The road to an international career: The "Erasmus effect" on resilience, intercultural interactions and cultural intelligence

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ABSTRACT

This study is part of a framework that views study abroad programs as an opportunity for experiential and transformative learning. Using a mixed-methods approach with a quantitative multi-wave study, this research examined the relationship between cultural intelligence and the internationalism career anchor – the individual predisposition and desire for international mobility for work. This study considers the role of resilience and intercultural interactions as predictors of cultural intelligence. In addition, we examined the transformative learning process by relating the development of cultural intelligence to specific critical incidents or critical experiences in intercultural interactions that can be considered triggers of the learning process. A sample of 170 outgoing Italian Erasmus students completed a self-report questionnaire prior to departure and another upon return home. The study also included a control group (n = 52) consisting of students from the same university who had not participated in the Erasmus program. The results revealed the positive value of the Erasmus experience, particularly in terms of strengthening the internationalism career anchor, cognitive cultural intelligence and resilience. The results also showed that students' pre-departure resilience and intercultural interactions with other international students from different countries can explain higher levels of cultural intelligence and the desire to work abroad or take on global work assignments. No significant change across time was found for the same variables in the control group. In addition, the critical experiences reported by students highlighted a strong cognitive and motivational component associated with the Erasmus program. Some practical implications for higher education are discussed.

Introduction

The COVID-19 pandemic has caused considerable changes to study abroad programs, but their benefits, consolidated prior to this emergency, have continued to make a decisive impact on study and work paths. Today, the attempt to find a "new norm" in international study abroad programs seems to have found adequate responses: mobility has resumed with even greater awareness of its own value. The current research, carried out before COVID-19, focuses on the kind of study mobility that is usually promoted in higher

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education. Study abroad programs provide students with rich learning opportunities beyond the acquisition of knowledge through course contents; these have potential effects on students' attitudes toward and perceptions of other cultures and on the development of cross-cultural competence (Carlson & Widaman, 1988; Holtbrügge & Engelhard, 2016). Around the world there are many study abroad programs which promote student exchanges. In the European Union (EU) the most popular and widespread program is the European Region Action Scheme for the Mobility of University Students (Erasmus). After 35 years of implementation, Erasmus+ remains resilient, having supported 11.7 million participants by the end of 2020 (European Commission, Directorate-General for Education, Youth, Sport and Culture, Erasmus+, 2021). Thanks to the Erasmus program, possibilities for international mobility have been significantly improved between academic institutions (Nilsson, 2013). Study abroad programs, and the Erasmus program in particular, follow several goals: improving foreign language skills, stimulating personal development, providing opportunities to learn from institutions with different expertise, developing soft skills and social networks, promoting international career mobility, and enhancing the ability to look for a job in a foreign country (Crossman & Clarke, 2010; Juvan & Lesjak, 2011; Marcotte, Desroches, & Poupart, 2007; Parey & Waldinger, 2011, Turhan, 2016).

Some studies have considered study abroad programs as a source of learning and skills development and have tried to empirically test their impact on a number of the possible outcomes listed above (Holtbrügge & Engelhard, 2016; Roy, Newman, Ellenberger, & Pyman, 2019; Varela, 2017). Nevertheless, few works have yet focused on the reinforcement of the desire for international assignments at work or for a career abroad (Remhof, Gunkel, & Schlägel, 2013) in the wake of the Erasmus experience (Engel, 2010). To address this gap, this study aims to examine the relationship, following the Erasmus experience, between cultural intelligence (CQ), namely an intercultural capability that enables people to function and cope effectively in a culturally diverse environment (Ang et al. 2007), and the internationalism career anchor, which is the individual predisposition and desire for international mobility for work (Lazarova, Cerdin, & Liao, 2014). The decision to focus on the Erasmus program is also related to its characteristics that allow it to be seen as an opportunity for experiential (Kolb, 1984) and transformative learning (Mezirow, 1991, Strange & Gibson, 2017; Yang, Webster, & Prosser, 2011). Indeed, students who spend at least one semester abroad often speak a foreign language (e.g., Camiciottoli, 2010) and can solve and overcome practical and cultural problems. The challenging situations typical of study abroad have the potential to challenge students' frameworks and force them to find a solution, interpret a complex episode differently, and turn it into a growth opportunity. The challenges associated with Erasmus potentially promote the strengthening of aspects of intercultural competence such as CQ and self-awareness (Strange & Gibson, 2017; Yang et al., 2011).

The choice to focus on CQ rather than other constructs is justified by its characteristics: it crosses cultural boundaries and is related to the acquisition of general cultural skills in any culture (Ng, Van Dyne, & Ang, 2012). Moreover, it is defined by four dimensions: cognitive, metacognitive, motivational, and behavioral CQ (Ang et al., 2007; Ng et al., 2012), thus meeting the recommendation of Varela (2017), who suggests examining learning outcomes for cognitive, affective, and behavioral outcomes. Finally, Matsumoto and Hwang (2013) showed in their meta-analysis that the Cultural Intelligence Scale (CQS) has better psychometric properties (construct, content, and ecological validity) than other measures such as the Cross-Cultural Adaptability Inventory (CCAI), the Cross-Cultural Sensitivity Scale (CCSS), Intercultural Communication Competence (ICC), etc.

To explore and explain the potential learning outcomes of the Erasmus program, we used a mixed-methods approach with a quantitative multi-wave component. Our research benefited from data collected at two time points: Time 1 (T1), before students left, and Time 2 (T2), at re-entry. Specifically, we explored potential changes in CQ and in the degree of internationalism career anchor while attempting to explain them by considering the role of a personal dimension: resilience. Resilience is the capability of adapting to and coping with problematic situations (Schwarzer & Warner, 2013). Resilience has been seen as a supporting factor of the intercultural learning process, able to make students more efficient in the transformation of difficult situations (e.g. disorienting cultural misunderstandings) into learning outcomes (Dolce & Ghislieri, 2022). Finally, in line with social learning theory (SLT, Bandura, 1977), in which learning emerges from interactions and takes place in a social context, we also consider the frequency of intercultural interactions with other international students from other countries as a source of learning. These intercultural interactions could enhance CQ and the intention to pursue an international career.

In addition, we examined the development of CQ using specific critical incidents or critical experiences in intercultural interactions (Spencer-Oatey & Harsch, 2016) that can be considered as triggers for learning (Clapp-Smith & Wernsing, 2014).

Overall, the current study is part of a series of contributions that try to shed light on the outcomes of study abroad programs (e.g. Holtbrügge & Engelhard, 2016; Roy et al., 2019; Varela, 2017; Terzuolo, 2018). These programs seem to represent an opportunity for cross-cultural competence acquisition, personal development, a professional career, and so on (e.g., Bryla, 2015; Jacobone & Moro, 2015;; Yang *et al.* 2011).

