.

Instrumentation

An online English questionnaire measuring L2CSE, classroom social climate, L2 speaking mindset, L2 anxiety, L2 WTC, self-perceived speaking proficiency, and sociodemographic data was used.

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Development of the L2 classroom speaking embarrassment (L2CSE) scale

To develop the L2CSE scale, we drew on literature and the analysis of the narrative data obtained in the first phase of the study. Accordingly, we produced an initial pool including 23 items measuring the proposed four factors of L2CSE: Situation, Social Comparison, Interpersonal Behavior, and Competence. This represents L2CSE as a multidimensional construct measuring different aspects of embarrassment in the language learning classroom. The items were measured on a five-point scale ranging from 1 (not at all true of me) to 5 (very true of me).

Concerning the components of L2CSE, Situation refers to social situations in the language classrooms that can cause embarrassment among the language learners, such as giving a presentation or doing role-play. Social Comparison refers to feeling embarrassed when a language learner believes their language skills are weaker than their classmates. Interpersonal Behavior is characterized by feeling embarrassed when interpersonal communication fails, when receiving negative feedback from teachers and peers, or when failing to participate in a conversation. Finally, Competence refers to feeling embarrassed stemming from language learners' perceived lack of competence. We obtained acceptable reliability coefficients for all subscales in both the pilot study and the main study (see below).

Classroom social climate

We measured two components of classroom social climate, namely, teacher support and student support using eight adapted items from Peng and Woodrow (2010). Each component was measured by four items (teacher support: e.g., "The teacher is patient while teaching;" student support: e.g., "I work well with my classmates") on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability coefficients showed that both components were reliable (teacher support: $\alpha = .74$, student support: $\alpha = .80$).

L2 speaking mindset

We measured the L2 speaking mindset by using four items from Papi, Rios, Pelt, and Ozdemir (2019). The items were adapted so as to assess the growth mindset for speaking ability (e.g., "You can always improve your speaking ability in English"). It was measured on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha coefficient supported the reliability of the scale ($\alpha = .80$).

L2 anxiety

To measure L2 anxiety, we used an adapted version of Botes, Van der Westhuizen et al.'s (2022) short-form L2 classroom anxiety scale. The scale included five items on a five-point scale ranging from 1 (not at all true of me) to 5 (very true of me). It should be noted that we omitted the item in the original scale that referred to embarrassment (i.e., "It embarrasses me to volunteer answers in my FL class.") to make it consistent with our initial proposition that L2 embarrassment and L2 anxiety are distinct emotions. One item was reverse-coded ("I do not worry about making mistakes in my English language class.") so that a higher score shows more anxiety. The Cronbach's alpha coefficient supported the reliability of the scale ($\alpha = .86$).

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Willingness to communicate in an L2

We measured WTC in English by nine items (e.g., "I am willing to give a short speech without notes in English to the class.") adapted from Peng and Woodrow (2010). It was measured on a five-point scale ranging from 1 (not willing) to 5 (willing). The items measured L2 WTC in different classroom activities. The Cronbach's alpha coefficient supported the reliability of the scale ($\alpha = .82$).

Self-perceived speaking proficiency

To measure self-perceived speaking proficiency, we relied on the levels and their descriptors developed by the Common European Framework of Reference (Council of Europe, 2020). Accordingly, participants were asked to rate their English-speaking proficiency from A1 to C2. For each level, a description was provided so that participants could select their proficiency level more easily (e.g., "A1: I can produce simple, mainly isolated phrases about people and places").

Data collection procedures

The data collection for the main quantitative stage of the research project was conducted online through the LimeSurvey platform offered by the University of Graz between January 15 and March 17, 2024. Participants were recruited using both convenience and snowball sampling methods (Dörnyei, 2007). More specifically, two of the authors invited their students to participate during class time, and all the authors reached out to colleagues in their professional networks through email and different social media channels (e.g., LinkedIn, X, Facebook) to ask them to fill out the questionnaire with their students and share the request for participation with their networks. Various methods were used to increase the response rate, such as sending personalized emails, distributing an appealing and user-friendly flyer, utilizing a progress bar in the LimeSurvey platform, and providing reciprocity on the final page of the questionnaire through potentially helpful websites for overcoming inhibitions, anxiety, and other negative emotions in language learning.

