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EMPIRICAL STUDY

Study Abroad Students' Social Contacts in Different Linguistic Contexts and Their Relationship With English Use and Development

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Abstract: Our contribution draws on quantitative data from a longitudinal mixed-methods study to uncover different patterns of social contacts of study abroad (SA) students and the relationship of these social contacts with (a) language use, (b) target language development, and (c) contextual variables. Data were obtained by means of online questionnaires pre, during, and post sojourn. English oral proficiency gains were measured using the Oral Proficiency Interview by Computer (OPIc) test before and after

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the stay. Latent profile analysis yielded four profiles of social contacts, which differed in terms of the degree of integration into the community of locals or international students. Students with distinct profiles differ significantly with respect to language use but not in terms of language gains. Regression analyses indicate that comparable progress in oral proficiency was made by students across profiles of social contacts and also by those in an English as a lingua franca (ELF) context suggesting that different SA context and networking patterns are conducive to second language (L2) gains.

Keywords study abroad; social contacts; ELFSA; oral proficiency development; latent profile analysis

Introduction

Study abroad (SA), defined here as a temporary sojourn abroad of predefined duration for educational purposes (see Kinginger, 2009), offers an immersion context with the potential of providing quantitatively and qualitatively rich linguistic input and enabling interactions conducive to language learning. Hence, it is commonly assumed that thanks to extensive contact with first language (L1) speakers and other target language (TL) users, SA leads to significant second language (L2) gains. Much SA research has focused on measuring outcomes in terms of L2 development and has accumulated evidence for the effectiveness of SA for language learning. The reviews by Llanes (2011) and Borràs and Llanes (2021) have testified that studying abroad is effective for the development of global foreign language proficiency as well as different linguistic skills. However, research has also documented great differences in students' TL use and their linguistic gains (McManus, 2019; Isabelli-García et al., 2018; Kinginger, 2009).

One variable that is assumed to mediate L2 gains is communication within students' social networks (Paradowski et al., 2021). A common expectation tied to stays abroad is that students establish a sizable number of new local and international contacts. The recognition that social contacts are crucial for integration and adaptation (e.g., Schoe et al., 2022), language learning (e.g., Baker-Smemoe et al., 2014) but also for community and emotional/psychological support (Zhu et al., 2013) has fueled researchers' interest in configurations of SA students' social networks. These configurations of social contacts are understood to be a key variable explaining individual differences in SA students' learning curves and outcomes with regard to linguistic, intercultural, and personal development.

Moreover, the great variability in the size and composition of students' social networks while abroad has been broadly documented, especially the

difficulty of establishing contacts with the local population (e.g., de Federico de la Rua, 2008). In view of the varied research results regarding both students' L2 gains while studying abroad and the composition of their social networks, the present study aims to provide insights into how the configuration of SA students' social networks may systematically differ depending on different variables, such as the linguistic context of their stay, and how these different patterns of social contacts are related to students' language use and linguistic development during SA.

Unlike much previous SA research, which focuses on L1 speakers of English acquiring languages other than English, this study focuses on English as a TL in European contexts. The SA tradition in Europe, which is dominated by the Erasmus program and strongly encouraged by educational policies throughout Europe, differs in a number of important ways from the SA tradition in a North American context. One of the most notable differences is that European SA students usually relocate individually rather than in groups and that they are placed in existing programs at their host universities and, hence, attend the same courses as local students, whereas in the North American tradition, students are often placed in programs managed by their home institutions. Furthermore, European SA students also tend to have higher TL proficiency and more intercultural experience (see Coleman, 1998, for a contrastive description of European SA). In the last decade, research on European SA has been burgeoning. The Study Abroad Research in European Perspective (SAREP; e.g., Howard, 2019, 2020; Mitchell & Tyne, 2021), Languages and Social Networks Abroad Project (LANGSNAP; e.g., Mitchell et al., 2014), and Study Abroad Language Assessment (SALA; e.g., Pérez-Vidal, 2014, 2022) projects provide us with important insights into SA in Europe.

English as a target language in SA research holds a special position due to relatively high predeparture proficiencies of students and due to global efforts of internationalization in higher education institutions. With the growing prevalence of English as a medium of instruction (EMI) at universities, a new learning environment has emerged for English learners studying abroad, namely locations with languages other than English, where international students attend EMI programs and in this way are exposed to English learning opportunities (e.g., a Swiss student studying in Finland in an EMI program). This learning environment, termed Study Abroad with English spoken as a lingua franca (ELFSA; Köylü, 2016), will be compared with traditional anglophone SA settings in this study.

Background Literature

Social Relations of Study Abroad Students

Social network analysis (SNA) allows the representation of different kinds of relationships between persons (Paradowski et al., 2021). There are broadly two types of SNA. The first focuses on the so-called egocentric network. These networks are configured when respondents are asked only about their own contacts (Lizardo, 2017; see also Dewey et al., 2012, Dewey, Ring et al. 2013). The second type involves the depiction and analysis of complete or sociocentric networks including ties between the social contacts of an individual, thus combining multiple ego networks (for examples, see Paradowski et al., 2021; Paradowski et al., in press). To date, most SA studies focus on the micro level of analysis as they investigate individual participants' contacts in the form of egocentric networks (e.g., by means of the Study Abroad Social Interaction Questionnaire, SASIQ; Dewey et al., 2012; see also Baker-Smemoe, et al., 2014; Dewey, Ring et al., 2013; Dewey, Belnap et al., 2013; Moreno Bruna & Goethals, 2020). Only few have also focused on the meso level by analyzing the whole network structure (e.g. Paradowski et al., 2021). SNA further allows the description of social networks by drawing on different types of data, including compositional and structural information. Compositional information refers to information about a person's social network, that is, attributes of network members, such as their L1; structural information refers to measures used to describe the links between network members, such as density (for details on structural measures of social networks, see Paradowski et al, 2021; Wasserman & Faust, 1994; Borgatti et al., 2013).

Within social networks, SA researchers typically distinguish different social groups, such as locals, internationals, and conationals (for an overview, see Coleman, 2015; Bochner et al., 1977, proposing the functional model of friendship patterns of overseas students; Van Mol & Michielsen, 2015). Some studies have primarily considered student networks (e.g., Paradowski et al., 2021), whereas others have also included other significant ties, such as existing links to family and friends back home (e.g., Coleman & Chafer, 2010; Mitchell et al., 2017) since these are likely to influence the individuals' social network or their language development. More recent studies taking into account internet use have shown that this contact with family and friends back home can be very intense (e.g., Mitchell et al., 2017).