Theoretical framework and hypothesis development

In the following sections, we present the theoretical framework that supports our assumptions about the value of participation in the Erasmus program. We outline a hypothesized model according to which the research participants' level of resilience at T1 and their intercultural interactions with students from different countries can explain a higher CQ level at T2. This, in turn, can lead to a stronger intention to embark on a career abroad.

Experiential learning theory and transformative learning theory as combined conceptual frameworks

The current study is part of a broader framework that considers study abroad programs as an opportunity for experiential and transformative learning (Strange & Gibson, 2017; Yang et al., 2011). Experiential learning theory (ELT, Kolb, 1984) has already been

used in the field of international management studies to understand the role of international mobility in the development of CQ and global leadership skills (Ng, Van Dyne, & Ang, 2009). ELT assumes that learning is a holistic process of adaptation that requires the integrated functioning of the total person. This process includes thinking, feeling, perceiving, and behaving. Learning results from interactions between the person and the environment. It requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. It is a cyclical and continuous process which allows the creation of new knowledge and the changing of existing ideas and perspectives, as well as relearning (Kolb & Kolb, 2009). The learning cycle, defined by four stages, is characterized by two fundamental processes: (1) grasping the experience, and (2) transforming the experience. In particular, the ELT model portrays two dialectically related modes of grasping experience, namely concrete experience versus abstract conceptualization. There are also two dialectically related modes of transforming experience, namely reflective observation versus active experimentation (Kolb, 1984). Some criticisms of Kolb's model and complementary contributions (Matsuo and Nagata (2020)) have highlighted the differences between expected and unexpected experiences and the lack of understanding of the emotional side of the growth-and-reflection cycle for deep learning (Miettinen, 2000; Miller & Maellaro, 2016; Kayes, 2002; Reynolds, 1999; Vince, 1998). Despite these criticisms, we recognize in this work a groundbreaking insight about the importance of experience in the learning process. Indeed, in line with previous work (Strange & Gibsons, 2017), this cyclical and continuous learning process seems active in study abroad programs such as Erasmus. However, as suggested by Strange and Gibson (2017), the quality of experience should be taken into account to appreciate the mobility potential of studying abroad for experiential and transformative learning. Therefore, we have considered international interactions in the Erasmus experience in order to try to define their relationship with CQ and the internationalism career anchor.

Beyond experiential learning, the Erasmus mobility program also has the potential to provide transformative learning: it usually puts students outside their comfort zone for at least one semester, forcing them to deal with different practices and habits, adjust themselves to another culture, and solve accommodation and bureaucratic problems (e.g., Raikou & Karalis, 2020), often using a different language (e.g., Camiciottoli, 2010). Indeed, according to transformative learning theory (TLT, Mezirow, 1991), the learning process occurs when people's perspectives and their frames of reference come into question. In this way, study abroad programs are able to stimulate in students a search for a new point of view and a new understanding of the world and of themselves (Strange & Gibson, 2017). Clapp-Smith and Wernsing (2014) identify experiences during early international student stays that trigger transformational learning processes and contribute to the development of cross-cultural competence. These experiences can be associated with "critical incidents" reported by students, i.e. significant or revelatory experiences of cross-cultural differences, cross-cultural sensitivity, or self-awareness (Spencer-Oatey and Harsch (2016)).

Mezirow (1991) explains that the transformational process consists of ten steps: (1) a disorienting dilemma; (2) self-examination with feelings of guilt or shame about one's own perspective; (3) a critical assessment of one's own assumptions; (4) the recognition that these changes occur in others and also that others negotiate their point of view; (5) an exploration of options for a new perspective; (6) the planning of new actions; (7) the acquisition of new skills and knowledge; (8) an attempt to develop a new frame of mind; (9) the building of competence and the reinforcement of self-confidence in new ideas; and (10) the full reintegration of these new ideas and new perspective into one's life (Strange & Gibson, 2017). In this study, it is considered that the Erasmus study abroad program is able to activate this transformational process that leads to the acquisition of intercultural capabilities. Indeed, during their Erasmus stay, students are confronted with problems that challenge their framework, force them to find a solution, plan new actions, develop new points of view and transform these experiences into an opportunity for growth. In the following section, we address some of these potential experiential and transformative learning outcomes: the reinforcement of the internationalism career anchor, CQ, and resilience.

Internationalism career anchor

The internationalism career anchor "describes individual career motivations and needs, and reflects the desire for international mobility and international work" (Lazarova *et al.* 2014, p. 10). Suutari and Taka (2004) were the first to propose a reflection on this construct within Schein's career-anchors theory (Schein, 1990). According to Schein (1978), a career anchor guides all major career decisions, all role transitions and career turning points (Fraccaroli, 2005). It is related to what a person considers most important and non-negotiable for their career path and it refers to the core aspects of the self. Career anchors were originally distinguished as five types – technical functional competence, managerial competence, security and stability, autonomy and independence, and entrepreneurial creativity – and then expanded with three other anchors – service and dedication to a cause, pure challenge, and lifestyle (Schein, 1978; Suutari & Taka, 2004). Career anchors can be interpreted as a set of self-perceptions which comes from experiences of working and academic success, self-evaluation and others' feedback, and one's needs, values, and interests. Within the theoretical framework of social cognitive career theory (Lent, Brown, & Hackett, 1994), it is possible to argue that the career development process depends on cognitive and learning phenomena. The Erasmus mobility program should be seen as a potential source of experiential and transformative learning (Ng et al., 2009; Ott & Michailova, 2018; Strange & Gibson, 2017), able to play a role in career development, and more particularly in the reinforcement of the internationalism career anchor. Indeed, previous positive international mobility experienced via the Erasmus program can serve as proof of the ability to function and manage effectively in culturally diverse settings (Ang et al., 2007, p. 337), which in turn could influence the motivation for a career abroad or for international assignments in future. Therefore, we assumed that:

Hypothesis 1. The level of the internationalism career anchor increases across time through participation in the Erasmus program and does not change for the control group.