The completion of the questionnaire took about 5–10 minutes. Participants were required to indicate their consent by selecting a box on the initial page of the questionnaire before moving on to answer the questions. Another condition for participation was that the individual's self-rated English proficiency level had to be at least B2 (Council of Europe, 2020) to ensure they would adequately understand the items as the questionnaire was available only in English. Taking part was optional and anonymous, with no required compulsory completion of any items. No personally identifying information was collected. The Ethics Committee of the University of Graz granted ethical approval for the study (no. 39/7/63 ex 2023/24).

Data analysis

We used an exploratory factor analysis (EFA)-to-confirmatory factor analysis (CFA)/exploratory structural equation modeling (ESEM) approach (Swami, Maïano, & Morin, 2023; Swami et al., 2021) to examine the dimensionality of the L2CSE scale. We split the dataset randomly into two halves; the first half ($n = 188$) was used for an EFA, and the second half ($n = 189$) was used for cross-validation utilizing CFA/ESEM. We used Jamovi 2.2 (Jamovi Project, 2021) to run an EFA and parallel analysis. Moreover, we used Mplus 8.6 (Muthén & Muthén, 2018) for conducting a CFA, bifactor CFA (BCFA), ESEM, and bifactor ESEM (BESEM) using robust maximum likelihood (MLR)

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estimator to control any violations of normality in the data. We did not test a higher-order CFA model because a higher-order model with three first-order factors shows exactly the same fit indices as a three-factor correlated model. Missing data for the whole dataset ranged from .24% to 12.43% at the item level for the study variables. We used full information maximum likelihood to handle missing data in our CFA/ESEM models.

First, we ran an EFA to examine the factor structure of the newly developed L2CSE scale. The Kaiser–Meyer–Olkin (KMO) test was used to check sampling adequacy with values above .50 indicating that the sample size is enough (Field, 2013). Moreover, Barlett's test of sphericity was used to see whether the correlations between items were large enough to conduct an EFA. As we were interested in examining the factor structure, we used principal axis factoring as our extraction method (Field, 2013). Moreover, as we expected to find correlations between subscales of L2CSE, we utilized direct oblimin as an oblique rotation method (Field, 2013). Our criteria for retaining the number of factors were parallel analysis and interpretability of the factors (Field, 2013). Moreover, we kept items that had loadings above .40 and had no cross-loadings on other factors (Field, 2013).

After obtaining the optimal factor structure from the EFA on the first half of the sample, we conducted a CFA, BCFA, ESEM, and BESEM based on Alamer's (2022) and Morin, Arens, and Marsh's (2016) guidelines on the second half of the sample. We decided to run an ESEM and its bifactor model because it is common in multidimensional constructs for items to have cross-loadings with different factors. These cross-loadings are assumed to be zero in a CFA while they are taken into account in the ESEM and BESEM models (Morin et al., 2020). Furthermore, we tested bifactor counterparts of the CFA (BCFA) and ESEM (BESEM) solutions, which incorporated both a general factor (G-factor) and specific factors (S-factor). Using bifactor models allowed us to examine embarrassment holistically (global embarrassment) and specifically (four specific factors), and to simultaneously integrate all four components for further analyses.

To select the best-fitting model, we relied on Morin et al.'s (2016) step-by-step approach to compare our models. Several characteristics of the models were compared including goodness-of-fit indices, correlations among factors, factor loadings, cross-loadings, and composite reliability. Accordingly, first, we compared the CFA and ESEM models. Then, we compared the obtained optimal model with its bifactor counterpart, and we would continue with the bifactor model in case a well-defined general factor (G) and a part of the specific factors are obtained. Model fit was evaluated using root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker–Lewis index (TLI). Values of $\geq .90$ and $\geq .95$ for CFI and TLI and values $\leq .08$ and $\leq .06$ for RMSEA indicate acceptable and excellent fit, respectively (Hu & Bentler, 1999). Composite reliability was reported based on McDonald's ω. While it should generally be above .70, it can be $\geq .50$ for S-factors in BESEM models (Swami et al., 2023).

