**An Empirical Model of Multicultural Social and Emotional Learning among Diverse Students in Higher Education Institutions**

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**ABSTRACT**

Social and emotional learning (SEL) is a key contributor to student wellbeing. The importance of SEL became particularly evident during the COVID-19 pandemic. So far, research on SEL has mostly been conducted in schools, and little is known about SEL in higher education institutions. Moreover, the effects of SEL on self-efficacy for learning in a setting of collaborative supported computer learning have not been studied.

In this study, we aimed to address this gap in knowledge by conducting a quantitative research project in higher education institutions. Questionnaires were distributed and completed by 258 students studying for bachelor’s and master’s degrees on a multicultural campus. The students came from different cultural backgrounds and were studying various academic disciplines. Our results suggest that cultural empathy mediates the relationship between social competence and emotional stability and self-efficacy for learning, including technological and collaborative learning. Therefore, students with better emotional stability and social competence have higher cultural empathy, which promotes self-efficacy for learning, as demonstrated by the students’ greater ability for collaborative and technological learning. Studying on multicultural campuses creates many challenges. The effect of cultural empathy on SEL has been well-established. The novelty of our study is the finding that cultural empathy promotes self-efficacy for learning in students in institutions of higher education.

**Key Words**

Social and emotional learning (SEL), Multiculturalism, Cultural empathy, Collaborative Supported Computer Learning (CSCL), Higher education.

**INTRODUCTION**

Academic institutions are increasingly called upon to prepare students for the rapid changes in educational and career environments. Students need to be ready to work in fields of expertise and disciplines that do not exist yet, use technology platforms that have not yet been developed, and solve social, psychological, cultural, and educational problems that have not been considered. Social, emotional, and intercultural competencies are not addressed explicitly in education systems across Europe (OECD, 2021). Nevertheless, we suggest that the development of these competencies should be supported and monitored at the planning stages and the policy level.

The term “social and emotional learning” (SEL), created in the 1990s, has multiple definitions in the research literature that vary slightly. We chose to use the definition suggested by the Collaborative for Academic, Social, and Emotional Learning (CASEL) because it integrates the main components of SEL and can be used as an applied definition (Müller et al., 2020). CASEL (2022) defines SEL as the process by which we acquire the skills to recognize and manage emotions, develop care and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively. The five core SEL competencies are self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL 2022).

**Self-awareness** relates to identifying emotions, having accurate self-perception, recognizing strengths, and developing self-confidence and self-efficacy. **Self-management** encompasses impulse control, stress management, self-discipline, self-motivation, goal-setting, and organizational skills. **Social awareness** includes perspective-taking, feeling empathy, appreciating diversity, and respecting others. **Relationship skills** include communication, social engagement, relationship building, and teamwork. **Responsible decision-making** refers to the ability to identify and solve problems, analyze situations, reflect, and take ethical responsibility.

Emotional stability and social competence are operational variables of SEL. SEL enhances students’ ability to regulate their emotions and their social competence. Emotional stability is one of the main psychological features that regulate a person’s resilience to stress caused by difficult life circumstances. Emotional stability is defined as the ability to remain calm in stressful, difficult environments and circumstances and keep performing effectively (Leone et al., 2005). Emotional stability is associated with higher academic achievement. People with high emotional stability can cope with stressful situations in the education and work environments and effectively complete their tasks. Emotional stability contributes to the successful social-psychological adaptation of students to the environment of institutions of higher education, which is particularly relevant to first-year students. Emotional stability in youth is correlated with higher rates of enrolment in higher education (Serebryakova et al., 2016).

Social competence refers to the ability of an individual to optimize their social behavior in line with available social information (Taborsky & Oliveira, 2012). Although intrapersonal competencies are essential in all professional fields, they are especially relevant to the social sciences and professions that involve understanding human behavior. To promote excellence in any profession, we need to foster social competency.

Higher education is crucial to society in training students to become professionals in their chosen fields. Higher education institutions impart knowledge and train and enhance students’ intellectual abilities in terms of academic requirements and professional proficiencies. However, organizations and companies that recruit workers are increasingly interested in employing professionals with emotional and social competencies in addition to traditional professional skills. This is an important trend because points of view about organizations and the place of talent within them are shifting (Boyatzis et al., 1995).

**The contribution of SEL to multiple aspects of education**

A survey conducted by the OECD found that SEL had positive effects on a wide array of individual and societal outcomes, including goal-setting, working to one’s potential, resilience, creativity, perseverance, problem-solving, caring about the welfare of others, and successful interpersonal interactions. SEL enhanced students’ sense of belonging to the school and improved social relationships with peers and interactions with teachers. Bullied students reported lower skill levels in emotional regulation and trust. Trust appeared to affect academic achievement and remained positively related to math grades among 15-year-olds after accounting for other explanatory variables, including social status and gender. Finally, better student-teacher relationships were associated with increased curiosity, motivation, and involvement related to student determination to learn and do well at school (OECD, 2021).