Cultural intelligence

The relationship between cultural intelligence (CQ) and study abroad programs continues to pique research interest. Many scholars have called for further longitudinal studies to understand how the learning and development process of CQ occurs during study abroad programs and how other factors interact and influence CQ development (e.g., Iskhakova, Bradly, Whiting, & Lu, 2021; Peng, Van Dyne, and Oh (2015); Varela, 2017; Wang, Heppner, Wang, & Zhu, 2015). As previously mentioned, CQ is a specific psychological construct, associated in the literature with notions of intercultural competence (Bartel-Radic & Giannelloni, 2017; Leung, Ang, & Tam, 2014; Spencer-Oatey & Franklin, 2009). Assessing and defining intercultural competence can be challenging, considering its multiple definitions and the number of possible pathways to measure it. To simplify the work, Deardorff, in a 2006 study which involved a sample of higher education administrators and a panel of internationally known intercultural scholars, proposed an interesting pyramid model that moves from attitude level (respect, openness, curiosity, and discovery) to interpersonal/interactive level (knowledge and comprehension, adaptability, flexibility, ethnorelative view, empathy, and an interest in behaving and communicating effectively and appropriately). Therefore, more generally, intercultural competence corresponds to the ability to act and communicate effectively and appropriately in cross-cultural situations (Deardorff, 2006). Some eight years after Deardorff's work, a paper by Leung and colleagues (2014) provides further clarity on the conceptualization of intercultural competence. The authors assert that "the 300-plus personal characteristics identified in previous research can be distilled into the content domains: (a) intercultural traits, (b) intercultural attitudes and worldviews, and (c) intercultural capabilities" (Leung, Ang, & Tan, 2014, p. 490). Examples of intercultural traits are tolerance of ambiguity, open-mindedness, quest for adventure, patience, etc., which enable people to develop stable patterns of behavior across situations. Intercultural attitudes and worldviews, on the other hand, refer to how people perceive other cultures by adopting more ethnocentric or ethnorelative cultural worldviews. Finally, examples of intercultural capabilities include CQ: what people can do to be effective in intercultural interactions.

CQ is an interesting construct because, based on Sternberg's multiple-loci conceptualization (Sternberg, 1986), it includes four types of capabilities with its four dimensions: cognitive, metacognitive, motivational, and behavioral (Ang et al., 2007; Ng et al., 2012).

The cognitive dimension refers to knowledge about legal norms and conventions, and awareness, acquired from education and personal experience, of the social practices and economic rules present in other cultures. People with high levels of cognitive CQ are also able to understand similarities and differences in value systems across countries (Brislín, Worthley, & McNab, 2006; Ng & Earley, 2006; Ng et al., 2012). *The metacognitive dimension* refers to the mental capability of acquiring and understanding cultural knowledge as well as a cultural awareness of appropriate behaviors and interpersonal interactions. A high level of metacognitive CQ allows the appropriate modification of mental models and interaction strategies (Ang et al., 2007; Ang & Van Dyne, 2008; Earley, Ang, & Tan, 2006; Ng et al., 2012). *The motivational dimension* reflects the capability of directing and sustaining energy and desire toward a knowledge about something that is culturally different from us, based on a high level of self-efficacy in managing cross-cultural situations (Ang et al., 2007; Bandura, 2002; Ng et al., 2012). Finally, *the behavioral dimension* concerns the ability to use appropriate verbal and non-verbal behaviors, language, tone, posture, and facial expressions in order to act in a different cultural setting (Ang et al., 2007; Ng et al., 2012).

CQ is a capability that can be developed. In this regard, in line with recent empirical evidence (Roy et al., 2019; Varela, 2017; Varela & Gatlin-Watts, 2014), study abroad programs appear to be a fertile ground for the acquisition of intercultural capabilities (Ott & Michailova, 2018). Former longitudinal studies show that the development process of CQ is not always clearly linear (Wang et al., 2014). Indeed, the study abroad experience, by interacting with national and cross-national context factors, may have differentiated impacts on CQ dimensions (Varela, 2017). Furthermore, CQ dimensions might even interact, e.g. initial high motivational CQ can have an impact on learning effects in other CQ dimensions (Peng et al., 2014). While most previous studies look at international student experiences in the United States or at US student experiences abroad, we assumed that study abroad programs between European countries would also impact CQ development. Therefore, we assumed that:

Hypothesis 2. Levels of CQ increase across time through participation in the Erasmus program and do not change for the control group.

Resilience

Beyond the enthusiasm of living in other country, when they are abroad students often have to face intercultural misunderstandings, difficulties in communication due to an initial lack of language proficiency, different social norms and practices, and so forth (Johnson, Seifen-Adkins, Sandhu, Arbles, & Makino, 2018; Ma & Wen, 2018; Sherry, Thomas, & Chui, 2010; Smith and Khawaya (2011)). So, what are the conditions that prevent their early returns in the face of these difficulties? What are the cognitive and learning factors which play a role in facilitating the adjustment and adaptation process? Resilience could play a crucial part. Southwick, Bonanno, Masten, Panter-Brick, and Yehuda (2014) after collecting a list of resilience definitions synthesize that resilient people are able to make a conscious effort to move forward positively in an insightful and integrated manner after an adverse event in order to adapt successfully to disturbances. Indeed, resilience makes people able to adapt to and cope with challenging or even problematic situations (Schwarzer & Warner, 2013), transforming them into growth opportunities (Joyce *et al.* 2018). Resilience is a personal characteristic that can be developed (Nguyen, Jefferies, & Rojas, 2018). We can assume that the difficulties and challenges encountered by Erasmus students could mobilize resilience and in turn reinforce it. This assumption is consistent with a conceptualization of learning as a cyclical process (Kolb, 1984) and with the TLT frameworks according to which difficulties are actually the

sine qua non for transformative learning (Mezirow, 1991). The challenging situations typical of Erasmus sojourns have the potential to question students' perspectives and their frames of reference, forcing them to find a solution, interpret a complex episode differently, and change it into a growth opportunity. In other words, the experience of the Erasmus mobility program could reinforce the resilience itself. Therefore, we assumed that:

Hypothesis 3. The level of resilience increases across time through participation in the Erasmus program and does not change for the control group.

Furthermore, within the TLT framework (Mezirow, 1991), resilience might facilitate the transformative learning process, providing resources to students who are outside their comfort zone through living in an unfamiliar environment in a different country. In other words, resilience seems to be a personal resource that might help students to more easily reach transformative learning outcomes such as, for the study abroad programs, the development of CQ (Dolce & Ghislieri, 2022). Students' resilience could facilitate the comprehension of disorienting cultural misunderstandings and move them toward a new perspective via a shifting of their point of view and a greater awareness of the world around them (Mezirow, 1997). In an international context, overcoming the challenges of study abroad by using resilience helps students think of themselves as able to function and manage effectively in culturally diverse settings (Ang et al., 2007, p. 337), namely as having the perception to be culturally intelligent. Thus, a cascade process could be activated: students with resilience before their departure would enhance their possibilities of becoming more culturally intelligent, which in turn would enhance their motivation for a career abroad or international assignments (Remhof et al. 2013). In other words, we assumed that:

Hypothesis 4a. : Resilience at T1 is positively related to CQ at T2; 4b: which in turn mediates its relationship with the internationalism career anchor at T2.

