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Going Out of the Comfort Zone: A Longitudinal Mixed-Methods Analysis of Adolescents' Identity Development Around Study Abroad Experiences

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ABSTRACT

Identity development is an important task during adolescence that is shaped by events and transitions such as study abroad experiences. This longitudinal study addresses how these experiences are associated with adolescents' identity development in the educational and interpersonal domains. Using a circumspective mixed-methods design, we analyzed quantitative survey responses (collected pre and post the experience abroad) and qualitative interviews from 30 adolescents: 15 who had studied abroad ($M_{\text{age}} = 16.56$, $SD = 0.34$) and 15 from a matched comparison group ($M_{\text{age}} = 16.48$, $SD = 0.31$). Findings suggest that study abroad experiences fostered increased exploration in the educational domain, wherein students were prompted to reflect on their academic choices and personal goals. Although changes in interpersonal identity processes were more varied, many participants reinforced existing commitments during and after their experience abroad. The mixed-method design illuminated the complexity of identity development by revealing both the benefits and challenges of navigating new cultural contexts.


KEYWORDS

Mixed-methods; identity; study abroad experiences; longitudinal; adolescence

Introduction

During adolescence, individuals face multiple changes that lead to pivotal questions regarding who they are, who they want to be in the future, and how they have become the person that they are (Crocetti et al., 2023). Specifically, adolescents undergo this important process of identity development by exploring different options and making significant commitments in key domains of their lives, such as educational and interpersonal ones (Albarello et al., 2018). Notably, adolescence is marked by heightened sensitivity to experiences and contexts that can significantly influence identity development (de Moor et al., 2023). Among these, study abroad experiences have gained considerable attention given their potential salience (McKay et al., 2022, 2023). Study abroad experiences refer to educational programs that allow students to live and study in a foreign country for a certain period of time, typically ranging from a few weeks to an entire academic year (Engle & Engle, 2003), and are designed to expose students to new cultural contexts. By stepping out of their comfort zone, adolescents are encouraged to develop new perspectives and skills that can contribute to their overall development. Thus, these experiences can provide adolescents with opportunities that potentially foster intercultural competence, personal growth, and global awareness (Dwyer, 2004), all of which are central to identity development.

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So far, study abroad experiences have been linked to several positive outcomes for adolescents (Duerden et al., 2018). In research on identity, most attention has been paid to how experiences abroad are related to a re-negotiation of identity related to future choices (McKay et al., 2022) and to the sense of belonging to a specific country (i.e., home identity, Greischel et al., 2018; national identity; Bobba et al., 2024) and super-ordinate European group (Bobba et al., 2024). However, less is known about the impact of study abroad experiences on possible changes in individuals' identity development in crucial life domains such as education and interpersonal relationships. To address this gap, the current study examined change and stability in the levels of educational and interpersonal identity processes in Italian adolescents who had an experience abroad, in comparison with a matching group of adolescents who did not have such an experience. Adopting a circumspective mixed-method design, we combined quantitative survey data collected before and after the experience abroad and qualitative interview data collected after the experience to investigate how abroad experiences are intertwined with adolescents' identity development.

Exploring who you are: identity formation during adolescence

Identity development can be seen as a product of individuals' continuous adjustment across different times and contexts and is particularly important during adolescence (Crocetti, 2017). Identity development can be parsimoniously captured with a three-factor model (Crocetti et al., 2008). This model highlights the interaction of *commitment*, which involves the choices adolescents have made about various developmental domains and the self-confidence derived from these choices; *in-depth exploration*, which refers to the extent to which adolescents actively explore their commitments through personal reflection and discussion with others; and *reconsideration of commitment*, which involves comparing current commitments with alternative, potentially more satisfactory, ones.

The three-factor model is a so-called dual-cycle identity model, which describes identity development as an interplay between two dynamic cycles (Crocetti, 2017). The identity formation cycle results from the interplay between commitment and reconsideration of commitment. In this cycle, individuals revise their identity commitments when they are not satisfied anymore, and when they encounter potentially more appealing alternatives. The maintenance cycle is based on the interplay between commitment and in-depth exploration, in which youth examine their current commitments and validate the choices that align with their goals, or they return to the identity formation cycle when their choices no longer harmonize with their sense of self (Crocetti, 2017). Individuals can repeatedly move back and forth between these cycles, and identity development is thus operationalized as a continuous and iterative process.

In addition to being dynamic, identity development also operates in multiple life domains (Klimstra et al., 2016). During adolescence, the educational and interpersonal domains are relevant to most individuals' life choices, but they differ in the degree to which they are open for youth to explore (Meeus et al., 1999). That is, at least in the Italian context (relevant to the present study), the rules and norms of the school system may limit adolescents' possibilities to explore alternative paths and change their school track (Albarello et al., 2018), which makes the educational domain relatively more "closed." In contrast, interpersonal identity can be considered more "open," as adolescents can freely explore a wide range of alternatives through participation in various friendship groups and more intimate dyadic friendships (Klimstra et al., 2010). The different nature of these two domains makes it beneficial to examine them in the same study, as adolescents with a strong sense of identity in one domain do not necessarily have a similarly strong sense of identity in other domains (Crocetti et al., 2012).

In addition to that, there are two other relevant aspects of identity development. The first is identity processes, which refers to how identity is formed, and what kind of activities individuals do in terms of making relevant choices and exploring their alternatives (Crocetti et al., 2023). The second is identity content, which represents what actually is developing, what situations, encounters, and events shape someone's identity (McLean, Syed, & Shucard, 2016).

Adolescents experience several changes of contexts and roles in all life domains (Branje et al., 2021), which can impact their identity. Notably, voluntary participation in exchange study programs is another major factor that can affect identity in multiple life domains (McKay et al., 2022). Theoretical models highlight how identity change could be connected to the integration of important experiences and choices in one's life (e.g., Kroger et al., 2010; McAdams, 2011). Nevertheless, a more comprehensive picture of the changes that happened following a specific event, including what happened and how it happened, is currently lacking.

Exploring different contexts: study abroad experiences during adolescence

Study abroad experiences involve youth spending a certain amount of time (from a few weeks to a semester or year abroad) in a foreign country for formal educational (e.g., summer school, semester abroad) and/or applied purposes (e.g., internship, volunteering) (Engle & Engle, 2003). Both qualitative and quantitative research suggest that these programs can potentially yield a positive impact on adolescents' development. On average, students who participate in abroad programs tend to report significant improvements in several skills (e.g., language, confidence, curiosity; European Commission, 2018), as well as increased locus of control internality (McLeod et al., 2015). The skills and experiences gained from study abroad programs can boost both immediate and long-term career opportunities and success, with alumni, on average, enjoying higher salaries and greater job satisfaction (European Commission, 2018; Paige et al., 2009).

These changes are closely linked to individuals' identity formation processes (McKay et al., 2019). For instance, adolescents participating in a study abroad experience tend to strengthen their commitments to their home country, and reconsider their initial commitment to their host country, likely because of adaptation challenges (Greischel et al., 2019). Among emerging adults, experiences abroad were found to be associated with mean-level increases of commitment and exploration in-breadth, and decreased ruminative exploration regarding future identity choices (McKay et al., 2022). Retrospective narratives of emerging adults about the study abroad experiences they had in adolescence were associated with their identity processes in the national and European domains, which, in turn, were related to reduced levels of ethnic prejudice (Bobba et al., 2024).

During experiences abroad, individuals spend time in a different context, enroll in a different educational system, and explore different groups of friends. Therefore, it is likely that these experiences have an impact on the domains of education and interpersonal relationships (i.e., friendships). However, there is a dearth of studies on abroad experiences addressing these two core domains of adolescent identity development. To fill this gap, the current mixed-methods study examined changes in adolescents' identity formation processes and contents in educational and interpersonal domains, around a study abroad experience.