Since interactions with L1 speakers of the TL are assumed to be particularly conducive to language learning, research on traditional SA contexts, where the TL is also the L1 of the local population, has largely focused on the extent and quality of students' interactions with local students or locals

in general. Previous studies have revealed great variation in students' opportunities for TL use and engagement with the local population (e.g., Bown et al., 2015; Coleman, 2015; DuFon & Churchill, 2006; Freed, 2008; Gautier & Chevrot, 2015; Isabelli-García, 2006; Kinginger, 2009; Mas-Alcolea & Torres-Purroy, 2022; Mitchell et al., 2017; Rienties & Nolan, 2014). In view of these findings, it is not surprising that many students express regrets over not having interacted more with locals using the TL (Mitchell, 2015).

Regardless of where the stay takes place, L1 or EFLSA contexts, it has been widely documented that SA students tend to move in a "bubble" or "parallel society" (Cairns et al., 2018; Gomes, 2020; Van Mol & Michielsen, 2015), as they primarily interact with international or conational students (e.g., Beech, 2018; Bracke & Aguerre, 2015; Brown, 2009; de Federico de la Rua, 2008; Dervin, 2009). Different explanations have been offered for this tendency, such as the theory of homophily, which postulates that students are inclined to seek contact or establish relationships with individuals whom they consider to be similar in terms of, for example, sociodemographic characteristics or beliefs and values (see Schoe et al., 2022, for a more in-depth discussion). Coleman (2015) has drawn attention to a possible disinterest of locals to establish contact with SA students, who stay for a short, predetermined time and whose linguistic skills may render conversation difficult. Additionally, both locals and SA students already have existing social networks, with which they are typically satisfied (Coleman, 2015). Besides, structural characteristics, such as program type, program duration, and accommodation (Mitchell, 2015; Dewey et al., 2013), can also account for variable levels of social integration.

The Relationship Between Second Language Development and Social Contacts in Study Abroad

SA studies within second language acquisition research have a long tradition of investigating what fosters or impedes L2 development during SA programs. These variables have mostly been related to program length (e.g., Llanes & Muñoz, 2009), sojourner age (e.g., Llanes & Munoz, 2013), predeparture proficiency (e.g., Köylü, 2021), predeparture intercultural skills and motivations (e.g., Heinzmann et al., 2015), and the amount and type of TL exposure during the stay (e.g., Köylü & Tracy-Ventura, 2022; Valls-Ferrer & Mora, 2014). In connection with TL exposure, it is often assumed that interactions with TL users are critical for L2 development (Borràs & Llanes, 2021; Kennedy Terry, 2022) and that the SA setting offers ideal opportunities for such interactions (Coleman, 2015; McManus, 2019). The claim that there is a link between L2 progress and the social relationships developed during SA has been tested

in various studies, several of which have used the Language Contact Profile (LCP, Freed et al., 2004) to account for SA students' interactions. The results point to correlations between L2 gains and LCP scores in some cases (e.g., Dewey, 2008; Muñoz & Llanes, 2014; Valls-Ferrer & Mora, 2014; Freed et al., 2004), though not in others (e.g., Magnan & Back, 2007; Segalowitz & Freed, 2004), a fact potentially related to certain shortcomings of the instrument (see Fernandez & Gates Tapia, 2016).

In view of the mixed findings on the relationship between L2 engagement and L2 development, it is not surprising that researchers such as Dewey et al. (2012) and, more recently, Kennedy Terry (2022) have advocated for a more fine-grained analysis of SA participants' interactions with TL speakers using social network analysis and considering different dimensions of social networks. In response to this, recent SA research has, among other things, investigated variables such as the size, durability, intensity, density, dispersion, and multiplexity of social networks (Baker-Smemoe et al., 2014; Dewey et al., 2012; Dewey, Ring et al., 2013; Dewey, Belnap et al., 2013; Kennedy Terry, 2022; Moreno Bruna & Goethals, 2020). SASIQ constitutes an instrument that is suitable to determine these features. Dewey et al. (2012) used the SASIQ to measure both the nature and structure of the SA participants' social networks. They found that learner networks with TL speakers contribute to self-perceived oral proficiency gains during the SA period. Similarly, but in a different context, Dewey, Belnap et al. (2013) showed that the intensity of network ties with TL speakers was a significant predictor of self-perceived oral proficiency gains. In Baker-Smemoe et al.'s (2014) analysis of predictors of L2 gains in L1 English speakers enrolled in SA programs to different destinations managed by their home institution, the following four social network variables stood out as favorable for L2 development (measured via OPI): the English proficiency of learners' friends, the change in size of students' networks over time, the intensity of their friendships, and dispersion, that is, the number of social groups that they participated in. Paradowski et al. (2021), combining quantitative and qualitative social network analysis, found that it was the number of students' social ties that most strongly influenced L2 development (in that study operationalized as progress in pronunciation and lexis) of SA students from different countries attending an SA program in Poland. Thus, existing studies have indicated that the structure and nature of social networks may play an important role in promoting L2 use and L2 gains. However, most of these studies have investigated students' engagement with local contacts or L1 speakers of the TL without taking into account communication with family and friends back home (for exceptions, see Coleman & Chafer, 2010; Mitchell et al., 2017).

Although the majority of previous studies focusing on social network formation have investigated students studying abroad in TL regions, ELFSA contexts have recently attracted research interest as a separate and distinct context in SA research. Thus far, research into ELFSA has primarily investigated students' perceptions of English as a lingua franca (ELF) and the learning potential of ELFSA contexts (Barraja-Rohan, 2013; Dervin, 2013; Martin-Rubió & Cots, 2018; Heinzmann, Köylü & Ehrsam., 2024; Kalocsai, 2009; Kaypak & Ortaçtepe, 2014) as well as students' English proficiency gains in ELFSA contexts (Borràs, 2023; Llanes et al., 2016; Llanes, 2019; Köylü, 2016, 2021; Köylü & Tracy-Ventura, 2022; Martin-Rubió & Cots, 2018). When comparing students in an ELFSA to those in an anglophone context, neither Köylü (2016, 2021) and Köylü and Tracy-Ventura (2022) nor Borràs (2023) found differences regarding L2 gains. What has hardly been investigated so far are potential differences between the two contexts in terms of SA students' social network composition or language use. To our knowledge, there is only one study addressing this issue. Borràs & Llanes (2022) compared L2 gains in ELFSA and anglophone countries and qualitatively examined the use of the L1, L2, and L3 in these contexts. They identified differences in the amount of L2 use depending on the students' type of stay, but this did not have an impact on their language gains. Although participants in anglophone contexts declared using mostly English in their everyday life, those in the ELFSA group indicated also using the local language a lot. Hence, overall, English was used more by participants in the traditional SA group than by those in the ELFSA countries because the ELFSA group also practiced another foreign language. As no significance tests were run, it cannot be ascertained whether these differences in language use were significant, though. This research focus on language use and social contacts in ELFSA contexts is particularly intriguing, as in ELFSA contexts, the role of the local population as a source of TL input is different, since they are neither L1 speakers of the TL nor necessarily expert users of the TL. The present study aims to contribute to this underresearched area by uncovering networking patterns and language use in different linguistic contexts.