The role of intercultural interactions

In order that an experience such as a student mobility program is perceived as meaningful and useful, some contextual value elements seem necessary in addition to personal characteristics such as resilience. For example, staying abroad should provide the opportunity to interact with individuals from other countries in a specific cultural setting for a sufficient period of time, in the case of the Erasmus mobility program for at least one semester on average. In line with social learning theory (SLT, Bandura, 1986), only an encounter with someone else allows a student to observe the other's behaviors and to memorize and replicate them, as well as to motivate themselves to reproduce them in order to better adapt to the environment and to strengthen interactions and friendships with other students from different countries (Ward, Bochner, & Furnham, 2001). Intercultural interactions would allow the acquisition or reinforcement of intercultural capabilities, as evidenced by empirical studies carried out on expatriate samples (e.g., Moon, Choi, & Jung, 2012; Ng & Earley, 2006). Indeed, intercultural interactions with other international students would represent an opportunity to understand others' points of view and reinforce the desire to interact with people from other countries (Dolce & Ghislieri, 2022). A successful Erasmus experience, which proves to individuals their ability to interact with people from other cultures and reinforces their feeling of self-efficacy in managing interactions, can assist in a consolidation of CQ. Finally, there could be the activation of a cascade process: intercultural interactions may strengthen CQ, making individuals more confident in managing the complexity of intercultural settings and in turn reinforcing the internationalism career anchor. Thus, we assumed the following:

Hypothesis 5a. : The intercultural interactions at T2 are positively related to CQ at T2; 5b: which in turn mediates its relationship with the internationalism career anchor at T2.

Methods

The study used a quantitatively driven, simultaneous mixed-methods design, with one supplemental qualitative component (see Fig. 1). Quantitative and qualitative data was analyzed and then merged and integrated to create the research narrative in line with Morse and Niehaus (2009). We included qualitative analysis in order to deepen the transformative learning process (Mezirow, 1991). Through qualitative analysis, CQ dimensions were used to categorize critical events that trigger the transformative learning process during the experience of studying (Clapp-Smith & Wernsing, 2014).

Participants and procedures

The study involved a sample of 170 outgoing Italian Erasmus students (77% female; M_{age} = 22.35, SD = 1.79) who completed one self-report questionnaire before departure and another at re-entry. The greater representation of females than males is in line with the student population at the university where the study was conducted.[2] Students came from different fields of study and spent on average six months abroad (M = 6.16, SD = 2.04). All students were enrolled at a university in north-west Italy. The study also included a control group (n = 52) consisting of students not participating in the Erasmus program (81% female; M_{age} = 23.08, SD = 2.27) but from the same university as the Erasmus students. They completed two questionnaires, the second one around six months after the first.

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[2] University internal sources

Component 1 (quantitative)

CORE COMPONENT
1) Analysis of the change in resilience, CQ and the internationalism career anchor through participation in the Erasmus program 2) Investigation of the relationship between resilience at T1, intercultural interactions, CQ, the internationalism career anchor and the mediation of CQ

Sample:
N = 170 outgoing Italian Erasmus students
N = 52 control group

Data analysis:
Repeated measures ANOVA and structural equation modeling (SEM)

Component 2 (qualitative)

SUPPLEMENTAL COMPONENT
To deepen the transformative learning process by associating the development of CQ with specific critical events or critical experiences