The benefits of mixed-methods studies for the study of identity

Both qualitative and quantitative approaches have been employed to capture the multifaceted nature of identity formation in adolescence (for reviews, McLean & Syed, 2015; Meeus, 2023). Quantitative approaches, with their efficiency in handling large datasets, facilitate the identification of general trends and statistical relationships. Their advantage is that they make broad inferences from the data possible, but they may fall short in capturing the intricate, subjective experiences and contextual nuances that shape identity formation (McLean, Syed, Yoder, et al., 2016). Qualitative methods such as interviews, focus groups, and narrative analyses, in contrast, can provide such detailed insights in individual experiences by uncovering the meaning adolescents attach to their identity journeys and the contextual factors influencing these processes. The richness of qualitative data enables insights into the complex and dynamic nature of identity development, which may be overlooked when only quantitative data is used. However, qualitative studies often involve smaller sample sizes, which may limit their generalizability (Creswell & Plano Clark, 2017).

Integrating both qualitative and quantitative approaches in a mixed-methods design allows for a more comprehensive and nuanced understanding of identity development that captures both general patterns and individual differences (Creswell & Plano Clark, 2017). Out of the many different mixed-methods designs that are available (e.g., Plano Clark et al., 2015), the circumspcive design is particularly appropriate for studies focused on the impact of a specific transition, such as moving in to, and out of, an experience abroad (Klimstra & Johnson, 2025). Specifically, this mixed-methods design includes multiple quantitative measurements before and after a specific event of interest, with qualitative data collected at a single time point. In this way, it allows researchers to map quantitative changes and expand such information with qualitative data collected after a transition or an event, providing a more nuanced perspective on the changes for individuals around a specific event.

The current study

The aim of the current study was to provide a detailed understanding of changes in educational and interpersonal identity processes in adolescents who had an experience abroad. For this purpose, we adopted a circumspcive design (Plano Clark et al., 2015), which included longitudinal quantitative data collected before and after the experience abroad regarding identity processes (i.e., commitment, in-depth exploration, and reconsideration of commitment; Crocetti et al., 2008) in the educational and interpersonal domains, and retrospective qualitative data (i.e., interviews) collected after the experience. More specifically, we addressed three research questions.

Research Question 1: Do interpersonal and educational identity processes scores (i.e., commitment, in-depth exploration, and reconsideration of commitment) change after a study abroad experience?

Research Question 2: How do individuals experience these changes? How do they describe the transition from before to after the study abroad experience?

Research Question 3: To what extent do the patterns observed in survey data align with the narratives shared in interviews? Are there consistencies or discrepancies in the representation of identity processes across the two methods?

Regarding RQ1, considering their exposure to a different context abroad, we hypothesized that participants would report increased levels of in-depth exploration in both the educational and interpersonal domains at the first available post-experience time point. As exploring different educational contexts could lead adolescents to revise their previous identity commitments, we also hypothesized increased levels of reconsideration of commitment in the educational domain. We hypothesized that such changes would be stronger in students who went abroad than in those who did not have such an experience. Regarding RQ2 and RQ3, we adopted a mainly exploratory approach given our main purpose to investigate the correspondence and divergence between quantitative changes in identity processes and what was described by participants in the interviews.

Methods

Participants and procedure

Participants were drawn from a larger sample of adolescents involved in the ongoing longitudinal ERC-Consolidator project IDENTITIES “Managing identities in diverse societies: A developmental intergroup perspective with adolescents,” which was approved by the Ethics Committee of the University of Bologna. Active consent was obtained from participants of age 18 and over and from parents of underage participants. Underage adolescents also provided their assent to participate in the study. Participation was voluntary and participants were informed they could withdraw their consent at any time.

The project started in 2022 and included multiple assessments across two years (T1: January/February 2022; T2: April/May 2022; T3: September/October 2022; T4: January/February 2023; T5: April/May 2023; T6: September/October 2023; T7: January/February 2024). The total sample of the project included 1,594 adolescents ($M_{\text{age}} = 15.68$; $SD = 1.23$; 52.72% females). At each wave, adolescents completed an online questionnaire during class hours. They were required to create a personal code to ensure confidentiality, which allowed for linking their answers over time.

At T7, participants were asked if they had spent at least three months abroad during the project for any of three different reasons: study abroad, a temporary move for family or other reasons, or visiting their parents' country of origin. Of the 25 who responded affirmatively, 17 listed study abroad, three listed family reasons, and five indicated visiting their parents' country. Through word-of-mouth, we were able to contact other students with the same experience who did not fill out the questionnaire at that time point, which resulted in a total sample of 30 students invited for interviews. These numbers align with reports indicating that about 1.3% of Italian students spend from three months to one year abroad for educational purposes (UNESCO Institute for Statistics, 2023). Among those 30, four never replied to our inquiry, seven refused to participate, and one was excluded for not meeting the three-month abroad inclusion criterion. Thus, 18 students ($M_{\text{age}} = 16.56$, $SD = 0.31$; 55.56% females) agreed to participate in an interview about their experience; all of them were enrolled in the third year of Italian lyceums at the beginning of the project.

Interviews were conducted in April 2024, in person, all by the first author of this paper, to ensure consistency in data collection. Prior to conducting the interviews, the first author carried out a pilot interview with a university student who completed an experience abroad to familiarize with the interview script and refine the approach. The pilot interview was then discussed with other members of the research team to identify potential issues and strengths, resulting in improvements to both the script and the overall interview process. All participants had completed their study abroad experiences between T3 and T5, and the interviews took place approximately one year after the end of these experiences. The three participants who had missing data for all post-experience variables in the questionnaires were included in the qualitative analyses but excluded from the quantitative ones. Among the subsample of students that had an experience abroad most of them spent their experience abroad in North America (USA and Canada; 66.67%), whereas the remaining went to Europe (UK and Ireland; 20%), and South America (Argentina and Paraguay; 13.33%). The experiences lasted a whole school year for half of the participants (10–11 months; 46.67%), and a semester for the other half (4–6 months; 53.33%). Finally, to examine the impact of study abroad experiences on identity development, we matched the adolescents who had an experience abroad with complete quantitative data ($n = 15$, $M_{\text{age}} = 16.56$, $SD = 0.34$; 53.33% females) with a subsample who did not have such an experience, on sex, type of school, and age ($n = 15$, $M_{\text{age}} = 16.48$, $SD = 0.31$; 53.33% females), in order to do a balanced one-to-one comparison. This subsample was selected from the larger original sample.

Measures

Educational and interpersonal identity processes

Commitment, in-depth exploration, and reconsideration of identity commitment were measured with the Utrecht-Management of Identity Commitments Scale (U-MICS, Crocetti et al., 2008; Italian validation by; Crocetti et al., 2010) for the two domains separately. The instrument consists of 13 items scored on a 5-point Likert-type rating scale, with response options ranging from 1 (*completely false*) to 5 (*completely true*). Sample items include: “My education/the relationship with my best friend gives me certainty in life” (commitment; 5 items), “I think a lot about my education/the relationship with my best friend” (in-depth exploration; 5 items), and “I often think it would be better to change my education/find a new best friend” (reconsideration of commitment; 3 items). Coefficient Alphas in the two pre and post time-points considered were .86 and .90 for commitment, .67 and .76 for in-depth exploration, and .88 and .85 for reconsideration of commitment in the educational domain; .84 and .90 for commitment,

.64 and .79 for in-depth exploration, and .88 and .95 for reconsideration of commitment, in the interpersonal domain.