We used the final optimal model for building the SEM models in which the predictors and outcomes of L2CSE were examined. Before building the SEM models, we ran a CFA for other variables in our study which were further used in the SEM models. First, we examined the discriminant validity (Nunnally & Bernstein, 1994) of L2CSE by examining its link with L2 anxiety. Then, given the complexity of the models, we built three SEM models in which teacher support, student support, and growth L2 mindset were separately entered as predictors of L2CSE and used two SEM models in which embarrassment was a predictor of L2 WTC and self-perceived speaking proficiency. We used R^2 values from the SEM outputs to interpret the effect size of the

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models with $R^2 < .20$, $.20 < R^2 < .50$, and $R^2 > .50$ representing small, moderate, and large effect sizes, respectively (Plonsky & Ghanbar, 2018). In addition, we used standardized beta coefficients to explain the effect sizes for individual paths with $\beta < .20$, $.20 < \beta < .50$, and $\beta > .50$ representing small, moderate, and large effect sizes, respectively (see Botes, Dewaele, Greiff, & Goetz, 2024). Finally, with regard to statistical power, we followed Alamer's (2022) recommendation of a sample size of at least 300 participants to avoid convergence problems.

Results

Pilot study

Before collecting data for the main study, we piloted the L2CSE scale among a sample of 45 university students in Graz (18 male, 27 female). The purpose was to examine the reliability of the scale, to see if participants could understand items correctly, and to refine the wording of the items based on the participants' feedback. Reliability coefficients indicated that all subscales of the L2CSE scale had acceptable reliability (Competence: $\alpha = .93$, Situation: $\alpha = .62$, Social Comparison: $\alpha = .84$, Interpersonal Behavior: $\alpha = .84$), although the value for Situation was slightly lower than the recommended value of .70 (Dörnyei, 2007). However, participants found the items and instructions clear, and no further changes were applied to the wording of the scale, and we continued to gather the data for the main study based on these items.

Main study

Factor structure: Exploratory factor analysis and confirmatory factor analysis.

First, we ran an EFA to examine the factor structure of the newly developed L2CSE scale. In our study, KMO was .94 supporting the sampling adequacy (Field, 2013). Moreover, Barlett's test of sphericity indicated that the correlations between items were large enough to conduct the EFA (χ^2 (253) = 3097.34, $p < .001$).

Parallel analysis indicated three factors in the data (see Figure 1). Two items of the Social Comparison did not load on any factors, and one item had cross-loadings across two factors. Moreover, one item from Interpersonal Behavior, two items from Situation, and one item from Competence did not load on any factors. We removed all these seven items and ran the EFA again. Parallel analysis with 16 items again showed a three-factor solution accounting for 63.3% of the variance in items (see Table 1).

Then, we conducted a CFA, BCFA, ESEM, and BESEM on the second half of the sample. Goodness-of-fit indices for all four models are reported in Table 2. Accordingly, all four models have acceptable fit indices though the RMSEA for the three-factor CFA, BCFA, and ESEM is a little higher than the recommended value of .08. We followed Morin et al.'s (2016) guidelines and first compared the CFA and ESEM models. With regard to fit indices, the ESEM had better fit indices in comparison to the three-factor CFA model (ΔCFI = +.031, ΔTLI = +.013, ΔRMSEA = -.005). Then, we examined the parameter estimates of these two models (see Table 3). Both models had relatively high main factor loadings (CFA: $\lambda = .609$ to .860, $M = .776$; ESEM: $\lambda = .375$ to .936, $M = .687$) and acceptable composite reliability coefficients (CFA: $\omega = .829$ to .914, $M = .886$; ESEM: $\omega = .815$ to .904, $M = .869$). However, we decided to continue with the ESEM because the factor correlations were reasonably lower in the ESEM ($r = .440$ to .658, $M = .552$) than in the CFA model ($r = .529$ to .812, $M = .667$). The elevated factor correlations in the CFA model can be linked to the presence of relatively high cross-loadings. The ESEM solution resulted in 17 (out of 32) cross-loadings above .100,

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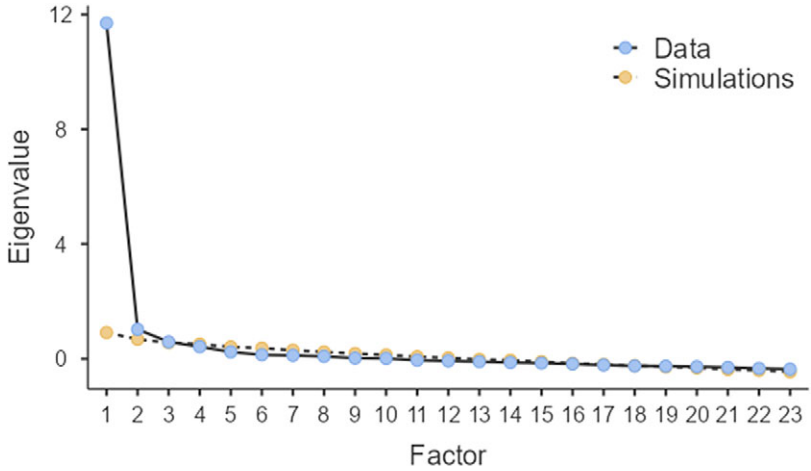