Sub-sample:
N = 88 outgoing Italian Erasmus students

Data analysis:
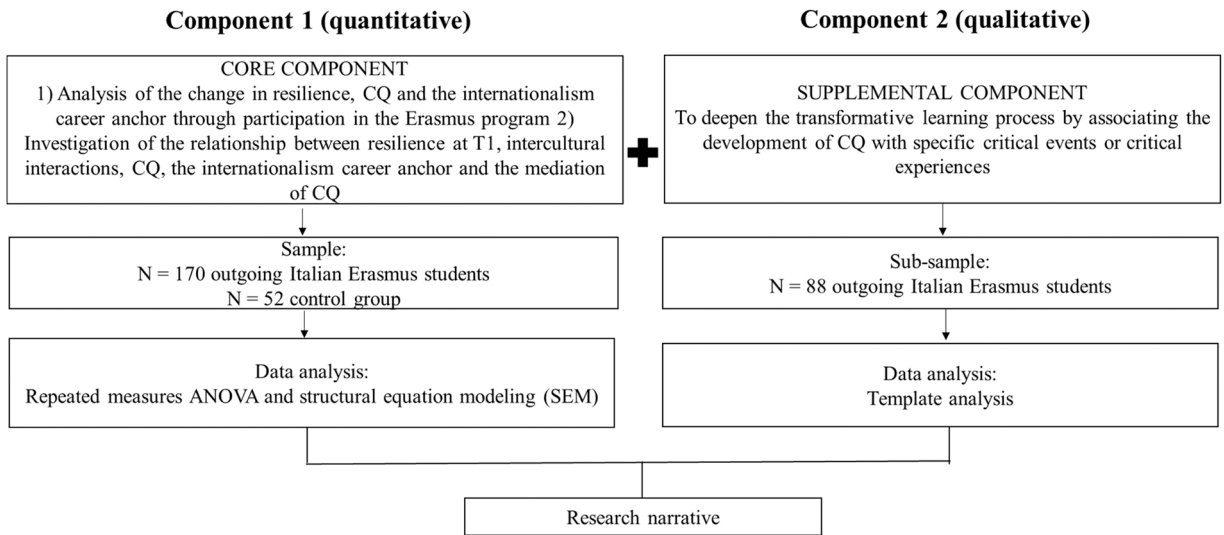Template analysis

Research narrative

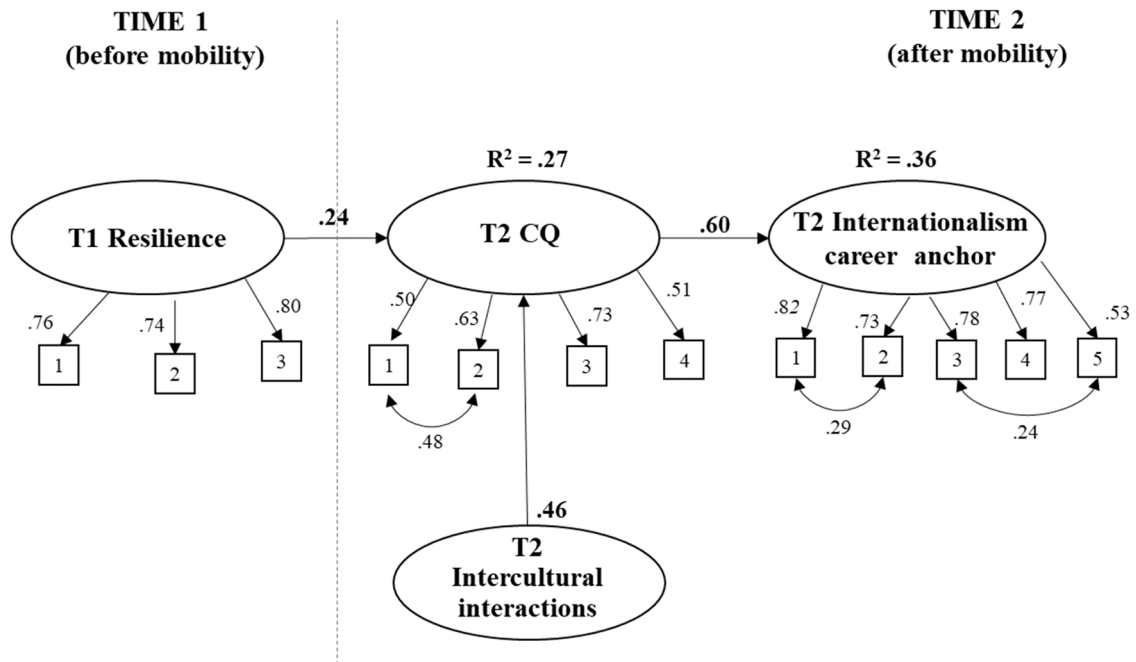**Fig. 1.** Simultaneous mixed-methods design.

Fig. 2. The final model (standardized paths coefficient).

For this study, quantitative and qualitative data was collected through a questionnaire administered on the LimeSurvey platform. Qualitative data was collected by using an open-ended question in which students were asked to relate a surprising intercultural experience (positive or negative) from their Erasmus stay; a total of 88 participants out of 170 (52%) answered it. In particular, qualitative data was used to better explore the cross-cultural learning process and, therefore, concerned only Erasmus students. The study observed the Helsinki Declaration (World Medical Association, 2001); since it did not involve medical treatment or other procedures capable of causing psychological or social discomfort to participants, no further ethical approval was required. We obtained informed consent from all participants. Voluntary and unpaid participation in the research and the confidentiality of the data were emphasized. A synthesis of demographic and academic characteristics for the two samples is presented in Table 1.

Table 1
Demographic and academic characteristics of Erasmus student sample (n = 170) and control group (n = 52).

	Erasmus students (n = 170)		Control group (n = 52)	
	n	%	*n*	%
Gender				
Female	131	77	42	81
Male	39	23	10	19
Field of study				
Law, political and economic sciences	56	33	3	6
Humanities	37	22	8	15
Psychological, educational and anthropological sciences	26	15	24	46
Life sciences	23	14	4	6
Math and physics	8	5	9	17
Historical studies	7	4	1	2
Earth sciences	5	3	4	8
Other	8	4		
Destination				
Spain	57	34		
France	31	18		
Portugal	14	8		
Scandinavian countries	13	8		
Germany	12	7		
Poland	12	7		
United Kingdom	8	5		
Greece	4	2		
Switzerland	3	2		
Hungary	3	2		
Other countries	13	7		

Measures

Resilience: measured by ten items from the Italian validated version by Di Fabio and Palazzeschi (2012) of the original scale by Connor and Davidson (2003), with a 5-point Likert scale with scores ranging from 1 (strongly disagree) to 5 (strongly agree); an example item is "I tend to bounce back after illness, injury, or other hardships."

Intercultural interactions: measured by one item asking whether participants spent their leisure time with other international students from different countries, using a 5-point Likert scale with scores ranging from 1 (not at all) to 5 (completely).

Cultural intelligence: measured using 20 items from Ghislieri et al.'s (2018) Italian validated version of the original cultural intelligence scale (CQS) by Ang and colleagues (2007), using a 7-point Likert scale with scores ranging from 1 (strongly disagree) to 7 (strongly agree). Four dimensions define the factor-structure of this scale: cognitive, metacognitive, motivational, and behavioral. The *cognitive dimension* was measured by six items; an example item is "I know the legal and economic systems of other cultures." The *metacognitive dimension* was evaluated using four items; an example item is "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds." The *motivational dimension* was measured by five items; an example item is "I enjoy interacting with people from different cultures." Finally, the *behavioral dimension* was evaluated using five items; an example item is "I change my verbal behavior (accent, tone) when a cross-cultural interaction requires it."

Internationalism career anchor: measured by five items from the original scale by Lazarova *et al.* (2014), using a 5-point Likert scale with scores ranging from 1 (strongly disagree) to 5 (strongly agree). A back translation was performed to obtain the Italian version of the scale. An example item is "I dream of having a career that will allow me to have international responsibilities."

Qualitative data was collected using an open field in which subjects were asked to relate a surprising intercultural experience (positive or negative) from their Erasmus stay.

Quantitative data analysis

SPSS Statistics 26 software was used to perform descriptive data analysis. Moreover, the reliability of the scales was calculated by examining the internal consistencies of each scale and subscale for each group at T1 and at T2. Repeated measures ANOVA was used to examine differences in the variable means within groups across time. In order to assess the multi-wave model, structural equation modeling (SEM) was performed using Mplus7.

Qualitative data analysis

To identify and categorize "critical events" triggering the transformative learning process, we analyzed the qualitative data, the students' answers to our open-ended question, with the use of a template analysis – a specific type of thematic analysis (Brooks, Mccluskey, Turley, & King, 2015). First, the answers to the open-ended item were analyzed, taking strongly into consideration the four CQ dimensions: cognitive, metacognitive, motivational, and behavioral. The CQ dimensions were treated like the prior themes of

analysis. In template analysis, the prior themes represent only a starting point; they can be modified or removed coherently with qualitative evidence. Two researchers performed the analysis separately with an inter-coder rate higher than 80%, and then they discussed the case attributions until they could agree on all of them.