Interviews

Semi-structured interviews consisted of 27 questions covering the following broad areas: (1) pre-departure goals and expectations, (2) the abroad experience itself (i.e., adjustment to a different culture, turning points, and high and low points), (3) individuals' physical health, subjective, psychological, and social well-being during the experience, (4) the experience of coming back, (5) changes in personal growth, values and beliefs, identity, relationships with friends, classmates and family, inter-group relations, goals and future plans. The interview protocol was adapted from previous studies conducted in various contexts (e.g., McKay et al., 2020) including Italy (Bobba et al., 2024). A pilot interview with a student was conducted by the first author, in order to check the clarity of the questions. The final interview script (translated into English) is included in the Supplemental Materials S1. Interviews took between 23 and 62 minutes, were audio-recorded, transcribed using TurboScribe, and then verified by the first author of this paper with the assistance of a student. All participants were native Italian speakers; therefore, interviews were conducted in Italian and subsequently translated into English to allow for analysis by the non-Italian authors. The translation process was assisted with ChatGPT 4.0 and later verified by the first author. Participants' phrasing and pauses were preserved as much as possible with notations in the transcript; however, quotes presented in this paper have been edited for readability in English. In all transcripts, the names of participants were changed to pseudonyms chosen by the researchers to ensure confidentiality.

Strategy of analysis

Quantitative analyses. To address RQ1, change scores in commitment, in-depth exploration, and reconsideration of commitment in the educational and interpersonal domain were calculated for each participant considering the last available score before and the first available score after the experience. Considering the small sample size, it was not possible to calculate participants' trajectories using latent variables. Cohen's *d*s were computed in ProMeta 3 to estimate the dimension of change from pre to post time-points. Cohen's *d* values around |.20|, |.50|, and |.80| can be interpreted as indicative of small, medium, and large effect sizes, respectively (Cohen, 1988). Six Mixed-Model Analyses of Variance (ANOVAs) were performed using IBM SPSS Version 28.0, to examine whether there was statistically significant change in identity process scores for the two groups.

Qualitative analyses. To address RQ2, interview data were analyzed using codebook thematic analysis (Braun & Clarke, 2022). Initially, the first author transcribed the interviews to familiarize themselves with the content. Second, the first, second, and third authors thoroughly read and reread the transcripts and made notes on their initial thoughts and interpretations. Third, they developed preliminary codes and systematically organized the data under each code (For the codebook see Supplemental Materials S2). Fourth, the first two authors grouped the codes into broader categories and themes, which were then discussed with the other authors for further validation of logical consistency. Fifth, categories and themes were defined and labeled using developmental psychology terminology and concepts, and they were organized for clarity using the qualitative analysis software program Dedoose. The coding process was initially guided by the existing definitions of identity formation processes. Then, different names were chosen for the codes to better communicate the specific themes found in the interviews. The researchers were of different nationalities (i.e., two Italians, one Dutch, and one American), and all of them had previous personal and professional experiences of living in different cultural contexts.

Mixed-methods analyses. To address RQ3, the survey data were compared with the themes identified in the interview data. For each participant, we examined how the trends in their questionnaire scores in commitment, in-depth exploration, and reconsideration of commitment in the interpersonal and educational domains aligned with or diverged from the narratives shared in their interviews, allowing to have a nuanced picture of how participants experienced these changes.

Results

Quantitative analyses

All results are reported in Table 1. In addition, the detailed scores for each participant who had an experience abroad are reported in Table S1 of the Supplemental Materials. Concerning RQ1, the Mixed-Model ANOVAs indicated no significant differences between the study abroad participants and the comparison group. Nevertheless, Cohen's *ds* highlighted interesting changes in the identity processes, especially in the study abroad group.

Regarding the educational domain, participants who had a study abroad experience reported increases in levels of educational commitment with a small effect size. Notably, the abroad group also showed a significant increase in educational in-depth exploration with a medium effect size. Finally, in line with our hypothesis, participants who went abroad showed higher levels of reconsideration of commitment in the educational domain, with a small-medium effect size. The comparison group showed no significant changes in any of the three educational identity processes.

Regarding the interpersonal domain, results showed an increase of interpersonal commitment in study abroad participants, with a small effect size, that was not seen in the comparison group. However, this latter group showed a decrease in levels of in-depth exploration, with a medium effect size, that was not seen in the study abroad group. No changes in reconsideration of commitment were detected in either group.

Table 1. Mean-level differences of identity processes in educational and interpersonal domains for time and abroad experience.

	M_{T1} (SD)	M_{T2} (SD)	Cohen's <i>d</i> 95% CI	Time effect		Time * Abroad	
				F-test (η^2)	<i>p</i>	F-test (η^2)	<i>p</i>
Educational commitment							
Abroad yes	2.69 (0.58)	2.75 (0.75)	0.22 [-0.17, 0.62]	.061 (.002)	.807	.061 (.002)	.807
Abroad no	3.21 (0.55)	3.21 (0.46)	0.00 [-0.64, 0.64]				
Educational in-depth exploration							
Abroad yes	3.19 (0.50)	3.49 (0.63)	0.52* [0.01, 1.02]	3.114 (.100)	.089	2.616 (.085)	.117
Abroad no	3.20 (0.35)	3.21 (0.48)	0.02 [-0.50, 0.55]				
Educational reconsideration of commitment							
Abroad yes	2.82 (1.04)	3.27 (1.15)	0.41 [-0.10, 0.91]	.822 (.029)	.372	2.845 (.092)	.103
Abroad no	2.95 (1.11)	2.82 (0.80)	-0.13 [-0.52, 0.27]				
Interpersonal commitment							
Abroad yes	3.45 (0.68)	3.64 (0.97)	0.22 [-0.29, 0.73]	.129 (.005)	.722	.577 (.020)	.454
Abroad no	3.67 (0.80)	3.60 (0.71)	-0.09 [-0.74, 0.55]				
Interpersonal in-depth exploration							
Abroad yes	3.35 (0.64)	3.41 (0.77)	0.08 [-0.40, 0.57]	1.743 (.059)	.197	3.233 (.104)	.083
Abroad no	3.48 (0.68)	3.07 (0.84)	-0.53 [-1.07, 0.01]				
Interpersonal reconsideration of commitment							
Abroad yes	1.80 (0.60)	1.82 (0.10)	0.03 [-0.41, 0.48]	.004 (.000)	.950	.040 (.001)	.842
Abroad no	1.78 (0.98)	1.73 (1.15)	-0.05 [-0.53, 0.44]				

M_{T1} = Mean at measurement before the experience abroad; M_{T2} = Mean at measurement after the experience abroad; SD = Standard Deviation.

* $p < .050$.

Qualitative analyses

To address RQ2, a thematic analysis of the interview data was conducted, and a set of four macro themes were identified: The pre-departure experience, the experience during the time abroad, the post-abroad experience, and the “temporary identity,” a specific phenomenon reported by several participants. Each of these themes includes some sub-themes and, in some cases, specific sub-categories (for an overview, see Table 2). Considering the purposes of the study, we focused specifically on the educational and interpersonal domains, and excluded other kinds of identity work not related to them. Both domains were interrelated in participants’ interviews and therefore merged in the macro themes to increase clarity.

“I really wanted to move and go somewhere else:” the pre-departure experience

One of the aspects identified in the interviews is that a fundamental part of identity work associated with the study abroad experiences was how participants connected the experience with who they were before. That is, the choice of leaving for an experience abroad during adolescence was described by most participants as something that they actively chose because of a wide array of reasons, generally related to a desire to explore different aspects of the self. Therefore, to explore identity development around the period abroad, we started identifying aspects related to exploration in the pre-departure experience. Although only a few examples are reported, and besides the explicit references to educational or interpersonal identity development purposes, the interviewed youth chose to leave for these experiences to experiment with some different possibilities for school, home, friends, and general context, which inevitably led to a reflection about their identity in these domains.

Table 2. Overview of the codebook thematic analysis.