Figure 1. Scree plot for the initial L2CSE with 23 items.

which, if not taken into account, might lead to biased parameter estimates in correlations and regressions (Swami et al., 2023).

Considering these results, we retained the ESEM solution and contrasted it with its bifactorial counterpart. First, the BESEM solution had a much better fit compared to the ESEM solution (ΔCFI = +.031, ΔTLI = +.043, ΔRMSEA = –.022). Second, the BESEM solution produced a well-defined G-factor with high factor loadings (λ = .459 to .866, *M* = .654) and excellent composite reliability (ω = .953). Moreover, well-defined parameter estimates were obtained for S-factors including high factor loadings for Situation (λ = .290 to .652, *M* = .501) and reasonably high factor loadings for Competence (λ = .189 to .456, *M* = .353) and Interpersonal Behavior (λ = .127 to .660, *M* = .379). In addition, composite reliability coefficients were all above the recommended value of ≥ .50 (Swami et al., 2023) for S-factors (Competence: ω = .696; Interpersonal Behavior: ω = .756; and Situation: ω = .732). We also found that the number (reduced to 11 cross-loadings above .100) and magnitude of cross-loadings (no cross-loadings above > .30) have reduced for the BESEM solution in comparison to the ESEM solution. These findings support the superiority of the BESEM solution over the ESEM solution, and it is used for further analyses. A bifactor model of embarrassment suggests that we could simultaneously examine embarrassment both holistically (global embarrassment) and specifically (three specific factors) for further analyses.

Relationships between L2CSE, classroom environment, L2 anxiety, L2 speaking mindset, L2 WTC, and self-perceived speaking proficiency

First, we examined the relation between L2CSE and L2 anxiety to see if the former is discriminant from the latter. There was a large positive correlation between global L2CSE and L2 anxiety (*r* = .644, *p* < 001) and a medium positive correlation between Situation S-factor and L2 anxiety (*r* = .570, *p* < .001), but no significant correlations were found with Competence (*r* = –.199, *p* = .126) and Interpersonal Behavior (*r* = –.070, *p* = .479) S-factors. While these findings indicate that these two emotions are correlated, the size of the correlation is not large enough to consider them as two similar constructs (i.e., jangle fallacy, Kelly, 1927). According to Brown (2006, p. 166),

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Table 1. Results of the EFA for the L2CSE.

	Factors			
	Comp.	Inter.	Situation	Uniq.
1. I feel embarrassed when I cannot remember a word while speaking English with my teacher.	.547			.420
2. I feel embarrassed when I use a word incorrectly while speaking English with my teacher.	.888			.293
3. I feel embarrassed if I cannot pronounce a word correctly while speaking English with my teacher.	.823			.271
4. I feel embarrassed when I use a word incorrectly while speaking English in front of my classmates.	.734			.259
5. I feel embarrassed if I cannot pronounce a word correctly while speaking English in front of my classmates.	.660			.256
6. I feel embarrassed when my classmates laugh at mistakes I make when speaking English.		.485		.540
7. I feel embarrassed when my classmates tell me that I cannot speak English fluently.		.900		.322
8. I feel embarrassed when my classmates make negative comments about my spoken English.		.712		.269
9. I feel embarrassed when my teacher tells me that my spoken English is poor.		.590		.448
10. I feel embarrassed when I cannot participate in a conversation with my teacher because my English level is low.		.720		.386
11. I feel embarrassed when I cannot participate in a conversation with my classmates because my English level is low.		.675		.355
12. I feel embarrassed when I give a presentation in English.			.854	.307
13. I feel embarrassed when I do pair work speaking activities with classmates that I do not know well.			.780	.365
14. I feel embarrassed when I do role-play activities.			.548	.707
15. I feel embarrassed if I do speaking tasks in the English class that I feel unprepared for.			.595	.413
16. I feel embarrassed when I am unprepared for doing a speaking task in the English class.			.768	.259

Note: Comp = Competence, Inter = Interpersonal Behavior, Uniq = Uniqueness.