Interventions to improve SEL skills of school students have been effective in increasing self-reported resilience (Cramer & Castro-Olivo, 2016; Castro-Olivo, Ura, & dAbreu, 2021). So far, SEL interventions have not been tested extensively in students in higher education.

Many researchers who study SEL in schools view SEL as a process of developing self-awareness, self-control, and interpersonal skills and regard it as vital for success at school, work, and life in general (e.g., Castro Olivo, Ura & dAbreu, 2021). We argue that SEL is an integral part of human development and is highly relevant to higher education. SEL focuses on many forms of inequity and could enhance educational equality and equity and contribute to safety, resilience, and justice in academic institutions. SEL promotes excellence through authentic collaborations between academia, community, and family. Furthermore, it aims to create learning environments and experiences that contribute to designing meaningful curricula, pedagogy, and evaluation with long-term benefits (CASEL 2022). SEL skills benefit students academically, professionally, and socially, allowing them to respond better to challenges. SEL promotes self-discipline and emotional management and has long-term positive effects on students.

Studies on SEL examine how ideas about emotional skills and social competencies inform academic staff. SEL is not only associated with academic achievements but also with the ideals of caring, community, and diversity. These ideals appear to align with practices that focus on emotional and behavioral control strategies. The practical application of SEL should not focus on student deficiencies but be used as a way to direct educators toward the relational contexts of classrooms and schools (Castro Olivo, Ura & dAbreu, 2021; Cramer & Castro-Olivo, 2016; Iaosanurak, Chanchalor & Murphy, 2016; Müller, et al., 2020; Taylor, et al., 2017).

According to traditional academic views, differences among students were considered obstacles to achieving educational equity and equality (Ladson-Billings, 2006; Au, 2010). However, these views are currently changing, and the values of diversity and cultural capital are being acknowledged. In many countries, higher education institutions are where students first encounter people who speak different languages and come from different backgrounds, cultures, and religions. (Soffer-Vital and Finkelstein, submitted).

**Intercultural competence and SEL in academic settings**

A meta-analysis by Müller et al. (2020) found that intercultural competence and social and emotional competencies are interconnected.Intercultural competence is a socially constructed concept defined as: “the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills, and attitudes… [although] …just as culture is ever-changing, scholars’ opinions on intercultural competence change with time” (Deardorff, 2006, pp. 247–248; 258). Intercultural competence relates to atranscultural approach that involves multiple, fluid affiliations.

Cultural empathy is one of the intercultural competence skills and is a critical factor for learning (Cheraghi & Karamimehr, 2022). The term “cultural empathy” relates to a person’s attention to other people, sensitivity to their cultures, and mindfulness of their backgrounds, feelings, and beliefs (Ruben, 1976). Cultural empathy is linked to cultural intelligence (Wang et al., 2015) because both concepts emphasize the nexus between mainstream society, anxiety, perceived language discrimination, and marginally coping through family support. Students with high cultural empathy demonstrate understanding and benefit from other cultures. These students tend to be more open-minded and have less rigid biases towards other groups’ behaviors and social tendencies. Cultural empathy stems from an interest in and curiosity about other cultures (Bawa, 2021).

Cultural empathy research emphasizes that syllabus designers and authors of books should consider the learners’ cultural needs. Academic staff should consider the learners’ culture while critically navigating the target culture. Studies also emphasize the importance of creating a balanced view and critical evaluation of cultures and reassuring students that learning about other cultures does not affect their own cultural affiliation (Cheraghi & Karamimehr, 2022).

**Self-efficacy for learning**

The term “self-efficacy” refers to students’ belief in their capability to organize and execute a course of action required to accomplish a given task. The term relates to the students’ confidence when performing a task, an activity, or responding to a challenge. Self-efficacy beliefs regulate how people feel, think, and become motivated, and consequently, how they act and behave. If students believe they can achieve specific outcomes, they will try to produce them. Efficacy beliefs can affect students’ commitment to accomplishing outcomes (Bandura, 1994, 1997).