Themes	Sub-themes	Sub-categories
The pre-departure experience	Pre-departure exploration	
	The wish for exploration	Wish to explore a different culture Desire to explore and challenge parts of the self Wish to learn a new language Wish to explore a different educational system Connect to new people/get out of the relational comfort zone
During the experience: Difference facets of the exploration processes	Prompts for exploration	Actual learn of a new language Specific events during the experience Characteristics of the new school system
	Actual in-depth exploration of educational identity	Exploration of specific plans or educational goals Actual exploration of a different school system
	Actual in-depth exploration of interpersonal identity	Rumination/reflection on their identity as a friend Learning to compromise with one’s traits/overcome relational insecurities Self-discovery and reevaluation of interpersonal identity
	Moments of realization	
The post-abroad experience	Wish to continue to explore	
	Reinforcing prior commitments	Confirming educational choices Reinforcing interpersonal relationships
	Reconsideration of previous commitments	Changing idea on future vocational and educational paths Re-evaluating existing friendships
The temporary identity experience	Life in a bubble: the experience of a temporary identity	
	Fear of the bubble burst	
	Actual bubble burst	
	Regrets on missing opportunities	

The pre-departure exploration. Most participants reported that they did not really prepare for the experience through “pre-departure exploration” of the host country. Claudia, one of the participants, said: “After March, when I got the family, I started talking to other people who had done the year abroad the year before, but before that, not much. I just said, let’s go for it, and see how it goes.” This excerpt is one example of participants who did not really explore much of the host context but preferred to jump into the experience without having much information. Another similar experience is the one of Silvia, who reported that she did not want to know much before leaving. Nevertheless a few days before leaving, she was driven by emotional activation related to her departure, to gather information:

In the days before I left, as it is classic, I got that let’s say positive anxiety, because precisely I was going to the other side of the world alone [...]. And so yes, a little bit I inquired about the surroundings of where I was staying, about my school.

Moreover, while most students were randomly assigned to their destinations, Silvia also said that she actively chose the state where she went, because of specific personal reasons, again mostly related to fear of maladjustment to the new context:

I started gathering information, which is a very long process, with many meetings. [...] I had to go to the other side of the world, so I wanted to be sure that if I didn’t get along with everyone, with the host family, with the school, I would at least have Los Angeles to explore. So, let’s say I wouldn’t take the risk of finding myself in a meadow in the middle of nowhere, since I was alone.

In this way, the choice of leaving and the actual identity exploration started already before the experience abroad. Moreover, this experience helps show that specific aspects of the self, such as their way of seeing themselves, some fears, and ideas about life and contexts, may be crucial components of the decision to leave for an experience abroad.

Motivations to leave: the wish for exploration. For most participants, leaving by themselves and exploring a completely different context was something that they had really wanted to do for a long time. For instance, Fabio reported: “The fact of getting to know a new culture really intrigued me, especially living immersed in it one hundred percent for a year was something I had wanted to do for a long time.” Therefore, his main motive to leave was the *wish to explore a different culture*.

For several participants, this long-held wish was extensively linked to the *possibility of challenging themselves*, to experience for the first time what it feels like to be alone, away from their families, and to see if they could make it on their own. For example, Giorgia said: “I’ve always had a passion for travel. I developed this idea over time, and it wasn’t a sure thing from the beginning, especially regarding the destination. In the end, I decided to go [...] to challenge myself, overcome some fears.” These examples show how participants connected the experience to parts of themselves and of their identity that they wanted to explore and/or challenge.

One of the main motives for leaving was related to educational purposes. For example, some students wanted to improve and challenge their knowledge of a *foreign language*, not only as a personal goal, but also to overcome school difficulties, as stated by Luca: “Well, I left mainly because I wanted to learn English, let’s say, firmly. Especially, I had some difficulties in English during the first three years at school, so I wanted to improve.” This motive was strongly interrelated with one other motive which was to *explore a different educational system*, in most cases the American one, like Federica: “And already starting from middle school, I knew that this experience was possible [...] and I liked it a lot, also because America, seen from Europe, I think is always a bit of a dream, especially in high school.” These comments are emblematic of popular reasons to leave specifically for the United States, considering how much American culture influences the Italian population through movies, television, and social media, being a big part of Italian adolescents’ everyday lives.

Regarding interpersonal relationships, some students had the desire to *connect to new people, make friendships, and get out of their relational comfort zone*, as reported by Sara: “I wanted to make friends,

contact people from different cultures. I wouldn't have been there otherwise, so it was something I desired and happened." This excerpt is one example of how the experience abroad was described as a possibility to actively explore some way of connecting with other people and to allow themselves to make space to create new friendships, which may be more difficult to do while staying in one's comfort zone.

Overall, most participants were moved by the desire to explore a new context and challenge themselves. This exploration was interestingly connected to the idea of going in-depth into some parts of the self, challenging and possibly changing behaviors and attitudes, and learning new skills. In this way, going abroad was described as a means for the participants to explore their identity and eventually revise parts of it that were not satisfying for them.

During the experience: different facets of exploration processes

While analyzing the interviews, we specifically focused on how exploration processes developed during the study abroad experience. The themes we identified in those analyses can be divided into different dimensions: prompts that drove the exploration, actual exploration separately in educational and interpersonal domains, and moments of realization that exploration was effectively happening or had happened (see Table 2).

"Everything changed there:" prompts for exploration. A key aspect that we found while analyzing the interviews were the prompts that made the participants start to actively explore their identity in several domains. One prompt for exploration that we identified across several participants was *learning and improving the competencies in speaking the language* of the foreign country (i.e., English, Spanish). As stated by Lorenzo: "My ability to relate to others improved a lot because if you don't want to be alone for a whole year, you have to open up to people, you have to be able to talk to them." That is, participants described how they realized that in order to fulfill their goal of exploring a new context and different parts of themselves, they needed to learn the language of the host country. In this vein, learning a new language can be seen as the main prerequisite for exploration across all domains during an experience abroad, from school to making significant interpersonal relationships.

Other prompts referred to the exploration of *specific events* and changes that *happened during the experience*. Being abroad means living with a different family for several months up to a year. This host family context might prompt exploration for participants. Specifically, some participants had to change their host family due to different reasons (e.g., health issues, problematic adjustment), and in some cases this moment led to a new phase of exploration of different life contexts. For instance, Alessandro described a moment of re-start when he changed host families: "When I changed host families. From that point, I noticed a kind of rebirth in myself [...] Even going to school was more ... that is, I went to school much more willingly and I also made more friends." Another motive to start exploring was a specific change such as a friend leaving. For example, Sara said that: "It was an important moment because from there I started to interact more with other people ... and to bond with people I had talked less with before." For others, moments of personal crisis due to adaptation and adjustment prompted exploration like in the case of Silvia:

So, I knew that I had to survive, but survive enjoying the experience because initially, I was in doubt, I even doubted if I would survive. [...] But then I said to myself, you have to wake up in the morning in a good mood, you have to wake up positively saying: okay, now I'm going out and I'm going to enjoy it to the fullest because you have to get out of the loop of thinking about what you left behind without knowing what you will find.

Excerpts like this are emblematic of moments of crisis or loss of direction that eventually led to empowerment and self-consciousness, as well as the beginning of a more intensified exploration.

Conversely, a rather different prompt for starting exploration was the *different school systems*, which created practical possibilities to explore more. Specifically, the American educational system was perceived by participants as very different from the Italian one in terms of evaluations, exams, and

sources of stress. Participants who spent their experience in the United States reported that, differently from their usual habits in Italy, they spent most of their daytime in school activities, which included sports and extra-curricular activities that in Italy are mainly organized outside the school context. This difference, paired with the perception of a lighter amount of homework, was experienced by some of them as a way to reduce their school-related stress and get more time to dedicate to friends and leisure activities. For example, Serena said:

Here [In Italy], studying so many subjects and not having time after school to go out because we study all afternoon, every day, is very stressful. [...] [In the US], If we had time, maybe even during the morning between classes, to do homework [...], so I finished later but had the afternoon free. So yes, I had time to go out with my friends.

The different school system also created a possibility of moments of connection with people, as narrated by Beatrice: “Changing classes allowed me to meet new people, more people, and not be with the same people all year, which, if you don’t get along, can make it a difficult environment to be in, in the classroom, for example.” This point can be read considering the different organization of the schools in Italy, compared with the American system. In fact, Italian high school students do not change their classrooms during a school day, nor do they change classmates. They are assigned to a class and spend all five years of high school with the same classmates. In this way, exploring a system in which they had the chance to meet multiple groups of people every day acted as a prompt for them to explore their interpersonal ability and relations.