Research Questions

1. Which different profiles of social relations can be identified among the SA students across the different contexts (anglophone vs. English as a lingua franca)? What characterizes these profiles?
2. To what extent does the language context influence the composition of social contact profiles?

3. To what extent do the contact profiles differ in terms of language use and target language development during study abroad?
4. What contact, individual, and contextual variables help to explain target language development during study abroad?

Method

Sample

Our research participants are 121 higher education students (101 female, 20 male) enrolled at Swiss ($n = 55$), German ($n = 55$), or Austrian ($n = 14$) higher education institutions who studied abroad in English-speaking ($n = 71$)[1] or ELFSA ($n = 50$)[2] contexts. To be eligible to partake in the study, participants in the ELFSA context had to either follow English studies courses or an English-medium program abroad. At home, they were enrolled in English studies at universities or teacher education institutions. Those enrolled in teacher education programs are also considered English specialists, as they are trained to teach English, usually as one of several subjects.

The duration of their stay varied from 8 to 71 weeks, with an average length of stay of 20.4 weeks. Their initial English oral proficiency, as measured by the OPIc, ranged between intermediate low (Common European Framework of Reference, CEFR, A2) and superior (CEFR, C2). Nearly 70% of the participants had started out with an advanced level of oral proficiency (advanced mid: $n = 33$; advanced high: $n = 51$). The students were enrolled in different SA programs ranging from a mobility semester (e.g., Erasmus exchange), involving studying at a higher education institution abroad ($n = 100$), to attendance of a language school ($n = 11$), to different types of work or internships ($n = 10$). Twenty-one and a half per cent were abroad before the COVID-19 pandemic, 3.3% when the pandemic first hit, 63.6% during later waves of the pandemic, and 11.6% post pandemic. This means that 33.1% were abroad at a time when no restrictions applied, and 66.9% were abroad when restrictions applied, which will be controlled for in the analysis of linguistic progress.

Instruments

The study presented below is part of a research project entitled "Study Abroad for Multilingualism (SAM)", which combines the following instruments in a longitudinal mixed-methods design: (a) the OPIc by the American Council on the Teaching of Foreign Languages (ACTFL) to measure English oral competences before and after the sojourn; (b) multiple online questionnaires pre, while (up to three times depending on duration of stay), and post sojourn to investigate language attitudes, language use

anxiety, social contacts, and language use while abroad; and (c) two interviews with selected students, one during the stay and another after the stay. Apart from the OPIc, which is a commercial test, all the instruments used in the study will be made available open-access on "SWISSUbase", a national, cross-disciplinary research repository (Heinzmann, Hilbe et al., 2024, https://www.swissubase.ch/en/catalogue/studies/13664/16331/overview).
Only data from some of these instruments were used for the analysis in this paper. The following sections are limited to these.

Questionnaires

The analysis draws on data from the predeparture and postreturn questionnaire as well as the second questionnaire administered during the stay (7 to 11 weeks into the stay depending on the duration of the stay), since it can be assumed that at this point relatively stable social contacts have been established. The predeparture questionnaire gauged socio-demographic variables (age, gender, linguistic repertoire), the destination of stay, and language use anxiety. The post questionnaire assessed a number of contextual variables (duration of stay, type of accommodation, type of program). The second questionnaire, administered during the stay, was a social contact and language use questionnaire, which was inspired by SASIQ (Dewey et al., 2012) and adapted for our study purposes (see Appendix S1 in the online Supporting Information). In order to mitigate inflation errors, we refrained from asking participants on how many days per week and how many hours per day they spent interacting with specific individuals but opted for a holistic estimation of contact duration over a time span of a month, in which case students indicated how many hours they interacted with different people on average per week. In contrast to most previous questionnaires used in SA research (for exceptions, see Coleman & Chafer, 2010; Mitchell et al., 2017), our questionnaire not only looks at contacts with the local population and other international students, but also with people back home. Similar to Mitchell et al.'s (2017) social network questionnaire, our questionnaire also collected data on the use of languages other than the TL and students' L1s. Participants were asked to list up to 20 persons with whom they interacted regularly. This could include both formal and informal contacts and language use. For each person listed, the following information was obtained: regular place of residence, L1s, English skills (compared to own person), contact hours per week, language/s used, communication channel/s and relationship to this person (family/relatives, romantic relationship, close friend, friend, acquaintance). The questionnaire thus taps into the static structural measures of social networks, size (number of social contacts), and density

(number of contacts per social group) but also into the less frequently investigated interactional measures of durability (frequency of interaction) and intensity of friendship. The questionnaire was piloted with 34 students enrolled in an English linguistics class at the St.Gallen University of Teacher Education to test for comprehensibility and clarity of the instructions and items. Based on student feedback, both instructions and the number of items were adapted and fine-tuned.

Oral Proficiency Interview by Computer

The students' oral proficiency was measured using the ACTFL OPIc before and after the sojourn. The OPIc is an internet-based criterion-referenced test for reliable and valid oral proficiency testing at a large scale. It was selected after an extensive piloting of commercial online oral language competence tests (Pearson Placement Test, Pearson Progress, Cambridge Linguaskill, OPIc). Six individuals whose proficiency level we knew from language certificates piloted these different tests. Several alternative products were excluded for various reasons, such as their accessibility for users, technical bugs, their content validity, and the extent to which they measured, albeit in a fine-grained way, formal (e.g., grammatical) competences rather than, as required for our purposes, effectiveness in communicative interaction. The OPIc assesses functional oral language proficiency in online interaction with an avatar. The oral production is recorded and then evaluated by human raters. In our study, we used commercial OPIcs, which are single-rated by an ACTFL-certified rater on the following ten proficiency levels of the ACTFL scale: *novice low* (1), *novice mid* (2), *novice high* (3), *intermediate low* (4), *intermediate mid* (5), *intermediate high* (6), *advanced low* (7), *advanced mid* (8), *advanced high* (9), and *superior* (10). Raters evaluated candidate performances holistically across all prompts (Isbell & Winke, 2019).