Table 2. Goodness-of-fit indices for the tested models.

	χ^2 (df)	CFI	TLI	RMSEA (90% CI)
Three-factor CFA	245.68*** (98)	.912	.892	.089 [.075–.103]
Bifactor CFA	191.32*** (85)	.936	.910	.081 [.066–.097]
ESEM	167.32*** (72)	.943	.905	.084 [.067–.100]
Bifactor ESEM	101.59*** (59)	.974	.948	.062 [.041–.082]
L2CSE and L2 Anxiety	257.88*** (140)	.972	.958	.047 [.038–.056]
L2CSE and Student Support	189.24*** (121)	.982	.971	.038 [.027–.048]
L2CSE and Teacher Support	160.19*** (121)	.989	.983	.028 [.015–.040]
L2CSE and Growth Mindset	191.44*** (144)	.981	.969	.039 [.028–.050]
L2CSE and L2 WTC	483.75*** (222)	.948	.930	.046 [.049–.063]
L2CSE and SPSP	129.88*** (71)	.982	.965	.046 [.033–.058]

Note: SPSP = Self-perceived speaking proficiency. *** p < .001

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Table 3. Parameter estimates for the tested models of L2CSE.

	CFA		Bifactor-CFA			ESEM				Bifactor-ESEM				
	λ	δ	G-λ	S-λ	δ	λ	λ	λ	δ	G-λ	S-λ	S-λ	S-λ	δ
Comp.														
Comp1	.794	.369	.696	.364	.383	**.483**	.329	.059	.397	.681	**.416**	.217	.056	.313
Comp2	.833	.305	.671	.521	.279	**.775**	.117	–.044	.308	.725	**.456**	.031	–.042	.264
Comp3	.835	.302	.659	.545	.269	**.854**	–.041	.064	.253	.763	**.367**	–.113	.042	.270
Comp4	.799	.362	.625	.480	.379	**.615**	–.036	.334	.318	.714	**.336**	–.076	.264	.301
Comp5	.860	.260	.789	.365	.244	**.744**	.190	–.004	.228	.866	**.189**	–.044	–.060	.209
ω	.914			.769		.889					.696			
Inter.														
Inter1	.807	.348	.844	–.066	.283	.320	**.473**	.117	.371	.812	–.051	**.127**	.016	.321
Inter2	.829	.313	.776	.194	.361	–.002	**.887**	–.018	.228	.679	.068	**.553**	–.047	.226
Inter3	.858	.264	.859	–.003	.262	.195	**.676**	.011	.323	.804	–.116	**.267**	–.083	.261
Inter4	.815	.336	.810	.014	.343	.349	**.565**	–.085	.368	.813	–.113	**.166**	–.173	.268
Inter5	.738	.456	.707	.851	–.225	–.018	**.758**	.077	.388	.619	.060	**.498**	.033	.364
Inter6	.745	.445	.705	1.148	–.815	–.213	**.936**	.092	.279	.580	.027	**.660**	.050	.225
ω	.914			.956			.904					.756		
Situ.														
Sit1	.771	.405	.444	.639	.395	–.195	.135	**.843**	.352	.459	–.050	.073	**.652**	.357
Sit2	.772	.405	.384	.710	.349	.090	–.150	**.812**	.354	.473	.029	–.132	**.637**	.351
Sit3	.624	.610	.341	.523	.610	.253	–.175	**.543**	.599	.462	.007	–.214	**.408**	.575
Sit4	.609	.629	.570	.285	.594	.108	.286	**.375**	.586	.538	.132	.173	**.290**	.579
Sit5	.724	.476	.467	.528	.504	.020	.100	**.660**	.479	.474	.131	.090	**.532**	.466
ω	.829		.962	.746				.815		.953			.732	

Note: Comp = Competence, Inter = Interpersonal Behavior, Situ = Situation

"factor correlation that equals or exceeds .85 is often used as the cutoff criterion for problematic discriminant validity." This finding supports the conceptualization of L2CSE as a distinct negative emotion from anxiety.