Higher education has tended to emphasize the individual acquisition of knowledge, skills, and competencies (Kirschner, Martens & Strijbos, 2004). Self-efficacy is particularly significant in learning complex subjects, such as the exact sciences, which are extremely challenging for students who experience fluctuating levels of fear and anxiety. As the concepts in an academic course become increasingly complex, self-efficacy becomes an important variable affecting students’ learning ability. Several studies have shown that students’ self-efficacy strongly predicts their academic performance. High self-efficacy is associated with greater metacognition, better management of working time, greater effort, deeper processing of study material, and the ability to persist for longer when completing a task, particularly in the face of obstacles and adversity. High self-efficacy also predicts students’ content learning and scientific inquiry skills (Aurah, 2013; Britner & Pajares, 2006; Pajares, 2005; Pintrich, De Groot, 1990).

Self-efficacy for learning in online environments includes computer-supported collaborative learning (CSCL). This refers to learning mediated by technologies, where small groups of three to five students interact to solve complex problems or design a project (Johnson, Johnson, & Stanne, 2000). To solve problems, the group needs to engage in close cooperation and negotiation. CSCL has shown to be a valuable learning tool, often surpassing the performance of more conventional academic learning (Mor, 2001, Salomon, 2002).

When using CSCL, student confidence in their competence in computers and other types of technology (computer self-efficacy) can affect the learning outcomes. CSCL relates to the use of technology for teaching and learning, which includes a variety of modalities, tools, and strategies for learning. The effectiveness of CSCL depends on its efficacy in assisting teachers and students achieve desired instructional goals (Bernard et al., 2014). Positive correlations have been found between computer self-efficacy and prior involvement in online learning, academic self-efficacy and prior experience in online learning, and academic self-efficacy and student satisfaction in online learning environments (Alqurashi, 2016; Jan 2015; Womble, 2007). The Covid-19 pandemic increased the digital divide and hence accentuated the learning gaps between students. S (Zilka et al., 2021) and struggled with the changes in lthe challenges of In addition to also contributed to the gaps between students The digital divide is also related to different perceptions of technology in multicultural settings and conflicting values. Using t in multicultural environments (Leidner, & Kayworth, 2006)Further, during the Covid-19 pandemic, the need to understand and effectively navigate social norms and networks in technological platforms became essential. SEL is crucial for this navigation because it supports the various social and emotional competencies and skills necessary when using technological platforms. Thus, the importance of SEL became evident during the COVID-19 pandemic, when SEL had to be considered in syllabus design, learning goals, curriculum, and pedagogy (Katzman & Stanton, 2020; Yang, 2021).

Online collaborative learning in higher education is a process where teams of students work together to achieve a common goal. In order to be essential for students' learning, it should fulfill the following conditions: 1. Positive interdependence – team members depend on one another to accomplish goals; 2. Individual accountability – students in a group are held responsible for doing their share of the work and for mastery of the study material; 3. Face-to-face interaction – although some of the group work may be parceled out and completed individually, some of the work must be done interactively (with peer feedback and support stimulating reasoning and contributing to the acquisition of target knowledge and skills); 4. Appropriate use of collaborative skills – students are encouraged and helped to develop and practice trust-building, leadership, decision-making, communication, and conflict management skills; 5. Group processing – students set group goals, occasionally assess what they are doing well as a team, and identify changes they would make to function more effectively in the future (Felder and Brent, 2007).

To summarize, much of the existing literature on SEL focuses on the first 12 years in the education system. In schools, social competence and self-efficacy for learning are embedded in the learning-teaching processes. We believe there is a need to consider a broader view of SEL and examine its relevance to higher education. Specifically, we were interested in examining predictors for learning, such as cultural empathy, in the context of self-efficacy for learning.

**Hypotheses**

1. Social competence and emotional stability are positively associated with self-efficacy for learning and cultural empathy.
2. Social competence is positively associated with emotional stability.
3. Cultural empathy is positively associated with self-efficacy for learning.

Cultural empathy mediates the association between social competence and self-efficacy for learning and between emotional stability and self-efficacy for learning .

1. Emotional stability and social competence are positively associated with better technological and collaborative learning.
2. Cultural empathy is positively associated with technological and collaborative learning.

**METHODOLOGY**

Ethical approval for this study was obtained from the Board of Ethics of one of the largest colleges in Israel. **Participants**Students from various cultural backgrounds studying toward their bachelor’s or master’s degrees in any discipline on a multicultural campus were invited to participate in the study. The student sample was random, and participation was voluntary. Participants were recruited via mailing lists and social media. Each sub-group was represented equally. In total, 258 students participated in the study. Participants ranged between 18 to 64 years (mean age = 32.83, SD = 10.62). All participants completed all the sections of the questionnaires.

Most participants were women (86%), and the main disciplines were education and social studies (65%). Approximately half of the participants were studying for a bachelor’s degree (51%). Approximately 63% of the students were Muslim, and 36% were Jewish. A third of the participants defined themselves as religiously traditional (31%) and 38% as religious. Most participants reported coming from a middle socioeconomic background (76%). The great majority of participants were born in Israel (98%). Approximately 63% of the participants were native Arabic speakers, and 35% were native Hebrew speakers.