More than anything, it gave me the chance to see a very different school model: actual in-depth exploration of educational identity. In focusing on exploration in the educational domain, we noticed that school life and context had an important place in participants’ lives, predominantly in two ways. First, participants frequently talked about subjects that they wanted to deepen their knowledge of, for their *education and their future academic choices*. Second, they often discussed the *functioning of the host school system and its differences* from the Italian one. Notably, these aspects were quite inter-related, considering that in most cases, it was the different school systems and organizations that allowed individuals to explore their educational choices in a completely new way.

Specifically, some students said that they chose specific classes because of their educational goals and plans. That is, they had the chance to go deep into some disciplines, adopt new perspectives on the subject, and in turn, reshape their educational identity. This in-depth exploration of different systems generally led to a deep reflection on personal choices. For example, Carlo reported that he had a great experience that helped him acquire new skills that he would not have been able to gain in Italy: “I took an engineering class where we also worked with machines and designed objects that we later saw realized, so I think it definitely taught me more about teamwork and developing skills in addition to the knowledge I acquired in Italy.” This is one emblematic example of how having the possibility to explore more alternatives leads to greater awareness of what individuals like and how to navigate choice processes.

Notably, being in a different school system was the main condition that enabled this kind of exploration, especially compared to the Italian system, where students have limited opportunities to choose and change subjects and classes and which provides fewer alternatives for extra-curricular activities. In this regard, Claudia described:

The school offers more activities to choose from. [...] they are all experiences that have helped me to shape my personality a bit or anyway to make more precise and targeted decisions [...] I also take into account the possibility of making mistakes and then reaching the best one.

This excerpt is remarkably similar to how the process of in-depth exploration of identity choices is described. That is, this participant experimented with the possibility of being abroad to improve her

ability to make meaningful choices and to confirm or reconsider them after a complete immersion in the specific experience.

Conversely, the experience of Silvia was not as satisfying, and her exploration did not seem very helpful for her educational identity:

I took journalism there because I was interested in it as a university path, but it wasn't a great journalism class, so it didn't leave me with much. Then I wanted to do criminology, but the course wasn't available, so in that respect, it didn't help me much. However, I made the choice about university in these past months [...] and now I find myself leaning towards law. So that helped me a bit, but otherwise, not much.

Besides the different outcomes described by the participants, it seems that the experience of studying abroad during high school was an important opportunity for them to explore different educational contexts. In doing so, they had the possibility to increase their awareness of what they do, what they want to do, and possible alternatives not always available in their usual context. This theme showed how study abroad experiences during high school are predominantly experiences of exploration, especially in the educational domain.

“I discovered a wonderful person, and she was by my side in all the hardest moments”: actual in-depth exploration of interpersonal identity. In addition to exploring a new school system, going abroad means that adolescents spend time away from their usual friends and create new bonds. It is, therefore, likely that the months in a different country create the opportunity to actively reflect on and explore ideas about what it means to be a friend and to intimately connect with peers. Such exploration processes were described by participants in multiple ways. Some youth reported on the possible negative side of the exploration. This negative side included *rumination* on how they would be perceived by others, whether they would be liked by new potential friends, and the difficulty of trying to adapt and connect to people with a different culture. This experience was faced through different attempts to overcome problems, such as relying on the international community, such as was described by Sara:

There was never much opportunity to befriend the Irish, and they weren't very interested. [...]. I didn't particularly try because I was fine with my friends [...]. But at the end of the experience, I remember we started to integrate more, and sometimes we went out with Irish girls. So, in some way, yes, but no deep friendships.

In other cases, such as Luca's, the resolution was in *finding a compromise* with himself and learning to get to know others beyond the prejudices:

We Italians are very different from them, both in how we approach each other, how we dress, how we take care of ourselves. [...] but then obviously I adapted, and by digging a bit deeper, all these differences can be overcome, I would say. In the end, you get along well despite the two cultures not being very similar. [...] So, a good relationship was born despite everything.

Indeed, exploration was an opportunity for some adolescents to get more in touch with their *relational insecurities* and try to overcome them, as it was for Federica:

That evening we went out for the first time, and I was very worried because I thought: “I hope they are not here with me just because I am alone, because they know I am the exchange student” [...] And that was a bit of a turning point because after a month there, I felt really lonely, it seemed like I had no friends at all. I thought I was kind of failing, in a way, because I hadn't made any friends after a month. But then I started going out with them, and they changed my experience.

These responses illustrate participants' perceptions of what it was like for them to navigate new interpersonal relationships, the need to integrate different ways of approaching others, and their ways of facing these difficulties of integration.

Conversely, the experience abroad was sometimes an opportunity for *self-discovery*, to re-envision some part of their identity, especially in the friendship domain, as it was for Claudia:

I remember that before going to America, if I felt maybe even the need to ask for help from someone, I would say: “Well if it’s really extreme, then I’ll ask for help, otherwise I want to get there myself.” Now I understand that asking for help from other people [...] even just talking, opening up a bit more [...] helped me a lot, so this was definitely a key point.

Overall, these comments show that the study abroad experience provided adolescents with a unique opportunity to navigate complex social environments and reflect on their interpersonal identity. Participants described grappling with insecurities and learning to overcome cultural differences as well as discovering the value of openness and mutual support. These moments of exploration fostered deeper self-awareness, which may ultimately contribute to developing their interpersonal identity.

I realized I did it, I had managed to integrate into the school, I had made friends, and so I told myself “yes, I was able to live my year abroad well.” moments of realization. Participants often described their experience abroad through moments where they felt a palpable shift in their self-perception, marking these as milestones in their personal growth. These moments, framed by success, represented instances in which adolescents recognized that they had achieved what they set out to do and, in doing so, experienced a meaningful change in their identity. For example, Lorenzo shared:

I realized that I didn’t have to be afraid of making decisions on my own because I was capable [...] So, it gave me a lot of confidence in myself, and I brought this back to Italy; now I consider myself much more independent and proactive.

Lorenzo described his newfound confidence and independence, acquired by successfully navigating unfamiliar situations and making decisions on his own while abroad. His excerpt emphasizes the link between successful exploration and the reinforcement of self-efficacy, which can also play an important role in identity formation during adolescence.

The realization of successful exploration was also narrated for specific domains, such as the interpersonal one, regarding the process of making new deep friendships. For instance, Sara described: “The first moment made me realize that even there far from home, alone, I managed to build a network of friendships, so I wasn’t alone. It made me very happy for this.” Through this comment, Sara not only described that she engaged in some process of exploration of a new interpersonal context, but also linked this success to herself and her abilities.

Regarding the school context, considering the full immersion in a completely different educational system the moments of realization were particularly strong and often included a detailed description of the whole process of making educational choices. Federica, for example, reflected on her performance in school during her study abroad and how it helped her reconnect with her love for learning: “In America, I realized that I actually enjoy studying and doing these things, even in a more practical way.” She recalled moments of realization during hands-on activities in science and physics classes, where the learning environment made a significant impact on her educational identity.

These excerpts highlight how adolescents recognized and described moments of successful exploration during their study abroad experiences, which spanned across various life domains. Whether it was in gaining independence, forming new social relationships, or achieving academic success abroad, these experiences were seen by participants as turning points that contributed to their evolving sense of self. Each of these successes served as a key marker of identity development as adolescents reflected on the changes they experienced and the confidence they gained through navigating and overcoming challenges abroad.

Coming back home: the different outcomes of exploration in the post-abroad experience

Returning home can begin a reflective process where adolescents start to process the impact of their time abroad. We identified three main themes related to this process: the wish to continue to explore (exploration reinforcing exploration), exploration leading to reinforce previous commitments, and reconsideration of commitments (see Table 2).

I want to do it again: exploration reinforcing exploration. Many participants who were willing to explore before also had the goal to continue exploring, traveling, and living in different places. For instance, Serena noted how the experience shaped her perspective on life beyond school: “It made me realize that school isn’t everything, and you can do many other things. I love traveling and exploring new places, which I’d like to do for work in the future.” This sentiment was common among participants who expressed interest in further study abroad opportunities (e.g., Erasmus exchange programs), or careers that include traveling.