Then, we examined the relationships between L2CSE and five conceptually relevant constructs. These comprised three predictors including teacher support, student support, and growth L2 mindset, as well as two outcomes including L2 WTC and self-perceived speaking proficiency. We used the BESEM solution and the latent variables for our conceptually relevant constructs in structural equation models to investigate the relationships between the variables. For testing these structural models, we used the whole dataset by combining the datasets used for the EFA and CFA/ESEM analyses (Table 4). All models fitted the data well (see Table 2).

With regard to predictors of L2CSE, teacher support collectively accounted for 5% of the variance in all components of L2CSE representing a small effect size. Results showed

Table 4. Predictors and outcomes of L2CSE.

	Predictors			Outcomes	
	Teacher support	Student support	Growth mindset	L2 WTC	Self-perceived speaking proficiency
Global LSCE	.062	–.140*	–.206**	–.145	–.165**
Competence	.032	–.006	.059	–.116	.078
Interpersonal	.076	.122	–.120	–.150	–.064
Situation	–.197**	–.234**	–.254***	–.806***	–.372***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

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that teacher support (β = –.197, p = .005, small effect) was negatively associated with only the Situation S-factor, and no other significant associations with Global L2CSE and other S-factors were found. Moreover, the L2-speaking growth mindset collectively accounted for 12.4% of the variance in all components of the L2CSE representing a small effect size. Considering the General and S-factors, L2 speaking growth mindset was negatively associated with Global L2CSE (β = –.206, p = .003, moderate effect) and Situation S-factor (β = –.254, p < .001, moderate effect). Finally, student support collectively accounted for 9% of the variance in all components of the L2CSE representing a small effect size. Regarding the General and S-factors, student support was negatively associated with Global L2CSE (β = –.140, p = .049, small effect) and Situation S-factor (β = –.234, p = .001, moderate effect).

With regard to outcomes of embarrassment, findings indicated that L2CSE including both G- and S-factors accounted for 70.6% of the variance in L2 WTC (large effect size) and 17.6% of the variance in self-perceived speaking proficiency (small effect size). Regarding the former, Situation S-factor was negatively associated with L2 WTC (β = –.806, p < .001, large effect), but no other significant relations were found with Global L2CSE and other S-factors. Furthermore, Global L2CSE (β = –.165, p = .005, small effect) and Situation S-factor (β = –.372, p < .001, moderate effect) were negatively associated with self-perceived speaking proficiency.

Discussion

Theoretical understandings of L2 embarrassment

The first aim of this study was to explore to what extent language learners experience embarrassment during the process of language learning. Participants in Phase 1 of our study provided examples of different situations in which they or others experienced embarrassment, providing initial evidence that embarrassment can occur during language learning. This finding suggests that embarrassment can be a relevant emotion not only in our daily lives (Benziman, 2020; Miller, 1996) but also in language learning contexts. It underscores the need for further investigation of this construct more broadly, including identifying the factors that cause embarrassment in language classrooms and exploring its impact on key L2-related outcomes.

The narrative data in Phase 1 indicated that L2 embarrassment has a multidimensional character including four categories: Competence, Interpersonal Behavior, Social Comparison, and Situation. This is consistent with previous research in social psychology that has reported different types of embarrassment (e.g., Miller, 1992; Sabini, Siepmann, Stein, & Meyerowitz, 2000). For example, Miller (1992) differentiated between four categories of embarrassment: *individual behavior* (embarrassment due to a person's own actions, such as public deficiencies), *interactive behavior* (embarrassment due to interactions with others), *audience provocation* (others are the cause of embarrassment), *and bystander behavior* (feeling embarrassed because of others' behaviors). In another study, Sabini et al. (2000) distinguished between three forms of embarrassment: *faux pas* (making a mistake in a social context), *sticky situations* (a situation where a person threatens another person's identity), and *center of attention*. The categories we found in our study are similar to the ones reported by Miller (1992) and Sabini et al. (2000). For example, Competence in our model, which refers to a deficiency in linguistic knowledge, can be related to individual behavior in Miller's (1992) and faux pas in Sabini et al.'s (2000) categories. Interpersonal Behavior is similar to interactive behavior and audience provocation in Miller's (1992) model.

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Finally, Situation is similar to the center of attention in Sabini et al.'s (2000) model in which only exposure to a social context without any obvious failure causes embarrassment. It should be noted that while some studies have mentioned that embarrassment can be experienced in positive settings, such as during moments of praise (Miller, 1995), we found no instances of embarrassment in positive contexts. However, this may simply be because learners perhaps more typically associate embarrassment with the negative context and emotions. It would be worth exploring in future research to what extent positive sources of embarrassment are present among language learners, in what contexts, and how prevalent in relative terms these instances are compared to the negative contexts.