Most participants reported no disabilities (88%), and among those with disabilities, the most common was learning difficulties (7%). Most participants were permanently employed (62%) and were not in an executive position (71%). Approximately 67% of those employed worked in the education or care sector. The years of employment ranged between 1 and 32 years (mean=9.46, SD=8.52). Most of the students (97%) reported that they expect to be able to complete their studies within the given timeframe.

**Instruments and procedures**

We used online questionnaires in five blocks, as detailed below. Except for the demographic block, the presentation order of all other blocks was randomized, and all statements within these blocks were randomized to prevent order effects.

**1. A demographic questionnaire** collected information about gender, age, academic institution, religion (and level of religiosity), study discipline, academic degree, family’s socioeconomic status, country of birth, disabilities, workplace (temporary or permanent), executive job (yes/no/other), and years of employment.

**2. The multicultural personality questionnaire** (**MPQ)** (Van der Zee & Van Oudenhoven, 2000) is a 91-item, five-factor survey instrument asking participants to reply to questions about personal descriptors by using the phrase “To what extent do the following statements apply to you?” Each item is rated on a 5-point Likert-type scale ranging from 1 (totally not applicable) to 5 (completely applicable). The reliability and validity of the 91-item version of the MPQ have been tested and confirmed extensively (e.g., Van der Zee & Van Oudenhoven, 2000). The MPQ was translated into Hebrew and validated by Lacher Edenburg (2019), α = 0.83. Content validity checks of the MPQ, combining expert item evaluation and focus group discussions, were translated into Hebrew. This evaluation indicated that no items needed rewording. Out of all the measures of the MPQ, we studied cultural empathy and emotional stability.

* **Cultural empathy** (18 items; α = 0.89 Cronbach’s alpha was 0.90 in our content validity checks. Sample items for this factor are: “Finds it hard to empathize with others,” “Enjoys other people’s stories,” and “Is able to voice other people’s thoughts.”
* **Emotional stability** (20 items; α = 0.82): Cronbach’s alpha was 0.77 in our content validity checks. Sample items for this factor are: “Considers problems solvable,” “Suffers from conflicts with others,” and “Is not easily hurt.”

**3. The social competence questionnaire** (Valkenburg & Peter, 2008) is based on a 19-item self-report instrument that measures social competence in four dimensions: initiation of (offline) relationships or interactions, supportiveness, assertiveness, and ability to self-disclose. The four dimensions distinguished in advance were empirically verified in exploratory factor analysis. A second-order confirmatory factor analysis was used to test whether one general social competence factor explained the four hypothesized subscales of our social competence measure. The questions examine how participants interacted with others over the previous six months. Participants evaluated their management of the situations below over the past six months.

* *Initiation* (α = 0.86). e.g., Start a conversation with someone you did not know very well.
* *Supportiveness* (α = 0.83). e.g., Listen carefully to someone who told you about a problem they are experiencing.
* *Self-disclosure* (α = 0.83). e.g., Express your feelings to someone else.
* *Assertiveness* (α = 0.86). e.g., Stand up for your rights when someone wronged you.

**4. The self-efficacy for learning questionnaire** (Mor, 2001, Salomon, 2002) is based on models by Bandura, 1986; Schunck, 1990; and Pintrich & De Groot, 1990. We examined the self-efficacy for the learning variable using 24 statements. The questionnaire distinguishes between three dimensions of self-efficacy for learning required for effective functioning: academic learning, online learning in a computer environment, and learning alone or in teams. The questionnaire was validated by three expert readers who found that it addressed self-efficacy for learning and distinguished between the three dimensions of self-efficacy examined (α = 0.79).

**5. An open-ended questionnaire** included additional questions regarding four academic issues: The student’s expectation of completing their degree studies on time, their institution’s level of attention to SEL issues, their participation in SEL activities during their degree studies before and during the COVID-19 pandemic (yes/no), and the extent to which they feel affiliation and belonging to their academic institution.

**Data analysis**Data were analyzed using IBM SPSS version 21. First, we examined the reliability of the questionnaires by Cronbach’s alpha. The Kolmogorov-Smirnov test was used to examine the normal distribution of the main variables. For summarization and analysis of the data, we used frequency distribution for categorical variables and means and SD for quantitative variables.

Pearson correlation was used to analyze the relations between the main research variables. To examine the relations between the socio-demographic variables and the main research variables, we used Pearson/Spearman correlation analysis..