This is what I want to do: exploration reinforcing previous commitments. Some participants narrated exploration as a means of reinforcing their prior identity commitments, particularly regarding *relationships with close friends at home*. Many described how spending time apart from their best friends strengthened these bonds, as Serena, talking about one of her best friends at home, explained: “When I came back, nothing had changed, in fact, we probably talk more now about certain things, but the relationship is the same, maybe even stronger.” For others, like Sara, the experience offered an opportunity to evaluate relationships: “It allowed me to understand which relationships were worth continuing and which had things that didn’t work for me.” In this way, the time abroad acted as a test for friendships by reinforcing some and leading to the reevaluation or even dissolution of others.

Similarly, exploring a different educational system helped some participants to *confirm their educational choices*. For instance, Marco said: “I already planned to pursue foreign languages at university, so [...] being immersed in a new culture and language, considering that I really enjoyed it, confirmed that this is what I want to do later on.” This reinforcement of commitments was often associated with reflection on their abilities and resources that strengthened participants’ confidence in the possibility of fulfilling their choices, as Carlo described when talking about how the experience reinforced his choice to study Computer Science: “I think this experience gave me that kind of certainty, in addition to making me more autonomous and perhaps more self-confident.” In this way, the experience abroad not only gave actual possibilities to explore new contexts and spaces and encounter new people, but it also provided participants with the opportunity to deeply reflect on their desires and goals, which ultimately led to the confirmation of their previous commitments.

It opened my eyes a bit: reconsideration of commitments. The third main sub-theme regarding the outcomes of exploration after the experience was the reconsideration of previous commitments. In the case of interpersonal relationships, as previously mentioned, this reconsideration happened in the shape of *revising some friendships* that did not survive the long-distance, as reported by Giuseppe: “There were also other friends with whom, perhaps due to the nine-hour time difference or because our friendship wasn’t that solid to begin with, we drifted apart or stopped talking for various reasons.” For others, like Giorgia, the experience abroad was a moment of deep reconsideration of the idea of friendship and what it means to create different kinds of relationships at home and abroad:

It definitely changed my way of seeing friendship. The friendships you make abroad when you are alone, in my opinion, are deeper because [...] they were really my point of reference. Here in Italy, having more friends, you can also afford to have somewhat more superficial relationships, and so I realized that there are certain friendships that can go a little deeper.

This excerpt captures the intensity of the relationships built abroad and how they were perceived differently compared with the usual relationships experienced in the participants’ everyday lives.

The process of reconsidering previous identity choices was also particularly evident regarding the *educational and vocational choices*. That is, exploring some subjects and disciplines from a different perspective in some cases brought about a change, or intention to change, for that choice. For instance, Giorgia said that studying in the United States helped her realize that she did not want to study Economics at university, because she discovered different facets of that discipline:

It helped me understand that economics might not be for me, although, as I said, it was a wonderful opportunity and a very interesting course. [...] I realized that the idea I had wasn't the right one for me, and I matured this awareness. Maybe staying here in Italy, I wouldn't have had the chance to realize it, and I might have pursued a path that wasn't right for me.

For her, as well as for others, the experience abroad offered a fresh perspective that led to a shift in future plans and identity choices.

In conclusion, returning home from studying abroad acted as a critical moment of reflection for these adolescents. Whether reinforcing existing commitments or reconsidering their paths, the experience provided clarity and insights into different parts of themselves, eventually reinforcing their identity in both domains. Thus, the experience abroad was perceived as something that allowed them to navigate their evolving identities and provided newfound awareness and direction.

"I really think of it as this bubble, like a parallel life:" the temporary identity experience

Although the primary aim of the current study was to explore how study abroad experiences were associated with longer-term identity process changes in high school students, we also identified another prominent theme across participants: most of them perceived the experience abroad as a time in which a temporary self was developed (see Table 2). In other words, beyond changes in their identity as students or as friends, they also experienced the feeling of living a parallel life, a life in a bubble that was meant to last only for a limited time and also brought a temporary identity.

Life in a bubble: the experience of a temporary identity. First, in most cases, the experience abroad was described by participants as a moment in which they temporarily paused some things that were only related to their usual context (e.g., friendship, pressures). Emblematic is Valeria's response:

The only thing I didn't like was not seeing my boyfriend and my parents, but otherwise, I was very happy not to see anyone, being in another part of the world, not having the burden of updating anyone. Even though I managed to keep the two lives together, it wasn't a problem.

This feeling of living a separate life was often associated with amplified emotions, like in the case of Silvia, who reported always being happier than "normal," but at the same time, knowing that this state would finish at some point: "And generally, the experience itself, knowing I was living something that wasn't my reality, not my life, it was a kind of romanticized, dreamed life I could live in that bubble, but at some point, it had to end." Living in a new context could also be perceived as confusing, given that most of the experiences they had (e.g., the language, the people they met), would most likely remain in that bubble forever and never be part of their "normal" life.

These were the last things I could experience there: anticipating that the bubble would burst. Some participants reported anticipating fear of the moment in which that bubble would finally burst. One reason was that they wanted to make the most out of the experience, as narrated by, for example, Giorgia: "In the last month, I felt strongly that these were the last things I could experience there." Others were afraid of what they would find coming back, after pausing their normal life, like Sara: "I remember being very afraid of returning, both for studying because I had completely abandoned it for months, and for relationships, fearing I had left friendships behind." Yet others, such as Federica, simply did not want to let go of the life they built abroad: "I was very worried about coming back. I was thinking about it almost from the beginning of the experience, I was always worried about returning because I didn't want to leave my American life." Overall, these excerpts highlight the complex emotional tension between a desire to fully embrace the remaining time abroad and the inevitable confrontation with the uncertainties of returning to familiar routines. This aspect illustrates the profound impact of the study abroad experience on participants' identity and emotional state.

It's really over: experiencing the burst of the bubble. The actual experience of returning and of their bubble bursting was described in different ways by participants. Some, like Claudia, reported difficulties in re-adapting and reconciling the two realities they had experienced:

When I came back, it was difficult because [...] there I literally had another life, I mean, another routine, other hobbies, other goals, everything was different. And so, coming back was quite difficult. It was nice from a certain point of view because I found my friends again [...], so it was nice to see my normality again, but on the other hand, thinking that I was in another state, I had made my friends there, so leaving everything like that ...

Others, like Lorenzo, felt disappointed that the skills and experiences they gained abroad, such as foreign language fluency or new social habits, seemed to have little application back in their everyday lives: “Being back in such a familiar environment, I don’t feel the need to use these skills I acquired there. So, I’m a bit disappointed that I can’t use them as I want to.” These reflections revealed the complexity of the returning process, as participants grappled with the challenge of reintegrating into familiar environments while struggling with a sense of disconnection between their experiences abroad and the realities of their previous lives.

I could have done more: regrets about missing exploration. Finally, for some participants, the end of the experience brought a sense of regret for missed opportunities, particularly in interpersonal relationships. Luca reflected on how he might have approached social interactions differently had he been more open and proactive: “One thing I would change about myself is to be more sociable, to try to put myself out there more right away.” These reflections highlight that while the temporary life abroad offered an opportunity for personal growth, it also left adolescents with lingering questions about how they might navigate similar experiences in the future.

Overall, these analyses illustrate how study abroad experience offered valuable opportunities for participants to work on their identity in relation to their everyday life at home. However, during their experience abroad, adolescents also cultivated a second, temporary identity exclusively related to the host context that, while providing new perspective and growth opportunities, could be challenging to integrate upon return. That is, while some aspects can be assimilated into daily life, others remain embedded within the experience abroad, which in some cases may have led to a sense of disorientation and identity loss.