Data Analysis

The anonymized data used for the analyses presented here will be available open-access on "SWISSUbase" (Heinzmann, Hilbe et al., 2024, https://www.swissubase.ch/en/catalogue/studies/13664/16331/overview).[3] Before data analysis, careful data cleaning was carried out, including plausibility checks, anonymization, and deletion of duplicates. In the social contact questionnaire, students were asked to indicate individual people with whom they regularly interacted and then provide specific information on these people. At times, participants would refer to a group of people (e.g., fellow students in host country, friends back home) instead of a single person. In such cases, it

was first determined which of the information provided in connection with this group of people was accurate. The answers that could not be considered reliable were marked as missing values. Answers that were plausible were kept in the data set.

As a basis for the analysis, the questionnaire data on social contacts and language use were aggregated in the following way:

- number of preexisting contacts versus new contacts,
- number of new contacts by regular place of residence: contacts with locals living in the host country, contacts with other internationals present in the host country, and contacts from a German-speaking area (Germany, Austria, or Switzerland),
- number of new contacts by relationship status: new acquaintances, friends, close friends, romantic relationships, host family.

In addition, for each participant, the total amount of time spent interacting with social contacts in German ("contact duration German") and English ("contact duration English") was calculated on the basis of the self-assessed total amount of contact time per week and the percentage of use of the respective language. Furthermore, the total amount of time spent interacting in English with people perceived to be more proficient than oneself ("contact duration English higher proficiency") and total amount of time spent interacting in English with new close relations (friends, close friends, and romantic relationships; contact duration "close contacts") was calculated for each participant.

Latent Profile Analysis

A categorical latent variable modeling approach, latent profile analysis (LPA; Collins & Lanza, 2010; Gollwitzer, 2008; Wang & Hanges, 2011), was used to inductively identify groups of students that have different profiles of social contacts. LPA assumes that people can be divided with different probabilities into categories (subpopulations) that have different configural profiles of personal and/or environmental characteristics (Spurk et al., 2020). Thus, LPA identifies construct-based profiles (Woo et al., 2018). In our analysis, we identified qualitatively different social contact configurations on the basis of the extent of contact with different groups of people. The following four variables were considered: (a) number of preexisting contacts, (b) number of new local contacts, (c) number of new international contacts, and (d) number of new German-speaking contacts. The analysis was conducted in Mplus (Version 8.7; Muthén & Muthén, 1998–2017). We specified the model using the maximum likelihood estimation with robust standard errors. Since a complete data set

Table 1 Model Fit Indices for Different Numbers of Latent Profiles of Social Contacts ($N = 121$)

Classes	AIC	BIC	Entropy	p_{LMRT}	p_{BLRT}
2	2193.207	2229.553	0.898	.0001	.0000
3	2168.856	2219.180	0.890	.2518	.0000
4	2156.697	2221.000	0.828	.1444	.0128
5*	2147.935	2226.217	0.881	.3189	.0000
6	2135.659	2227.920	0.903	.1988	.0000

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion; p_{LMRT} = p-value of the Lo-Mendell-Rubin likelihood ratio test; p_{BLRT} = p-value of the bootstrapped likelihood ratio test; * No converging solution due to possible local maxima.

was available, there was no need to use an estimation method to deal with missing data. Models with different numbers of latent profiles were evaluated considering fit indices (Akaike information criterion, AIC; Bayesian information criterion, BIC), entropy and likelihood ratio tests (Lo-Mendell-Rubin likelihood ratio test, bootstrapped likelihood ratio test; see Table 1). The models with three and four classes, that is, groups of students that have different profiles of social contacts, were looked at more closely, as they had the lowest BIC scores, which are considered the most reliable and most reported fit statistic by many researchers (Weller et al., 2020). Models with more classes were discarded for reasons of parsimony and interpretability and in order to ensure reasonable class sizes. The 4-class solution was chosen as the final model for theoretical considerations and best class interpretability. The average class assignment probabilities for being grouped into a particular class were all above 85%, indicating that quality of classification was high (Weller et al., 2020).

Once the latent classes were determined, ANOVA was used to examine whether the identified classes differed significantly from each other in terms of the number of contacts (see Appendix S2 in the online Supporting Information) and duration of language use (Appendix S3 in the online Supporting Information).[4] A significance level of 0.05 was used for all inferential statistical analyses. When specifying confidence intervals, the 95% interval is provided throughout. Chi-square tests were used to examine whether the frequency distribution of the four classes differed with respect to the language context of SA (L1 English vs. ELFSA, see Table 2) as well as language gains (see Appendix S4 in the online Supporting Information).[5] To test whether oral

Table 2 Class Association by Language Context ($N = 121$)

Context	Class 1 Intl.		Class 2 Home		Class 3 Balanced		Class 4 Locally		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
ENG	9	34.6	25	52.1	25	73.5	12	92.3	71	58.7
ELFSA	17	65.4	23	47.9	9	26.5	1	7.7	50	41.3
Total	26	100.0	48	100.0	34	100.0	13	100.0	121	100.0

Note. ENG = study abroad in an English-speaking country; ELFSA = study abroad in a country where English is used as a lingua franca.

proficiency changed over the course of the sojourn, a Wilcoxon signed-rank test was run. Finally, to identify predictors of language progress (Research Question 4), binary logistic regression models were used.[6] In the present study, oral proficiency gains were operationalized as the difference in OPIc scores between the pre and posttest (t_1–t_0). The Enter method was chosen for the analysis, as the regression model is based on theoretical considerations. Due to missing data at the different survey time points (pre, while, and post), there are different sample sizes for the analyses presented below. In order not to further limit the sample size, we decided to use all the valid cases for the respective analyses.