The second aim of this study was to develop and validate a scale to measure embarrassment in the language learning context. Therefore, we drew on the narrative data and developed the L2CSE scale. Results of the EFA and parallel analysis indicated that the 16-item L2CSE scale was best represented by three factors, and one factor found in the narrative data, namely Social Comparison, did not emerge in the analysis. Interestingly, Social Comparison was also not found in Miller's (1992) and Sabini et al.'s (2000) categories of embarrassment. Subsequently, we compared several ESEM and CFA models and found that a bifactor-ESEM was the best representative of L2CSE meaning that we can conceptualize it both as a general overarching construct (i.e., L2CSE) and a construct with specific factors. In addition, composite reliability coefficients indicated that the L2CSE scale had adequate levels of internal consistency.

We also examined the relationships between L2 anxiety and L2CSE, as two negative emotions in L2 learning, to determine if L2CSE is conceptually different from L2 anxiety. While both emotions were positively related to each other, the size of the relationship showed that these two emotions were distinct from each other supporting the discriminant validity of the L2CSE scale. This finding contributes to previous research that distinguishes anxiety from embarrassment (e.g., Hofmann et al., 2006; Miller, 2010). For example, anxiety is associated with a higher heart rate (Hofmann et al., 2006) and lasts longer than embarrassment (Miller, 2010). Thereby, anxiety and embarrassment are two separate negative emotions that language learners might experience in their classes.

Antecedents of L2 embarrassment

After conceptualizing and developing a scale to measure L2CSE, we examined three theoretically hypothesized antecedents of L2CSE (i.e., teacher support, student support, and growth mindset). First, we found that the two components of a social classroom climate including teacher support and student support were negatively linked to L2CSE. As embarrassment is a social emotion, it is not surprising to see that individuals' perceptions of the classroom environment are related to their embarrassment in the language classrooms. Teacher support had a small relationship and student support had a moderate relationship with Situation embarrassment. These findings imply that supportive language teachers and students can have a crucial role in reducing embarrassment in classroom social contexts, such as when students give a presentation or do role-play activities. Additionally, we found that higher student support was linked to less general L2CSE with a small effect size. Thereby, this study provides evidence that student support can be more strongly connected to embarrassment than teacher support. This strengthens the argument that the role of student support might be more important than teacher support for university students and their willingness to engage

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in classroom activities and life (Jin & Dewaele, 2018). A possible interpretation for this is that teachers at the tertiary level usually have fewer classes with students during a semester and do not meet students as often, while students spend more time with their classmates throughout their studies, which can also increase the relevance and importance of the perception and actions of their peers (Jin & Dewaele, 2018). These findings thus reinforce the notion that teachers attending to group dynamics and the relationships between and among peers is critically important to creating a psychologically safe classroom in which learners are more likely to use the language and less worried about making mistakes or being negatively evaluated by peers Mercer and Dörnyei (2020). It is particularly important to foster a sense of *psychological safety* (Edmondson, 2019), which is defined as "when people … feel comfortable sharing concerns and mistakes without fear of embarrassment or retribution" (Edmondson, 2019, p. xvi). In language education research, Mercer and Dörnyei (2020) explain psychological safety as "the feeling that learners can speak freely in class, make mistakes or suggest ideas without fear that anyone (teacher or peers) will make fun of them, or embarrass, humiliate, reject, resent or punish them for doing so" (p. 72). Understanding more about how learners experience psychologically safe spaces will be key to developing strategies to reduce the risk of embarrassment through teacher and learner behaviors.

The study also found that those with a growth-speaking mindset were less prone to L2CSE. The protective role of a growth mindset in decreasing negative emotions has been supported in previous research mostly with regard to L2 anxiety (Khajavy et al., 2022) and L2 boredom (Zhang, Saeedian, & Fathi, 2022). Therefore, our findings further support the adaptive effect of fostering a growth mindset to mitigate negative emotions including L2CSE. Given the malleability of mindsets (Lou & Noels, 2019), we believe that teachers actively and consciously promoting a growth mindset in the language classroom can help learners feel less embarrassed, which in turn could improve their willingness to communicate and perceived language competence. Previous research has provided several strategies for promoting a growth mindset such as praising students for their effort not their ability (Zarrinabadi, Lou, & Darvishnezhad, 2023).