Mixed-methods analyses

To address RQ3, data from the questionnaires were compared with participants’ responses to the interviews (see Table S2 of the Supplemental Materials). Observing the individual experiences of participants, we found both similarities and discrepancies between the interview contents and their scores in identity formation processes. These comparisons provided insights into how the quantitative data and qualitative narratives intersected, offering a more nuanced understanding of the participants’ identity development. In the following sections, we report a few examples of similarities and discrepancies between qualitative and quantitative data. More excerpts associated with individuals’ change scores in educational and interpersonal identity processes are reported in Table S2 of the Supplemental Materials.

When data matched the story: similarities between quantitative and qualitative measures

As for similarities, one of the participants, Giovanni, described that he wanted to leave for the experience abroad because he wanted to step out of his comfort zone and explore new interpersonal relationships. In fact, he reported quite low levels of interpersonal commitment before the experience (1.80 on a scale from 1 to 5), which may indicate that at that time, he was not sure of his relationship with his best friend. Interestingly, this score further decreased after the experience, whereas the reconsideration of commitment increased even more. This path was noticeable in the interview, where Giovanni reported that going back home, he struggled in re-

adapting to his previous context, he felt estranged and did not completely recognize his friends. Integrating these findings helps clarify the content of Giovanni's dissatisfaction with his commitments in the interpersonal domain and that the experience abroad did not help in this sense but rather increased his willingness to revise the relationship with his best friend in Italy. Conversely, Silvia said that she had a positive experience coming back and that after going abroad, her relationships were even stronger. Accordingly, her "after the experience" scores in interpersonal commitment remained stable at high levels, in-depth exploration decreased, and reconsideration of commitment remained stable at very low levels. Here, we see a contrast in how experiences abroad can lead to different outcomes for interpersonal identity, depending on the individual's prior relational context and expectations. In this way, the content described by the participants provided a more nuanced understanding of the process that was already captured in part by the quantitative scores.

Mis-matches and missing pieces: discrepancies between questionnaires and interviews data

In other cases, elements described in the interviews did not match self-reported scores. For example, Valeria's scores describe a generally more stable identity in the interpersonal domain, with higher commitment and lower in-depth exploration and reconsideration of commitment. Nevertheless, in the interview, she mentioned a tendency to keep her distance from her old friends, and a change in her general approach toward them and the general idea of friendship. This discrepancy helps show how it is likely that some changes in her idea of what it means for her to be a friend were not captured by the quantitative scores. That is, the interview might have functioned as a space to deeply explore the dynamic processes that she was going through and reflect on her interpersonal identity.

Finally, sometimes the small differences or completely stable identity scores match the interview data but do not tell the full story. For instance, Silvia reported increased levels of both in-depth exploration and reconsideration of commitment in the educational domain, but in the interview, she described that studying abroad did not really add much information for her to make significant educational choices. This mismatch can be read in light of the feeling of living in a bubble during the experience abroad, which Silvia mentioned several times in the interview. That is, the interview may have captured elements that refer to a temporary identity that she did not take back with her to her usual life. Therefore, the changes reported would (and did) not align in the two different evaluations. These considerations reinforce the idea of the complexity of identity formation processes around study abroad experiences and underscore the need to look at it through multiple lenses in order to fully appreciate the intricate interplay between temporary identities and enduring self-perceptions.

Discussion

The development of identity is a crucial task for adolescents, which can be largely affected by specific contexts and experiences (Crocetti et al., 2023), such as studying abroad (Bobba et al., 2024; McKay et al., 2020). By combining quantitative and qualitative data, first, we observed participants' individual changes in identity processes in the educational and interpersonal domains and compared them with a matched sample of students who did not have experience abroad during adolescence. Although the small sample size limited the power to detect statistically significant findings, pre-post differences between the two groups were interpreted focusing on their effect sizes (Cumming, 2012; Kline, 2013). Finally, we analyzed participants' interviews about their experiences abroad and examined similarities and differences between quantitative and qualitative information. The results offer valuable insights in developmental changes in identity processes in the educational and interpersonal domains around study abroad experiences, underscoring the importance of using a mixed-methods approach to reveal the individuals' dynamic and unique nuances of such a developmentally relevant experience.

Identity development around a study abroad experience: the crucial role of exploration

Combining qualitative and quantitative data, we observed that exploration processes seem to be the cornerstone around which identity changes revolved in study abroad experiences. Although changes in exploration share commonalities between the educational and interpersonal domains, they also diverged in some ways. Therefore, we will first discuss the results focusing on the two domains separately, and later compare the outcomes across both domains.

Educational identity changes

Regarding the educational domain, the study abroad participants displayed an increased level of educational commitment at the post-experience time point, which was not observed in the comparison group. This result is expanded and supported by the qualitative analysis, which showed how the experience abroad, while challenging, was perceived as an occasion for students to verify their interests and goals, which reinforced, in turn, their educational and vocational choices.

Moreover, in line with our hypotheses, students who had a study abroad experience generally reported a significant increase in the scores of educational in-depth exploration after the experience. These findings are consistent with prior research suggesting that study abroad experiences can foster identity exploration (McKay et al., 2020), specifically in educational contexts. This finding is particularly important, as exploration was frequently mentioned in participants' responses as one of their main motivations for going abroad in the first place. Adolescents described wanting to challenge themselves and broaden their horizons, and the increase in educational exploration scores suggests that the study abroad experience can fulfill this initial goal. Increases in educational commitment and exploration also suggest that study abroad programs serve their intended core purpose: fostering academic and personal growth (Engle & Engle, 2003). The fact that the increase in educational in-depth exploration was observed only in the study abroad group and not in the comparison group further reinforces the idea that the experience of immersion in a foreign educational system can encourage deeper reflection on academic choices and goals. This result underscores the role that study abroad experiences can have in stimulating critical thinking about educational trajectories (Dwyer, 2004).

Moreover, study abroad participants reported increased levels of reconsideration of commitment in the educational domain. This quantitative finding was supported by the interview data, which allowed us to examine what drove participants' reconsideration. Generally, our findings suggest that it is likely that the focus on studying in a new and diverse educational system provided participants with opportunities to question their existing commitments and reflect on alternative paths. This result aligns with previous research highlighting how experiences abroad can lead individuals to consider a broader variety of options for their lives (McKay et al., 2022) and revise previous ones.

Interpersonal identity changes

Processes in the interpersonal domains were more stable in the overall sample. Interestingly, the study abroad participants displayed higher levels of commitment after the experience, in an opposite trend compared with the comparison group. Conversely, the group of students who did not participate in a study abroad experience showed a decrease in interpersonal in-depth exploration, which was not seen in the study abroad participants group. In fact, individual participants' scores increased for almost half of the participants (seven out of 15). These findings, paired with the contents of the interviews, suggest that study abroad experiences are related to interpersonal exploration of some adolescents. Individual differences in changes in interpersonal exploration could be an interesting topic of study in future research, especially if larger samples would be employed that would allow for group-differential modeling (e.g., Latent Profile Transition Analyses, group mixture modeling).

Our thematic analysis showed that for several participants, the experience abroad was an important moment to confirm their commitments to their friends and strengthen existing relationships. This finding supports and expands previous research highlighting that studying abroad can be associated

with increased identity commitment in the friendship domain (Greischel et al., 2019), thus suggesting that students who go abroad can actually use the exploration of a new context as a means to reinforce their commitments to their personal values and goals regarding their relevant interpersonal relationships.