Results

Social Contact Profiles (Research Question 1)

The four identified classes represent four different profiles of social networks entertained by the participants in the study. Figures 1–4 show egocentric sociograms of a prototypical example of a student representing each of the four identified profiles. Particularly representative cases where the probability of belonging to this profile in the LPA is 100% were selected for illustration. In addition to the types of contacts entertained (international, conational, or local contacts), the figures also present information on the size (number of contacts), durability (time spent with individual contacts/intensity of contact), and relationship status of students' social contacts as well as the languages used for interaction with each of these contacts. The circle in the middle indicates how much of the total time was spent with preexisting contacts (on the left) and how much with newly encountered people (on the right). The size of the surrounding circles indicates the intensity of contact with the respective contacts (the bigger the circle the more contact hours per week). For each person listed,

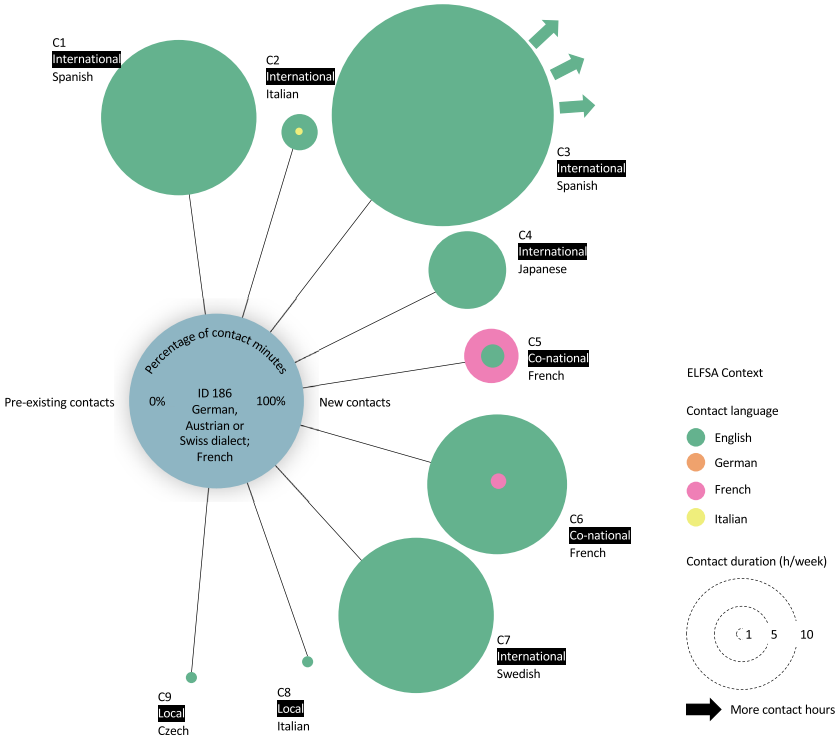

Figure 1 Prototypical Example of an Internationally Oriented Student

their first language/s are also indicated. Each profile has been labelled on the basis of the dominant types of contacts entertained.

The social network of internationally oriented students is heavily focused on other international students and comprises few contacts with locals. One fifth (21.5%) of the students fall into this category.

Home oriented students are strongly oriented towards their previously established, home-based social network. This is also reflected in their predominant use of their L1 (German). Students with a home-oriented profile are the largest group in our sample with more than a third of the students (39.7%) falling into this category.

What sets the locally oriented students apart from the other classes is that they have managed to befriend a considerable number of local residents. It is by far the smallest group in our sample comprising 10.7% of the students.

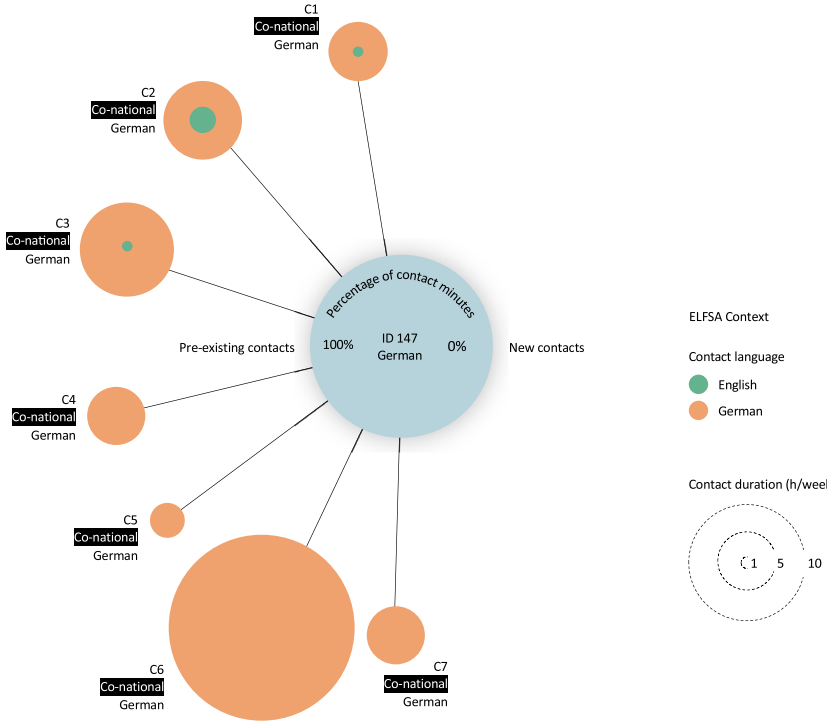

Figure 2 Prototypical Example of a Home-oriented Student

Unlike students in the other profiles, students in the balanced group do not predominantly interact with a certain group of people but with all the different groups (locals, international, and conational contacts). A good quarter of the students (28.1%) in our sample fall into this category.

Appendix S2 in the online Supporting Information provides an overview of the number of students assigned to these four profiles. Furthermore, it illustrates the average number of contacts SA students in these profiles entertain with different groups of people (preexisting, new internationals, new locals, other speakers of German). Figure 5 illustrates these four different profiles in terms of number of contacts from different social groups. On the x-axis, different types of contacts are shown: contacts that existed before the stay, new international contacts, new local contacts, and new German-speaking contacts. On the y-axis, the average number of the respective contacts is indicated.