4. Results

Repeated measures ANOVA

The results fully validate Hypothesis 1: the intention to look for an international career in the future was lower before the Erasmus experience (*M* = 3.47, *SD* =0.87) than after it (*M* = 3.65, *SD* =0.82) [*F*(1) = 10.152, *p* < .01]. Data also confirmed Hypothesis 2: the quantitative analyses showed a weak but significant increase of general CQ over time – higher at re-entry (*M* = 4.81, *SD* =0.74) than at departure (*M* = 4.67, *SD* =0.75) [*F*(1) = 5.864, *p* < .05]. As shown by Table 3, any significant change across time was not found for the same variables in the control group. Furthermore, looking specifically at every dimension, Table 2 shows that students perceived a significantly higher level of cognitive CQ after the Erasmus experience (*M* = 4.17, *SD* =0.90) than before it (*M* = 3.81, *SD* = 1.01) [*F*(1) = 30.215, *p* < .001]. In contrast, no significant change was found in relation to the other dimensions of CQ.

Hypothesis 3 was also confirmed even with a weak effect size (η^2 =.04): the level of resilience was significantly higher at re-entry (M = 3.83, SD =0.57) than at departure (M = 3.72, SD =0.63) [*F*(1) = 6.718, *p* < .05].

Structural equation modeling (SEM)

The full SEM fits the data well: χ^2(59) 96.927, p = .0014, RMSEA = 0.06 (0.04,0.08), CFI = 0.95, TLI = 0.94, SRMR = 0.06. The latent variables were all defined with factor loadings of the observed variables comprising between.50 and.82.

The final solution showed the covariance between the residuals of two items from the internationalism career anchor: "I dream of an international career in which I can travel and work with people from various cultures" and "working abroad is very attractive to me." In a similar way, there was also a covariance between the residuals of the third item, "I will feel successful in my career only if I manage to work in an international environment", and the fifth item, "I would rather leave my organization than accept a job that did not hold the possibility of international mobility." To be economical, the item parceling technique (Little, Cunningham, Shahar, & Widaman, 2002) was applied to the CQ scale, following CQ conceptualization. The model showed the covariance between the residuals of metacognitive CQ (the awareness of the mental processes used in order to move within culturally diverse settings) and cognitive CQ (knowledge about legal norms and conventions, and awareness of the social practices and economic rules in other cultures). The results confirmed Hypotheses 4a and 5a, namely that resilience at T1 and the intercultural interactions at T2 are positively related to CQ at T2. Indeed, the model showed a significant and positive relationship between resilience at T1 [β = 0.24, *p* < .05] and intercultural interactions [β = 0.46, *p* < .001] and CQ at T2. Data also provided empirical evidence for hypotheses 4b and 5b; indeed, CQ mediated the relationship between resilience and intercultural interactions and the internationalism career anchor at T2. In this regard, resilience and intercultural interactions were not directly related to the internationalism career anchor. The model explained about 27% of the variance in CQ and 36% of the variance in the internationalism career anchor.

Furthermore, mediating paths and indirect effects were tested through a bootstrap analysis with 5000 resamples. As shown by Table 4, all indirect effects were confirmed. CQ mediated the relationship between resilience at T1 and the internationalism career anchor at T2, as well as the association between intercultural interactions at T2 and the internationalism career anchor at T2.

Critical experiences

Thematic analysis of responses from 88 students to the open-ended item yielded nine themes and another three sub-themes, which fell into the four broad categories represented by the four dimensions of CQ (see Table 5).

The experiences reported by students can be considered as triggers of transformative learning processes (Clapp-Smith & Wernsing, 2014). Unlike Clapp-Smith and Wernsing's (2014) categorization, we related these experiences to the four dimensions of CQ. In this context, a strong cognitive learning component was identified in the students' responses related to: 1) the improvement or acquisition of a second language often associated with encounters with locals, a need to socialize and attending lectures; 2) practical knowledge

Table 2
Means, standard deviations, Cronbach's alphas, and RM ANOVA in the Erasmus students subsample (n = 170).

	T1			T2						
	M	SD	α	M	SD	α	SQ	F (1)	p	η2
General CQ	4.67	0.75	0.88	4.81	0.74	0.90	1.49	5.864	0.017	0.034
Cognitive CQ	3.81	1.01	0.83	4.17	0.90	0.81	10.88	30.215	0.000	0.152
Metacognitive CQ	4.86	1.00	0.80	4.96	0.90	0.79	0.78	1.820	0.179	0.011
Behavioral CQ	4.44	1.21	0.85	4.63	1.09	0.86	3.16	4.057	0.046	0.023
Motivational CQ	5.58	0.91	0.89	5.47	1.00	0.86	1.17	2.576	0.110	0.015
Resilience	3.72	0.63	0.85	3.83	0.57	0.84	0.98	6.718	0.010	0.038
Internationalism career anchor	3.47	0.87	0.85	3.65	0.82	0.86	2.39	10.152	0.002	0.060

Table 3

Means, standard deviations, Cronbach's alphas, RM ANOVA in the control group (n = 52).

	T1			T2							
	M	SD	α	M	SD	α	SQ	df	F (1)	p	η^2
General CQ	4.23	1.00	0.94	4.19	0.91	0.92	0.05	1	0.187	0.667	0.004
Cognitive CQ	3.42	1.14	0.88	3.42	1.13	0.87	0.00	1	0.000	1.00	0.000
Metacognitive CQ	4.60	1.11	0.82	4.51	0.92	0.79	0.17	1	0.338	0.563	0.007
Behavioral CQ	4.21	1.28	0.90	4.20	1.27	0.86	0.02	1	0.002	0.965	0.000
Motivational CQ	4.73	1.32	0.89	4.64	1.16	0.86	0.20	1	0.461	0.500	0.009
Resilience	3.61	0.54	0.79	3.58	0.60	0.85	0.03	1	0.217	0.643	0.004
Internationalism career anchor	2.67	0.89	0.85	2.58	1.05	0.89	0.17	1	0.874	0.355	0.020

Table 4

Indirect effects using bootstrapping (5000 replications).

Indirect effects	Est	S.E.	p	CI 95%
Resilience – CQ – Internationalism career anchor	0.15	0.07	0.042	(0.02,0.47)
Intercultural interactions – CQ – Internationalism career anchor	0.28	0.07	0.000	(0.11,0.40)

Table 5

Summary of results and coding processing.