Hierarchical linear regression analysis was performed to predict SEL. Socio-demographic variables were used in the first step of the model, followed by the other independent variables. Baron & Kenny’s (1986) regression model was used for mediation analysis. We used two-way ANOVA to examine the interaction between social efficacy and cultural empathy and SEL.

**RESULTS**

**Hypothesis testing**

Initially, we used Spearman correlation to test the relations between the study variables. The results are presented in Table 1.

**Table 1 Spearman correlation coefficients between the main study variables (N=258)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** |
| **1. Social competence** | **---** |  |  |  |
| **2. Emotional stability** | **0.43\*\*** | **--** |  |  |
| **3. Cultural empathy** | **0.49\*\*** | **0.33\*\*** | **--** |  |
| **4. Self-efficacy for learning** | **0.47\*\*** | **0.47\*\*** | **0.48\*\*** | **--** |

\*\**p*<0.01

According to the data presented in the table, a significant positive correlation was found between social competence and self-efficacy for learning (*rs*=0.47, *p*<0.01), indicating that students with higher social competence have higher self-efficacy for learning. A significant positive correlation was also found between emotional stability and self-efficacy for learning (*rs*=0.47, *p*<0.01), indicating that students with higher emotional stability have higher self-efficacy for learning. A significant positive correlation was found between social competence and cultural empathy (*rs*=0.49, *p*<0.01), indicating that students with higher social competence have higher cultural empathy. A significant positive correlation was also found between emotional stability and cultural empathy (*rs*=0.33, *p*<0.01), indicating that students with higher emotional stability have higher cultural empathy. **These findings support the first study hypothesis that social competence and emotional stability are positively associated with self-efficacy for learning and cultural empathy.**

We also found a significant positive correlation between social competence and emotional stability (*rs*=0.43, *p*<0.01), indicating that students with higher social competence have higher emotional stability. **This finding supports the second study hypothesis that social competence is positively associated with emotional stability.**

We found a significant positive correlation between cultural empathy and self-efficacy for learning (*rs*=0.48, *p*<0.01), indicating that students with higher cultural empathy have higher self-efficacy for learning. The relation between these two variables was tested bidirectionally; therefore, it is also true that students with higher self-efficacy for learning have higher cultural empathy. **This finding supports the third study hypothesis that cultural empathy is positively associated with self-efficacy for learning.**

**A prediction model for self-efficacy for learning**

We used a hierarchical linear regression model to predict self-efficacy for learning. In the first step, the model included background demographics related to self-efficacy for learning and the two subcategories: technological learning and collaborative learning, as simple effects. In the second step, the predictive variables social competence, emotional stability, and cultural empathy were added to the model. The results are presented in Table 2.

**Table 2 Hierarchical regression analysis for predicting self-efficacy for learning from demographic variables and the main study variables**

|  |  |  |  |
| --- | --- | --- | --- |
| **Predictors** | **Self-efficacy for learning** ***β*** | **Technological learning** ***β*** | **Collaborative learning*****β*** |
| **First step** |  |  |  |
| Religion (Jewish=1) | 0.13 | **-** | **-** |
| Age | 0.08 | **-** | **-** |
| Degree | **0.16\*** | **0.19\*\*** | **0.24\*\*** |
|  |  |  |  |
| A sense of belonging | **0.26\*\*** | **-** | **-** |
| Socioeconomic  | 0.04 | **-** | **-** |
| **Second step** |  |  |  |
| Social competence | **0.22\*\*** | 0.04 | **0.15\*** |
| Emotional stability | **0.21\*\*** | 0.11 | 0.05 |
| Cultural empathy | **0.29\*\*** | **0.20\*\*** | 0.10 |

\**p*<0.05, \*\**p*<0.01

**Self-efficacy for learning:** The regression model for the prediction of self-efficacy for learning was statistically significant (F(9, 255)) = 18.36, *p*<0.01). The predictive variables explained 40% of the variance in self-efficacy for learning.

As indicated by the regression coefficients in the first step, the variable’s degree, attention to emotional and social issues in the academic institutions, and a sense of belonging contributed significantly to the prediction of self-efficacy for learning. Studying for a higher academic degree, greater attention to emotional and social issues in the educational institutions, and a higher sense of belonging were associated with higher self-efficacy for learning. These predictive variables explained 17% of the variance in self-efficacy for learning. In the second step, the predictive variables of social competence, emotional stability, and cultural empathy contributed significantly to the prediction of self-efficacy for learning. Higher social competence, emotional stability, and cultural empathy were associated with higher self-efficacy for learning. These predictive variables explained the further 23% of the variance in self-efficacy for learning.