To what extent do the four profiles differ in terms of the number of contacts in each category? As can clearly be seen in Figure 5, they do not differ

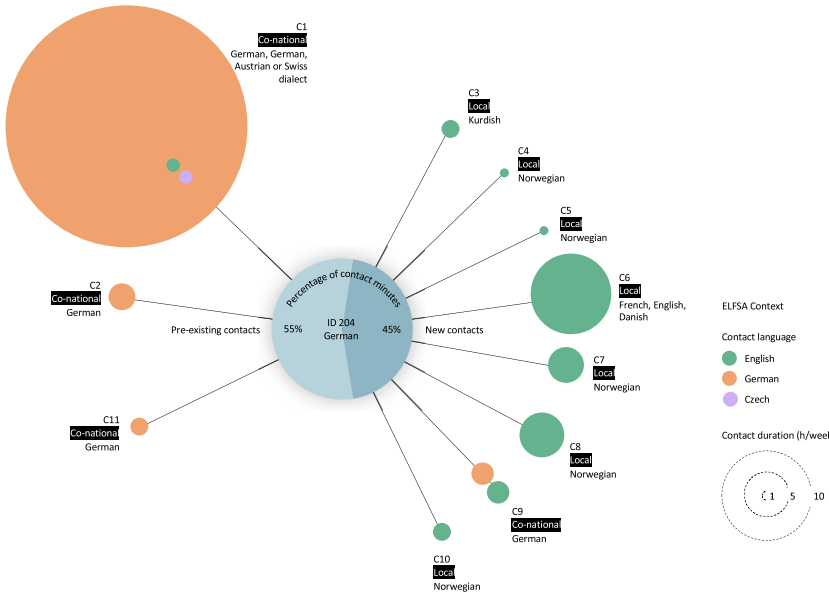

Figure 3 Prototypical Example of a Locally Oriented Student

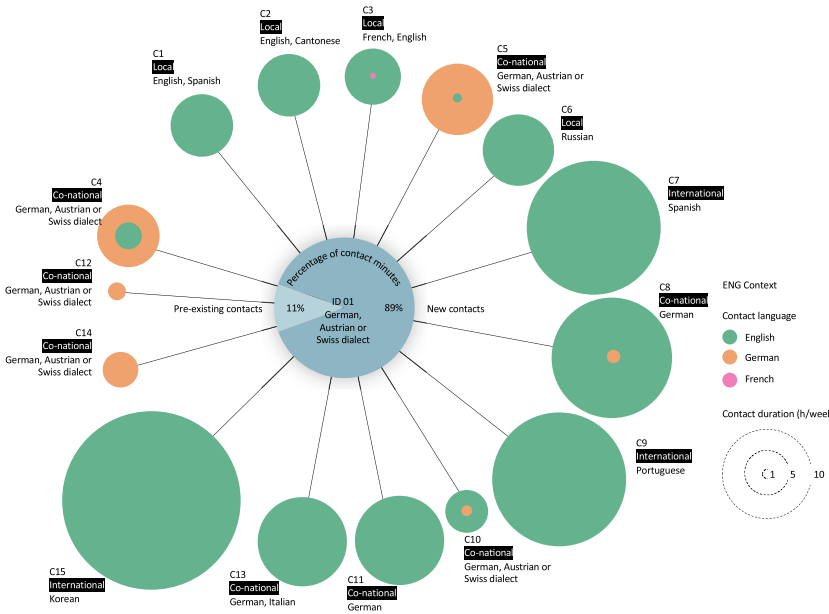

Figure 4 Prototypical Example of a Balanced Student

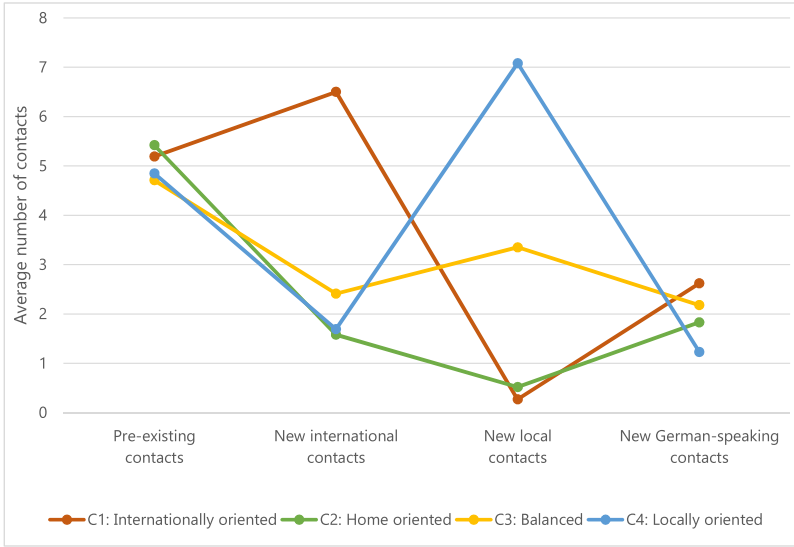

Figure 5 Social Contact Profiles ($N = 121$)

significantly in terms of the average number of preexisting contacts that students entertain. Students in all profiles tend to be in touch with a relatively large number of people whom they had known before going abroad, that is, mainly family members and friends from the home country. The number of newly met German-speaking contacts also does not contribute much to the differentiation of the profiles. However, the four classes differ significantly in the number of new international contacts, $F(3, 42.69) = 69.07$, $p < .001$, partial $\eta^2 = .60$, 95% CI [0.48, 0.68], as well as new local contacts, $F(3, 42.25) = 248.03$, $p < .001$, partial $\eta^2 = .89$, 95% CI [0.85, 0.91]. On average, students belonging to class 1 (internationally oriented) list 6.5 contacts that are not from a German-speaking country or the host country. This clearly sets them apart from all other classes. A similar picture emerges for the average number of contacts with the local population in class 4 (locally oriented). Persons in this class have an average of 7.1 contacts that are local, which significantly distinguishes this class from all other classes. Hence, the four different classes mainly differ in terms of the number of new local contacts as well as the number of other internationals that the SA students are able to befriend.

Influence of Language Context on Social Contact Profiles (Research Question 2)

In the following, we consider the relationship between the language context, that is, whether the stay was completed in an English-speaking region (ENG) or in ELFSA, and the social contact profiles of the students (see Table 2). There is a significant relationship between social contact profiles and language context, $\chi^2(3) = 16.23$, $p = .001$, $N = 121$. The relationship is particularly evident for the locally oriented (class 4), to which only one person in the ELFSA context was assigned, and the remaining 12 (92.3%) students in this class studied abroad in an ENG context. The balanced group (class 3) also showed a more frequent representation of 25 individuals (73.5%) in English-speaking countries compared to nine individuals (26.5%) in the ELFSA context. In contrast, 17 of 26 students (65.4%) classified as internationally oriented (class 1) completed their stay in the ELFSA context, whereas only about one third of the students ($n = 9$, 34.6%) in this class were in an English-speaking country. In the home-oriented group (class 2), however, the distribution among the language contexts was balanced.

The effect size was moderate, Cramer's V = .37, $p = .001$. Based on this, it can be concluded that the likelihood of establishing close contacts with the local population is significantly greater in an English-speaking country than in an ELFSA context. Students in the ELFSA context are more oriented towards fellow international students.