Categories	Themes	Sub-themes	Sample responses
Cognitive CQ	Language learning		I was positively surprised by the fast and easy learning of Spanish that I could not speak before leaving.
	Awareness about practices	Academic practices	[…] I was positively surprised by the informal relationship between scholar and lecturer.
		Social practices and norms	In Denmark it is not usual to communicate formally with people who are unfamiliar, as in Italy. For example, walking down the street, I was often greeted by bystanders, even though they were total strangers.
		Political and ideological issues	I found living in a context characterized by a political situation like that of Catalonia extremely impactful, living every moment of the day with a demand for independence, democracy and freedom, immersed in a strong sense of local unity and pride.
	Breaking down of stereotypes		Living with five girls from all over the world for 9 months was an incredible experience for me. […] Every day was a discovery: language, culture, food and traditions. We got to know each other and revealed the unfoundedness of myths and stereotypes. […]
Metacognitive CQ	Change in interaction strategies		I have hosted a Muslim friend, sharing with him a lunch and when he needed private space to pray I gave him my bedroom.
	Cultural adaptation		Falling in love with a boy from another culture and thus adapting in a positive sense my culture to his culture.
Behavioral CQ	Implementation of new behaviors		An African guy invited me and a friend to eat an African dinner: we sat around a tray of white rice with meat cooked in sauce on top, a bit spicy. We all ate from the same tray. He explained that in Senegal they eat as follows: in a circle and sharing the plate, and with their hands (we used forks, though). It was a very nice moment of sharing, where we could talk about our customs, habits, etc.
Motivational CQ	Enjoy interaction with people from other countries		At the beginning of my Erasmus it often happened that I went on a trip with an association, busy organizing events including trips especially for Erasmus students, without knowing anyone and then returning with new friends from different countries with whom I had spent the whole trip exchanging laughter, experiences, ideas.
	Self-discovery		The greatest gift of this experience was to realize the beauty and weight of independence, showing me that I am able to deal positively with sudden and new great difficulties.
	Pleasure and discovery in travel		Doing the Camí de la ronda Visiting the Azores

regarding the different academic practices at university, common social practices in everyday life and political and ideological issues; and 3) the breaking down of stereotypes. The reinforcement of metacognitive and behavioral CQ components also emerged from the experiences reported by students, suggesting: 4) changes in the interaction strategies; 5) cultural adaptation; and 6) implementation of new behaviors. Finally, the motivational aspect, related to the motivational CQ component, is often mentioned by students as a core element of these critical experiences. In particular, the following themes emerged frequently: 7) the joy of interacting with students from other countries; 8) self-discovery and awareness of one's own abilities; and 9) the joy and discovery associated with the travel experience.

Discussion

The current study, within the ELT (Kolb, 1984) and TLT (Mezirow, 1991) frameworks, tried to shed light on the cross-cultural learning process. It tested if and to what extent resilience and intercultural interactions might predict CQ, and – in turn, indirectly, through the mediation of CQ – reinforce the internationalism career anchor in a sample of Italian outgoing Erasmus students.

The quantitative findings confirmed Hypothesis 1. Indeed, the intention to work abroad or have global working responsibilities became stronger through participation in the Erasmus mobility program. This foreign experience, albeit relatively short (on average lasting six months), probably presents proof to students that they can live abroad and efficiently function in culturally diverse settings (Ang et al., 2007, p. 337) while achieving their academic objectives. This could then influence their motivation for a career abroad or international assignments in future.

Results also confirmed Hypothesis 2: CQ seems to be reinforced thanks to Erasmus mobility program participation. However, deeper analysis allowed us to show that the cognitive dimension is actually the only dimension that significantly increases across time. This particular result partially fits with the evidence of Varela and Gatlin-Watts's longitudinal study (2014) which found that participation in short-term mobility student programs contributes to the increase of the metacognitive and cognitive dimensions of CQ, but not the motivational and behavioral dimensions.

The qualitative results are partially consistent with the quantitative ones. Indeed, they seem to confirm the strengthening of the cognitive component of CQ. In particular, students frequently referred to the improvement of language skills, practical knowledge related to different academic practices, and general social practices. They also noticed the acquisition of a deeper awareness of political and ideological issues, as well as the dispelling of stereotypes, thanks to their immersion in the host culture. Contrary to the quantitative results, some components of metacognitive and behavioral CQ also seem to benefit from the Erasmus stay; in particular, students seem to be able to change and adapt their interaction strategies and implement new behaviors. These divergences are also found in the literature (Ott & Michailova, 2018). For example, Engle and Crowne (2014) showed in their study with a sample of college students that even short-term international experiences are able to positively influence all components of CQ, whereas the results of other studies (e.g., Varela and Gatlin-Watts, 2014; Wood and St. Peters, 2014) invite caution in claiming that there are significant relationships between these variables. The role of several variables related to the quality of the experience, e.g., cultural distance, purpose of the international experience, length of time abroad, could explain these differences. However, further studies are needed to provide clarity (Varela, 2017). In particular, the partial divergence between the current study's qualitative and quantitative results may be explained by the students' metacognitive and behavioral responses and the CQS's items: the content of many items that capture the metacognitive and behavioral dimensions (e.g., changes in verbal behavior or changes in facial expression) do not appear in the students'.

Finally, the motivational dimension seems to be strongly present in the experiences reported by the students: the pleasure and enjoyment of interacting with local students or others from different countries; self-discovery, the joy of traveling and gaining new experiences. However, these are also intrinsic motivations (Ryan and Deci (2000)) that, along with extrinsic motivations (e.g., a more attractive and competitive r é sumé for the job market), are likely to have led students to go abroad for one or two semesters. These hypotheses would help justify the lack of significant improvement in motivational CQ that emerges from the quantitative results; in fact, this motivational component could be high even before departure.

Hypothesis 3 was also validated. In particular, the challenges associated with the Erasmus mobility program (e.g., accommodation and bureaucratic problems, Raikou & Karalis, 2020; linguistic barriers, Camiciottoli, 2010) mobilize students in looking for solutions and transforming difficulties into growth opportunities. In other words, the difficulties encountered by students, if not too extreme (Ledesma, 2014) and supported by a minimum level of resilience pre-departure, are able to reinforce the resilience itself, instigating a cyclical process. Few studies have looked at changes in resilience in international experiences, although Asoodar, Atai, and Baten (2017) found in a large sample of international students that commitment, also intended by authors as the development of resilience, was a key element in defining a successful Erasmus experience. Also using a qualitative approach, Dresen, Wilmes, Sullivan, and Waterbury (2019) find that a strengths-based curriculum improved perceptions of resilience development during study abroad. A strengths-based curriculum is typically characterized by a series of activities planned for before and during the journey to understand and discover students' possible strengths and their contribution to personal development (Passarelli, Hall, and Anderson (2010)).

Thus, the results confirmed that resilience increases across time through participation in the Erasmus program, but they also supported Hypothesis 4a: resilience seems to help students in CQ acquisition. Students' resilience seems to facilitate the management of challenges or uncomfortable situations which can occur when people live in a different country with different rules, habits, language, and so forth (e.g. Ma & Wen, 2018; Sherry et al. 2010; Smith & Khawaya, 2011); this supports the reach of transformative learning outcomes such as CQ. In this regard, the qualitative and quantitative results point in the same direction, confirming that the Erasmus program can be considered an occasion for transformative and experiential learning (Strange & Gibsons, 2017).