**Technological learning:** The regression model for the prediction of technological learning was statistically significant (F(5, 256)) = 7.08, *p*<0.01). The predictive variables explained 12% of the variance in technological learning. In the first step, the background variables of degree and a sense of belonging to the academic institute contributed significantly to the prediction of technological learning. Studying for a higher academic degree and a higher sense of belonging to the educational institute was associated with higher ability for technological learning -. These predictive variables explained 5% of the variance in technological learning. In the second step, only the cultural empathy variable contributed significantly to the model. Higher cultural empathy was associated with higher ability for technological learning. This predictive variable explained further 7% of the variance in technological learning.

**Collaborative learning:** The regression model for the prediction of collaborative learning was statistically significant (F(5, 256)) = 8.37, *p*<0.01). The predictive variables explained 14% of the variance in collaborative learning. In the first step, the background variables of degree and attention to emotional and social issues in the educational institution contributed significantly to the prediction of collaborative learning. Studying for a higher academic degree and greater attention to emotional and social issues in the academic institution were associated with higher collaborative learning. These predictive variables explained 9% of the variance in collaborative learning. In the second step, only the social competence variable contributed significantly to the model. Higher social competence was associated with higher collaborative learning. This predictive variable explained further 5% of the variance in collaborative learning.

**Mediation analysis**

We used a mediation model to test the hypothesis that cultural empathy mediates the association between social competence and self-efficacy for learning and between emotional stability and self-efficacy for learning. According to the steps for establishing mediation by Baron and Kenny (1986), a partial mediator reduces the association between the independent and the dependent variables, whereas a complete mediator cancels the association between the two variables. The results are presented in Table 3 and figure 1.

**Table 3 Regression coefficients for predicting self-efficacy for learning from social competence and cultural empathy**

|  |  |
| --- | --- |
| **Predictors** | **Coefficients** |
|  | ***β*** | ***SE*** | ***B*** | ***t*** | ***R2*** |
| **First step** | 0.48 | 0.02 | 0.23 | **8.92\*\*** | 0.23 |
| Social competence |  |  |  |  |  |
| **Second step** |  |  |  |  |  |
| Social competence | 0.31 | 0.02 | 0.15 | **5.33\*\*** | 0.33 |
| Cultural empathy | 0.35 | 0.03 | 0.21 | **6.07\*\*** |  |

\*\**p*<0.01

The regression model for the prediction of self-efficacy for learning was statistically significant (F(5, 257)) = 68.81, *p*<0.01). The predictive variables explained 33% of the variance in self-efficacy for learning. In the second step, the association between social competence and self-efficacy for learning was reduced when cultural empathy was included in the model as a mediator variable. The results indicate that cultural empathy partially mediates the association between social competence and self-efficacy for learning.

**Table 4 Regression coefficients for predicting self-efficacy for learning from emotional stability and cultural empathy**

|  |  |
| --- | --- |
| **Predictors** | **Coefficients** |
|  | ***β*** | ***SE*** | ***B*** | ***t*** | ***R2*** |
| **First step** | 0.43 | 0.04 | 0.32 | **7.62\*\*** | 0.18 |
| Emotional stability |  |  |  |  |  |
| **Second step** |  |  |  |  |  |
| Emotional stability | 0.29 | 0.04 | 0.22 | **5.46\*\*** | 0.33 |
| Cultural empathy | 0.41 | 0.03 | 0.24 | **7.46\*\*** |  |

\*\**p*<0.01

The regression model for the prediction of self-efficacy for learning was statistically significant (F(5, 257)) = 64.81, *p*<0.01). The predictive variables explained 33% of the variance in self-efficacy for learning. In the second step, the association between emotional stability and self-efficacy for learning was reduced when cultural empathy was included in the model as a mediator variable. The results indicate that cultural empathy partially mediates the association between emotional stability and self-efficacy for learning. **Our results indicate that cultural empathy mediates the association between social competence and self-efficacy for learning and between emotional stability and self-efficacy for learning.**

We found a significant positive correlation between emotional stability and technological learning (*rs*=0.26, *p*<0.01), and collaborative learning (*rs*=0.22, *p*<0.01).Students withhigher emotional stability had higher technological and collaborative learning. Because the test is bidirectional, it is also true that higher technological and collaborative learning is associated with higher emotional stability.