Differences in Terms of Target Language Use and Target Language Development Between Social Contact Profiles (Research Question 3)

The sum of time spent interacting with social contacts in English and, hence, the extent of TL use, differed significantly across the four classes, $F(3, 43.03) = 5.88$, $p = .002$, partial $\eta^2 = .11$, 95% CI [0.02, 0.21] (see Appendix S3 in the online Supporting Information). The lowest mean score of English language use can be found in class 2, the home-oriented students, $M = 38.82$ hours, which differs significantly from the mean score in classes 1, $M = 82.13$ hours, and 3, $M = 76.42$ hours. Interestingly, internationally oriented SA students (class 1) have the highest average use of English. Locally oriented students (class 4), on the other hand, do not report a significantly higher TL use than the home-oriented students who tend to interact a lot in their L1. The extent of German language use and the use of languages other than German or English does not significantly differ across classes.

If we look more specifically at the amount of English language use with contacts whose English skills were perceived to be higher than one's own,

Table 3 Descriptives for Language Gains ($N = 114$)

Difference in OPIc level t_0–t_1	Frequency	Percent	Gains vs. no gains (Cumulative percent)
−2	4	3.5%	No gain (65.8%)
−1	12	10.5%	
0	59	51.8%	
+1	30	26.3%	Gain (34.2%)
+2	7	6.1%	
+3	2	1.8%	

Note. OPIc = Oral Proficiency Interview by Computer.

we also see significant differences between the classes, $F(3, 37.34) = 7.84$, $p < .001$, partial $\eta^2 = .14$, 95% CI [0.03, 0.24]. Home-oriented students (class 2) differ significantly from members of the balanced (class 3) and the locally oriented (class 4) profile in that they report significantly less English language use with interactional partners more proficient than themselves. Interestingly, all the other classes do not significantly differ from each other. This means that the locally oriented students do not report more TL use with people of higher proficiency than internationally oriented students, who predominantly interact with other SA students.

Even though the classes differ significantly with respect to TL use, no significant difference was found between the classes in terms of oral proficiency gains, $\chi^2(3) = 1.56$, $p = .669$, $N = 98$ (see Appendix S4 in the online Supporting Information). It seems, consequently, that other variables may have a higher explanatory power for language gains during SA. Therefore, in the next section, we investigate the influence of contact and individual and contextual variables on oral proficiency development by means of regression analysis.

Predictors of Target Language Development in Study Abroad (Research Question 4)

Table 3 shows a descriptive overview of the change in oral language proficiency levels from pre to poststay. For more than half of the students (51.8%), oral proficiency remained constant. However, there are also a small number of individuals who achieved a lower test score after their stay than before their stay. For about one third (34.2%), the oral proficiency level improved, in most of the cases by one competency level (26.3%), less frequently by two (6.1%) or even three levels (1.8%). On average, the participants' oral proficiency level increased significantly, Wilcoxon signed-rank test: $z = -2.842$,

$p = .004$, $N = 114$. The effect size is $r = 0.27$, 95% CI [0.09, 0.44] and corresponds to a small effect, according to Plonsky and Oswald (2014, p. 889).

For further analysis, we classified individuals as "gainers" (difference $>$ 0) and "nongainers" (difference $\leq$ 0) based on the difference in OPIc level between their pre and posttest and conducted a logistic regression with this binary dependent variable language gain to analyze if the following variables impact the outcome: class association, duration of stay (weeks), language context (ENG vs. ELF), pretest-OPIc level, contact duration using English, contact duration using German, and language anxiety. To control for possible bias in the analyses due to restrictions related to the COVID-19 pandemic, a dichotomous variable related to the Covid situation (no restrictions vs. restrictions) was added to the model as an additional predictor. "No restrictions" was assigned to all students studying abroad either before the outbreak of the pandemic or after all Covid restrictions had been lifted. "Restrictions" was applied to students studying abroad during the pandemic. Due to missing data in the predictor variables stemming from different questionnaires, the sample for the regression analysis is smaller ($N = 92$) than the sample for the latent profile analysis ($N = 121$). The regression model proved to be significant, $\chi^2 = 44.005$, $df = 10$, $p < .001$, $N = 92$. The model allows a valid prediction of the oral proficiency gains in 80.4% of the cases with a false positive rate of 26.9% and a false negative rate of 16.7%. In the absence of SLA-specific recommendations for interpreting effect sizes in logistic regression, Cohen's f^2 was used. Cohen's f^2 effect size was .39, which corresponds to a large effect (Cohen, 1992).

The following predictor variables were found to contribute significantly to the explanation of oral proficiency gains (see Table 4): The pretest-OPIc level proved to have a negative impact on the probability of oral proficiency gain, $b = -2.082$, Wald $\chi^2 = 14.755$, $df = 1$, $p < .001$, meaning that students with higher OPIc levels presojourn were less likely to make progress. For each one-unit increase in pretest-OPIc level, the relative probability of making further gains decreased by 87.5 percent. The duration of the stay increased the chance of gains, $b = .124$, Wald $\chi^2 = 4.568$, $df = 1$, $p = .033$. With every week that the stay lasted longer, the relative probability for oral proficiency gains increased by 13.2%. And the duration of German use also had a negative impact on oral proficiency gain, $b = -.019$, Wald $\chi^2 = 4.827$, $df = 1$, $p = .028$. With each additional contact hour per week in which German was used, the relative probability for gains decreased by 1.9%. Nevertheless, neither the class association nor the contact duration in English proved to have a significant impact on oral proficiency gains.