Comparison of educational and interpersonal identity domains

The contrasting effects of study abroad experiences on educational and interpersonal identity processes may be explained by the different nature of these domains. As explained in the introduction, the educational domain generally is more “closed” in the Italian context as constraints from the school system and cultural beliefs make it difficult for students to revise their previous commitments (Albarello et al., 2018). Nonetheless, the opportunity to explore a different academic setting as in study abroad experiences might prompt reflection on previous, present, and future educational choices, in turn opening the possibility of a more appealing alternative. In contrast, the interpersonal domain is considered as generally more “open,” meaning that individuals are more likely to explore and reconsider multiple significant relationships (Klimstra et al., 2010). This aspect was quite clearly illustrated by interview excerpts, in which several participants described how they were eager to get engaged in new friendships during the experience abroad, creating significant bonds and relationships of different levels of intimacy, and (more or less) temporary. Furthermore, in line with previous research (Greischel et al., 2018; McKay et al., 2020) we found that by exploring new friendships abroad, several adolescents gained a new perspective on their relationships at home, which ultimately reinforced previous commitments. Overall, it appears that experiences abroad may expand the general tendency of “openness” vs. “closeness” of these domains. That is, because of the nature of the experience abroad itself, the educational domain is likely to become more open and include a possibly easier reconsideration of commitments in case of lack of satisfaction. Conversely, in reference to the interpersonal domain, adolescents may reinforce their closest friendships during periods of separation, as these relationships provide a sense of continuity amidst the changes introduced by a study abroad experience.

Finally, from the qualitative analyses we learned that several participants picked the United States as the destination of their study abroad experience not primarily for educational purposes, but mainly driven by the wish to explore the American culture specifically. Globalization processes have, in fact, determined a wide inter-change among different cultures, with a strong impact of American media on European and Italian culture through movies, music, TV shows, and social networks (e.g., Chalaby, 2006). Hence, it is likely that participants’ wish to explore the American culture can be read as the effect of a remote acculturation process, that is, the effect of multiple intermittent remote exposures, that can eventually lead to some degree of acculturation processes (Ferguson & Bornstein, 2012).

Contents vs. processes: mixed-methods and integration of quantitative and qualitative data

A key strength of this study lies in its use of a mixed-methods approach, which allowed for the integration of self-reported identity processes with interview data (Creswell & Plano Clark, 2017), providing a more comprehensive understanding of the changes that adolescents experience during study abroad, with the self-report surveys capturing broad identity-process trends and the interviews offering deeper insights into how participants made sense of these changes. This combination revealed important insights that neither method alone could fully capture. By examining cases with similar quantitative patterns but divergent qualitative narratives, or vice versa, we can better understand how identity development unfolds during study abroad. For example, both Giovanni and Sara reported decreases in interpersonal commitment. However, their qualitative interviews diverged significantly. Giovanni described feeling estranged from his friends upon returning home and reevaluating the depth of his interpersonal relationships, suggesting dissatisfaction with previous commitments. Conversely, Sara highlighted how she managed to create new groups of friendships following a substantial change in her general approach to the others, and her newfound relational skills.

Similarly, we observed cases where participants shared similar qualitative patterns but exhibited divergent quantitative trajectories. Both Carlo and Marco, for instance, described reinforcing prior educational commitments, narrating increased confidence in their chosen academic paths. Yet Carlo's scores in educational commitment remained stable, while Marco showed an increase. These differences underline how quantitative changes in commitment may reflect different processes, emphasizing how quantitative data can identify overarching patterns, while qualitative narratives provide the depth needed to interpret and give meaning to those patterns, especially in areas where numerical scores alone might obscure crucial nuances. That is, the discrepancy between the content of the self-reported scores and the interview data underscores the importance of using multiple methods to capture the complexity of identity development and illustrate how the joint use of quantitative and qualitative methods can be used to refine identity theory and methodology (Waterman, 2015).

It is important to also consider possible issues related to timing concerning the discrepancies. Specifically, quantitative measures typically capture identity processes at specific points in time, reflecting immediate states or changes. In contrast, qualitative interviews provided a longitudinal perspective, enabling participants to narrate their identity development as an evolving process shaped by multiple experiences over time. This consideration of temporal perspectives is crucial, as it highlights how adolescents construct and reconstruct their identities by integrating short-term experiences (captured by quantitative methods) into longer-term narratives (reflected in qualitative data). This further underscores the importance of recent work that points to the need to consider identity formation in real-time to capture the ongoing process of constructing, maintaining, and revising one's identity, integrating short-term and long-term timescales (Kunnen & Sugimura, 2021).

Limitations and suggestions for future research

The results of this study should be considered in light of several limitations. First, the small sample size, with only 15 participants in each group, limited the statistical power to detect more subtle quantitative effects of study abroad on identity processes. Moreover, the matching of participants on demographic variables such as age, sex, and type of school may not have accounted for other important individual differences, such as personality traits or prior intercultural experiences, which could influence how individuals respond to study abroad experiences (Clarke et al., 2009; Greischel et al., 2016). Future research might benefit from using larger and more diverse samples and taking those types of variables into account in the statistical analyses.

In addition, the sample consisted solely of Italian high school students, which introduces a cultural limitation. For instance, the Italian school system requires students to make significant educational choices during high school, especially for those who want to continue their education by enrolling in a university path. Hence, attending school in a different educational context might be particularly relevant for Italian students in the years in which they went abroad (i.e., the year before their last year) because it represents an opportunity to reflect on their possible future choices. This process may work differently for students from other countries, which potentially limits the generalizability of the current findings. Future research should include more diverse samples from different cultural and educational contexts to provide a more comprehensive understanding of how study abroad experiences are related to identity development across various settings.

Another limitation concerns the study's short-term focus. Although our study captured changes in identity processes shortly after the study abroad experience, it remains unclear how these experiences may affect longer-term identity development. Many participants described the study abroad period as a temporary "bubble," suggesting that some of the changes they experienced may not have been fully integrated into their everyday lives. More longitudinal research is needed to examine whether the effects of study abroad on identity development are sustained over time, particularly as adolescents transition into emerging adulthood (McKay et al., 2019).

Finally, this study took into account interpersonal identity processes by referring specifically to individuals' relationships with their best friend. It is well-established that although friendships are

very important for youth, they might be less stable in adolescence based on different individual characteristics (Branje et al., 2007; Hartl et al., 2015) and this is likely to be particularly true for individuals that are entering new contexts and have to make new temporary friends that might affect how they think about their best friends. Therefore, future studies should further investigate the role of one specific best friend, as well as expand the analysis of interpersonal identity processes by considering the association of experiences abroad with other kind of friendships.

Conclusion

The current study underscores that study abroad experiences during adolescence can be pivotal moments that may strongly impact individuals' identity development, particularly in the educational and interpersonal domains. By adopting a mixed-methods approach, we were able to capture both the general trends in identity processes through quantitative measures and the nuanced descriptions of personal growth and self-reflection through qualitative interviews. Overall, this study contributes to the understanding of how study abroad experiences shape identity during a critical period of adolescence, emphasizing the importance of such programs in fostering educational exploration while reinforcing interpersonal commitments.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

Data, syntaxes, and outputs of quantitative data are publicly available in Open Science Framework at the following links https://osf.io/rgyx7/?view_only=0b8f73257e3a4d8f902a307042618900; <https://osf.io/rgyx7/>. Qualitative data will not be shared to ensure the confidentiality of the participants.

Patient consent statement

Informed active consent was obtained from participants' parents and assent from the participants themselves was also collected.

Ethics approval statement

All procedures performed in this study involving human participants were in accordance with the ethical standards of the Ethics Committee of the Alma Mater Studiorum University of Bologna (Italy) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Positionality statement

All authors of the current paper carry foundational knowledge of identity formation processes, particularly during adolescence. Therefore, we are deeply aware of the complexity of identity development, influenced by social, cultural, and contextual factors. Our interest in studying abroad experiences stems not only from academic curiosity but also from personal experiences of living in different cultural contexts. Having moved around different countries we recognize the transformative potential of these experiences on identity. This personal background informs an empathetic approach to participants' interviews, allowing us to appreciate the richness and diversity of their experiences. We acknowledge that our experiences and perspectives, as well as cultural assumptions, may introduce biases in interpreting the data. Therefore, we have engaged in reflexive practices throughout the research process, continually discussing our

interpretations and ensuring that participants' voices remain central to the analysis. By explicitly acknowledging our positionality, we aim to foster transparency in this research and highlight the importance of considering the researcher's perspective in understanding the complexities of identity formation.

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