We found a significant positive correlation between social competence and technological learning (*rs*=0.29, *p*<0.01) and collaborative learning (*rs*=0.22, *p*<0.01).Students withhigher social competence had higher abilities in technological and collaborative learning. Because the test is bidirectional, it is also true that higher technological and collaborative learning abilities are associated with higher social competence. **These findings support the fourth study hypothesis that emotional stability and social competence are positively associated with technological and collaborative learning.**

We also found that cultural empathy was significantly and positively correlated with technological learning (*rs*=0.28, *p*<0.01) and collaborative learning (*rs*=0.31, *p*<0.01).Students withhigher cultural empathy were better at technological and collaborative learning. Because the test is bidirectional, it is also true that higher technological and collaborative learning abilities are associated with higher cultural empathy. **These findings support the fifth study hypothesis that cultural empathy is positively associated with technological and collaborative learning.**

**Figure 1: An empirical model for multicultural social and emotional learning\***

\* Spearman coefficients are indicated, *p*<0.01 for all correlations

**DISCUSSION**

The current study examined how social competence, emotional stability, and cultural empathy affect self-efficacy for learning. Our empirical model proposed that:

**Students with higher social competence have higher emotional stability.**

**Social competence is positively associated with emotional stability.**

**Social competence and emotional stability are positively associated with higher self-efficacy for learning and cultural empathy.**

**Students with higher social competence and emotional stability have higher self-efficacy for learning and cultural empathy.**

Studying in culturally diverse higher education institutions requires intrapersonal, interpersonal, and task-oriented competencies. Social-emotional competencies are critical for positive development and significantly predict educational and occupational attainment, health, and wellbeing (Schoon, 2021).

## Adaptation is the process of interaction between a person and the social environment that results in the person’s effective adjustment to the environment through accepting its standards of interaction, its system of values, and forms of domain-specific activity. The level of emotional stability is considered a personal attribute that forms the basis of social-psychological adaptation (Serebryakova et al., 2016).

Studies have found a positive association between empathy and socio-emotional functioning, and social competence (Sallquist et al., 2009). Self-efficacy for learning contributes exclusively to the modification of students’ general adjustment levels. Self-efficacy for learning contributes to the ability of students to navigate challenging situations without experiencing debilitating anxiety or confusion. This high self-efficacy helps students feel capable and competent in coping with challenging academic situations and solving problems; therefore, these students experience better academic adjustment (Poyrazli et al., 2002). In addition, a study of international students found that those who were more self-efficacious were more likely to experience higher cultural empathy (Van Oudenhoven & Van der Zee, 2002).

**Students with higher cultural empathy have higher self-efficacy for learning.**

**Cultural empathy mediates the association between social competence and self-efficacy for learning and between emotional stability and self-efficacy for learning.**

Our results indicate the importance of intercultural competence and SEL in diversified higher education institutions. Students in higher education face demands and pressure and often struggle with stress, distress, and adjustment difficulties. Stress, maladjustment, and mental health problems are relatively high among this population (Cheraghi & Karamimehr, 2022).

Cultural empathy correlates with open-mindedness, emotional stability, social initiative, and flexibility, all considered multicultural personality traits. Students who feel secure in their cultural, ethnic, and other identities and are keen to accept variety in their personal lives tend to try and learn about other cultures and interact with people from different cultural backgrounds. One variable we investigated in our research is collaborative learning in the context of self-efficacy for learning. Collaborative learning is related to self-reflectiveness and cognitive flexibility and requires effective steering, assuming multiple roles, and operating in different cultural environments.

Cultural empathy is critical for students in higher education because it promotes the various skills of learning (OECD, 2021). Cultural empathy promotes learning together usefully and productively in groups of students from different ethnic backgrounds. In multicultural groups, students have to realize the biases in their own worldview and seek information about alternative worldviews. Students must understand any integral racism and undeserved privilege in their personal lives, be motivated to participate in social activism, and speak out against all forms of social injustice (Ponterotto, Utsey, and Pedersen, 2006).

**Students with higher emotional stability and social competence have higher technological and collaborative learning.**

**Students with higher cultural empathy competence have higher technological and collaborative learning.**

Mastering a new technology promotes one’s self-esteem and self-efficacy, whereas facing new pedagogies can create uncertainty. When students were asked to name the most significant part of their learning experience, they replied it was learning to use the computer and only rarely mentioned pedagogy. It is interesting to note that in the students’ experience, computer skills were the main focus rather than the knowledge of the subject. This is because the computer was far more appealing than a new teaching approach (Mor, 2001, Salomon, 2002).

Self-efficacy for learning includes technological learning and collaborative learning. Because collaborative learning is influenced by cultural empathy, it affects self-efficacy for learning.

Self-efficacy for learning influences problem solving and is particularly significant in learning complex subjects. In higher education, as students progress through the years of study and degrees, academic concepts become gradually more multifaceted. Therefore, students with higher self-efficacy for learning have a greater potential to succeed. Students’ self-efficacy is a strong predictor of academic performance (Aurah, 2013; Britner & Pajares, 2006; Pajares, 2005; Pintrich, De Groot, 1990).

There is a significant positive correlation between computer skills and academic self-efficacy (Alqurashi, 2016; Jan, 2015; Womble, 2007).