Consequences of L2 embarrassment

The fourth aim of this study was to measure the extent to which L2 classroom speaking embarrassment predicted L2 WTC and self-perceived speaking proficiency. We found embarrassment to be negatively linked to WTC and self-perceived speaking competence. The data suggest that more embarrassment is associated with less WTC. This finding expands on previous studies, which suggest that WTC is related to negative emotions, such as L2 anxiety (Dewaele & Dewaele, 2018) and L2 boredom (Fattahi et al., 2023) and adds embarrassment to this list of potentially inhibitive emotions. Once again, it reinforces the notion that building a psychologically safe classroom environment can lead to fewer situations that can cause embarrassment. In such settings, learners are more likely to engage and use the language as they perceive less risk. An interesting question for further research is about the durability of perceived WTC or unwillingness following an experience of embarrassment. In the qualitative data, it was seen how experiences in the distant past could still influence participants' behaviors and how they feel in the present. It would be important to clarify whether the effects of embarrassment on WTC are short- or long-term and what may mediate those processes.

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Finally, embarrassment was negatively associated with self-perceived speaking proficiency, suggesting that experiencing embarrassment may be linked to learners having a lower perception of their own proficiency. Given that a learners' sense of self-efficacy can be linked to their motivation and willingness to engage (Zhang & Dai, 2024), it is another reason for understanding the processes of embarrassment which can be connected to key achievement variables.

Conclusion

Utilizing a written narrative and a survey questionnaire as data collection tools and drawing on two samples of adult tertiary-level, English language learners, this mixed-methods study has highlighted the prevalence of embarrassment in the language learning process. Importantly, the results indicated that L2 embarrassment was an unpleasant emotion composed of multiple dimensions distinct from L2 anxiety. Given the relationships found between L2 embarrassment and crucial constructs associated with language learning, including L2 mindset, classroom social climate, self-perceived speaking proficiency, and L2 WTC, we conclude that the role of embarrassment in the sphere of language education is in urgent need of an extensive program of research. We hope that the L2CSE scale presented in this study, which has proved to be a valid and reliable tool, might help further this agenda.

Nevertheless, our study is not without its limitations. The overwhelming majority of our sample members were from Europe with some countries being represented more markedly than others. Thus, future research needs to test the applicability of our results to other contexts, and examine any cross-cultural differences (see e.g., Vaid et al., 2008) in how L2 embarrassment, as a social emotion, is experienced across L2 learners with different cultural and linguistic backgrounds. Additionally, as our sample consisted solely of adult language learners, research is needed with younger learner populations to further build on these results. Another point is that the majority of our participants in the qualitative phase referred to situations of L2 embarrassment in the classroom context. Further research is required to examine how embarrassment might be experienced in situations outside the classroom.

It is also important to note that while the BESEM solution was found as the best-fitting model capturing the multidimensional nature of L2CSE, it has some limitations. One major limitation of the full ESEM/BESEM models is that they "cannot easily be used in more complex, predictive, or hierarchical models," such as multilevel models, latent growth curve models, and testing the partial invariance of factor loadings (van Zyl & ten Klooster, 2022, p. 4). These issues can be solved using more parsimonious techniques, such as set-ESEM (Marsh, Guo, Dicke, Parker, & Craven, 2020) or ESEM-within-CFA (Swami et al., 2023) models. Therefore, we suggest that in case L2 researchers aim to use the L2CSE scale in more complex models mentioned earlier, they can consider using set-ESEM or ESEM-within-CFA for their models.

In addition, in our study, we measured only anxiety as a negative correlate of L2CSE. Future research can examine how L2CSE can be linked to other negative constructs in the L2 classroom context, such as negative emotions (e.g., L2 boredom and stress) and perfectionism. Finally, while our inquiry has included L2 mindset and L2 WTC, which are a key antecedent and outcome of the language learning process, respectively, the links between L2 embarrassment and other important language learning variables, such as self-efficacy, motivation, engagement, and well-being remain yet to be examined. Embarrassment is a commonplace but potentially debilitating emotion that can

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exacerbate the potential social and emotional stress associated with language learning and use. Understanding how this emotion functions and how we can reduce the potential of learners experiencing it in class is a key and urgent undertaking for the field.

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