The findings also confirmed Hypothesis 4b. The positive feedback received from the successful overcoming of challenges and difficulties in an international and unfamiliar context, thanks to resilience, helps students to think of themselves as culturally intelligent, in other words able to succeed in other culturally diverse settings in future (Ang et al., 2007, p. 337), enhancing the motivation for a career abroad or for international assignments (Remhof et al., 2013). Hypothesis 5a and 5b were confirmed: international interactions at T2 are positively related to CQ at T2, which in turn mediates a relationship with the internationalism career anchor at T2. During the Erasmus mobility sojourn, "knowledge and meaning are contextualized in actual experiences" (Strange & Gibson, 2017, p. 86); students interact with people from other countries in a specific social context with a defined formal objective linked to the course of study. The episodes reported by students contribute to the evidence highlighted by quantitative data which confirms the relationship between intercultural interactions and CQ. Indeed, many students reported experiences of acquiring knowledge about social and

academic practices and economic and political issues, as well as the norms and procedures of the host country. They also reported improvement of skills in the second language, thanks to the intercultural interactions during their sojourn. In turn, CQ development binds to an increased sense of efficacy in one's own intercultural capabilities that in turn affects the strengthening of the internationalism career anchor. Participation in the Erasmus mobility program seems to affect this process of career anchor definition, thanks to the richness of the relationships that students can potentially cultivate with other students in a multicultural environment. In fact, on the one hand, the quantitative results showed the role of spending free time with other international students from different countries in the development of the internationalization career anchor. On the other hand, the qualitative results confirmed the extent of encounters with other local and international students, as shown in the response examples to the different elements of CQ.

Finally, it is important to clarify that in all probability the relationship between the variables studied is not merely causal. Indeed, we can assume that some variables such as the internationalism career anchor are not only an outcome of the Erasmus mobility experience but also a determinant of it. In other words, there is probably a cyclical and recursive process which involves subjective dimensions (certain career anchors or personal characteristics such as resilience) that are necessary conditions but are also elements reinforced through the same international experience.

Overall, the qualitative findings merge with the quantitative ones in supporting the activation of a "cross-cultural learning process" which may lead toward the acquisition of crucial competences for the current labor market (Dolce, Molino, Wodociag, & Ghislieri, 2021).

6. Implications

In light of previous considerations, the findings of this study offer some practical implications both for higher education and for organizations. Overall, these qualitative and quantitative findings seem to confirm the institutional expectations toward European international mobility formalized in the Bologna 2020 process: the development of students' cultural awareness, respect for diversity and the ability to understand different cultures (Bologna Process, 2009). Considering the critical role of resilience identified in our study, training sessions should be implemented to help students develop a self-awareness about their emotions, strengths and weaknesses before studying abroad (Mesidor & Sly, 2016). Furthermore, considering that intercultural relations seem to positively affect the intercultural learning process, international mobility services should provide opportunities for meeting both local and international peers through specific orientation programs. Furthermore, this study followed the suggestions made by the panel of intercultural scholars who participated in Deardorff's study (2006) and recommended assessing intercultural competence through a mix of qualitative and quantitative measures. The approach of the transformative learning process and open-ended questions are helpful to identify which critical incidents of the study abroad experience trigger the development of cross-cultural competence. The systematic use of these incidents (such as the memory of emblematic episodes) could be applied in training sessions as intercultural development tools by program organizers. Indeed, the analysis of such "critical incidents" could help to rework: attitudes and feelings toward the whole experience (e.g., respect for diversity); behavior patterns anchored in a different cultural setting; knowledge and skills learned; and coping strategies found to solve specific intercultural situations (Spencer-Oatey and Harsch, 2016).

These practical recommendations seem relevant considering that the Erasmus mobility program does not include training, either before departure or during or after the Erasmus stay. Some universities offer certain "services" to students (e.g. pre-departure training to improve language skills) to support their study mobility. However, these practices do not exist at every university, and the services offered to Erasmus students can vary greatly from one university to another.

7. Limitations and future research

The current study presents some limitations. The first is represented by the small size of the control group which limits the generalizability of the findings; in the future, an increase in the number of participants for the control group may enhance confidence in the results. Second, the results and related discussion are not generalizable to other populations (refugees, expatriates, etc.) but refer exclusively to the students' sample. Third, the study measured single-source, self-report data, which raises the possibility of common method bias. It could have been helpful to combine the use of performance-based methodology (Goldenberg, Matheson, & Mantler, 2006). Furthermore, the CQS, despite its good psychometric properties (content, construct and ecological validity confirmed by Matsumoto and Hwang's, 2013 meta-analysis), is not free of limitations as suggested by the critical approach of Bücker, Furrer, and Lin (2015) who pointed out the possible risk of multicollinearity between the dimensions. Furthermore, the nature of the CQS could be influenced by the Dunning–Kruger effect (Kruger & Dunning, 1999), a cognitive bias by which people with low levels of competence overestimate their skills. Although this limitation is partially overcome by qualitative data that complements self-report answers, one important factor is the number of answers given by participants; indeed, not all participants answered the open-field form. Moreover, considering open-field questions on critical experiences, self-reports are based on subjective memories, and their accuracy may be altered by memory effects or by emotions attached to the events (Spencer-Oatey & Harsch, 2016). Another limitation concerns the lack of a third opportunity to verify the change across time in levels of CQ, resilience and internationalism career anchors. In future, longitudinal studies with more time points should be carried out to better explore these themes. Following the recommendations of Roy et al. (2019), more attention would be paid to the employment outcomes of the short-term study abroad programs. Regarding the variables in the quantitative component of this study, some critical dimensions were not included, such as intercultural interactions with local students. Future research addressing the intention to work abroad should include this aspect. This also reflects the findings of other studies that show a positive and significant relationship between intercultural interactions with local students and cognitive CQ (Dolce & Ghislieri, 2022). In addition, we did not consider participants' cultural worldviews (Bennett, 1986). Future research could

include other aspects of intercultural competence, to explore their association with the internationalism career anchor. Lastly, the COVID-19 pandemic has had a major impact on international study mobility programs.[3] Therefore, scholars may assess how international mobility has changed, especially in terms of intercultural interactions. While it is true that these interactions are important, mobility programs need to find ways of compensating for the disappearance of certain traditional informal arrangements by organizing activities and encouraging exchanges in secure situations.

Declarations of interest

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