When working on collaborative projects in academia, positive interdependence is related to the self-development of learning abilities and is achieved through cooperative learning with colleagues. Team members have to rely on one another to achieve goals. Students in academia develop individual accountability. Students in a group are responsible for doing their share of the work and mastering the subject material. Academic studies require face-to-face interaction. Since the Covid-19 pandemic, online teaching has become more common. Students have to complete some of the course work individually, but other parts of the course require students to work interactively in groups. Students support each other through mutual feedback and discuss their reasoning and conclusions when working in groups.

Appropriate use of collaborative skills:

Students are stimulated and assisted in developing and practicing the skills of trust-building, leadership, decision-making, communication, and conflict management.

The skills of collaborative learning are similar to those of SEL.

Group processing: Students set group targets, evaluate what they are doing well as a team, and recognize changes they will make to function more effectively in the job market (Felder and Brent, 2007).

Academic campuses are becoming increasingly multicultural, making cultural empathy more critical than ever. Students with higher cultural empathy have better self-efficacy for learning, partly because collaborative learning, a significant component of self-efficacy for learning, is affected by cultural empathy. For example, students from different cultures who work together on a final course assignment or a presentation would collaborate better if they had higher cultural empathy and thus would increase their self-efficacy for learning.

Therefore, personal and interpersonal awareness and competence may contribute to navigating new and challenging academic, social, and emotional terrain. Students' sense of belonging is highly important for students' self-efficacy for learning in technological settings (**Andrews**, **Borrego and Boklage**, 2021; Holloway-Friesen, 2021). In our study we found that a sense of belonging contributed significantly to the prediction of self-efficacy for learning**.** Students in higher education may experience concerns and anxiety related to the tension between their learning routines and family background and dynamics, maintaining their relationships, and balancing work and academic demands. The research literature well documented the impact of anxiety in reducing academic performance and psychological wellbeing. SEL promotes mental health and can contribute to preventing the development of mental health issues in students of higher education (for example, Durlak, 2015).

## CONCLUSIONS

“Education systems nowadays strive for a more holistic development of students. This includes more than the development of students’ cognitive skills. It recognizes the importance of students’ psychological wellbeing and social relations in the school environment” (OECD, 2021, p. 151).

This research shows that SEL promotes students in their learning. Cultural empathy was found to be a mediator variable for collaborative learning and technological learning, which are subcategories of self-efficacy for learning. Higher education studies create many challenges. Misguided assumptions of students about other cultures may lead to cultural struggles. Diverse social traditions and beliefs may potentially form barriers to cross-cultural collaborative learning. The concept of cultural empathy is imperative to multicultural collaborative learning. Greater cultural empathy helps students solve problems created by cultural differences. Emotional stability and social competence are highly predictive variables for self-efficacy for learning, including collaborative learning and computer self-efficacy.

Cultural empathy mediates social competence and self-efficacy for learning, emotional stability and self-efficacy for learning. Social competence and emotional stability are interrelated and affect self-efficacy for learning. The promise of SEL to foster increased achievement and equity in multicultural education may not be realized unless there is a greater effort to put the ideals of SEL into practice. We must also address the cultural assumptions inherent in contemporary SEL approaches and interventions.

**Theoretical and practical implications**

Our research elucidates the various facets of conceptualization and operationalization of social-emotional competencies. As higher education intuitions are becoming increasingly diverse and provide education for students of different cultural backgrounds, SEL is critical for student welfare and teaching and learning processes. Students from diverse cultural backgrounds face unique challenges. Therefore, there is an urgent need to develop and implement appropriate SEL interventions. During the first 12 years of education, the school psychologist or consultant is responsible for caring for student wellbeing. However, because there are no similar positions in higher education institutions, the responsibility falls to the academic staff. Although all students benefit from SEL, students from different cultural backgrounds may have particular challenges and a greater need for SEL.

The effect of cultural empathy on SEL has been established previously. The novelty and contribution of our study is the finding that cultural empathy mediates social competence and self-efficacy for learning and emotional stability and self-efficacy for learning.

**Limitations and future research directions**

Our research elucidates the importance of SEL for self-efficacy for learning in higher education. Although multicultural students participated, our study was conducted in a limited number of campuses. Moreover, only a few studies evaluated the impact of SEL interventions on students from diverse cultural backgrounds (e.g., Durlak, 2015; Castro-Olivo and Merrell, 2012; Vincent and Tobin, 2010). Our research supports the need for multiple SEL interventions to improve students’ academic achievements and wellness. We suggest that future research should focus on SEL interventions as part of the learning and teaching processes included in the curriculum. SEL should be part of our policies and practices.

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