Table 4 Binary Logistic Regression for Language Gains ($N = 92$)

Variables and classes	*b*	*SE*	Wald $\chi 2$	*df*	*p*	*OR*	95% CI	
							LL	UL
Pretes-OPIc	**−2.082**	**0.542**	**14.755**	**1**	**<.001**	**0.125**	**0.043**	**0.361**
Duration of stay	**0.124**	**0.058**	**4.568**	**1**	**.033**	**1.132**	**1.010**	**1.268**
Contact duration: English	0.004	0.007	0.392	1	.531	1.004	0.991	1.017
Contact duration: German	**−0.019**	**0.009**	**4.827**	**1**	**.028**	**0.981**	**0.964**	**0.998**
Language Anxiety	−0.692	0.494	1.958	1	.162	0.501	0.190	1.319
Class: Intl. Oriented			2.425	3	.489			
Class: Home oriented	0.718	0.930	0.595	1	.440	2.050	0.331	12.701
Class: Balanced	−0.387	1.008	0.148	1	.701	0.679	0.094	4.895
Class: Locally oriented	0.983	1.195	0.677	1	.411	2.672	0.257	27.776
Language Context [a]	1.126	0.709	2.523	1	.112	3.083	0.768	12.368
COVID [b]	−1.128	0.722	2.441	1	.118	0.324	0.079	1.332
Constant	16.102	4.953	10.568	1	.001			
						9840089.894		

Note. Cox and Snell $R^2 = .380$; Nagelkerke $R^2 = .530$; Likelihood ratio test: $\chi^2 = 44.005$, $df = 10$, $p < .001$; Wald test: $\chi^2 = 7.456$, $df = 10$, $p < .001$; Hosmer & Lemeshow Goodness-of-fit test: $\chi^2 = 7.456$, $df = 8$, $p = .488$; significant differences ($\alpha = 0.05$) are highlighted in bold.
[a] 0 = ENG, 1 = ELF. [b] 0 = no restrictions, 1 = restrictions.

It is noteworthy that most of our participants were already highly advanced (44.4% advanced high and 6.9 % superior) before their sojourn, which rendered it difficult for many of the participants to make further progress. Given this potential ceiling effect, we also ran the logistic regression excluding students with advanced high and superior levels in the pretest-OPIc. The results were comparable and yielded a significant model, $\chi^2 = 24.360$, $df = 10$, $p = .007$, $n = 42$, with duration of stay turning out to be the only significant predictor of oral proficiency gains in this group, $b = .322$, Wald $\chi^2 = 5.215$, $df = 1$, $p = .022$. Overall, the analyses failed to demonstrate an influence of contact variables on oral proficiency gains. By far the greatest explanatory power for linguistic progress is students' predeparture proficiency.

Furthermore, linguistic progress is also determined to a small extent by the duration of the stay.

Discussion

The present paper presents one of the largest studies on social network patterns of SA students to date. In this study we identified the following four different profiles of social contacts among our 121 participants: internationally oriented students, home-oriented students, balanced, and locally oriented students. Although these profiles did not differ substantially in terms of the extent of contact with their preexisting home-based social networks, they did differ significantly in the extent to which they managed to establish ties with the local population and other international students. This is coherent with previous findings that point to a great variability in SA students' social integration and language immersion. Considering the number of locals that our participants were able to befriend, half of them were not locally integrated to any great extent (for similar findings, see de Frederico de la Rua, 2008; Moreno Bruna & Goethals, 2020). In fact, home-oriented students, who did not entertain much contact with newly encountered people, constitute the largest group in our sample, which once more emphasizes the difficulty in establishing new contacts abroad reported by many previous studies.

With regard to the second research question about the interrelation between the patterns of social contacts and the SA destination, an interesting finding is the scarcity of locally oriented students in ELFSA contexts. Although recent research on ELFSA settings has been able to make a convincing case for the equivalence of these settings in terms of English language development (Borràs, 2023; Llanes et al., 2016; Llanes, 2019; Köylü, 2016, 2021; Köylü & Tracy-Ventura, 2022) and a potential advantage of this context for learner identities (Heinzmann, Köylü et al., 2024; Kaypak & Ortaçtepe, 2014; Borghetti & Beaven, 2017; Köylü & Tracy-Ventura, 2022), this result raises the question to what extent the engagement of SA students with locals could be intensified to foster more diversified networks and intercultural learning, bearing in mind that this depends on a number of variables, including the locals' openness to contacts with guest students from abroad and both parties' competences in English and other languages.

The results on the interrelation of English use with the four social contact classes point to an advantage of the internationally oriented group regarding the amount of TL use. This is coherent with many previous findings on the importance of the "Erasmus bubble" (Cairns et al., 2018; Gomes, 2020; Van Mol & Michielsen, 2015) among SA students. Although the inverse result for

home-oriented students, whose amount of English use is significantly smaller, appears fairly logical, the result that locally oriented students did not use more English than home-oriented ones may seem more surprising. It is possible that local contacts were less readily available for time-intensive contacts because they tend to be well integrated into their existing social networks and probably feel little need to befriend temporary residents (see Coleman, 2015). What is more unexpected, however, is the finding that locally oriented students, almost all of whom completed their stay in an English-speaking country, did not report more interactions with more proficient interlocutors than internationally oriented students, who predominantly interact with other international students. This suggests that the oft-lamented lack of local integration of SA students and the difficulty to befriend L1 speakers of English may not necessarily be disadvantageous for language learning, as SA students can also profit from TL interactions with other L2 users of the language who may be somewhat more proficient than themselves. Theoretically, this ties in with sociocultural theories of SLA (Ohta, 2013), particularly the concept of the zone of proximal development (Vygotsky, 1978), in which learners are able to develop with support from a teacher or more expert peer. It also ties in with interactionist approaches to SLA which stress the importance of interactions in the TL and negotiation for meaning (Gass, 1997; Long, 1996; Mackey, 1999).

That contact and interaction with other L2 speakers of English can be just as beneficial as contact with L1 speakers was corroborated by the ANOVA as well as the regression analysis, which both testified that the different classes do not significantly differ from each other in terms of oral proficiency gains (see Borràs & Llanes, 2022, for similar results). If this finding can be replicated in future research, it has great liberating potential, as it suggests that many roads lead to Rome and it does not matter that much with whom SA students interact as long as they do so in the TL rather than their L1. Hence, it may be time on task which matters most. These results also tie in with previous studies that have systematically compared language gains of SA students in ELFSA and anglophone countries and consistently revealed that the ELFSA context is just as advantageous as the traditional SA context (Borràs, 2023; Köylü, 2016, 2021; Köylü & Tracy-Ventura, 2022). Hence, the value of ELFSA destinations for English language learning is empirically well supported. Interestingly, these comparison studies on ELFSA, including the present study, contradict some previous findings calling into question the merit of learner-learner interactions for practicing the TL in an intensive way (Dewey et al., 2013; Magnan & Back, 2007), a fact which may be related to a focus on interactions between same L1 learners in these studies and a neglect of the potential of interactions between

learners of different L1s (see McGregor, 2021; Paradowski et al., 2022, for the merits of peer interactions).

At first sight, the relatively low percentage of students with language gains may seem counterintuitive, if not disappointing, from an educational point of view, even if on average a medium effect of the SA experience on L2 gains can be attested. Obviously, this result also has to be read with the relatively high predeparture proficiency of our participants and the noncontinuous measure used in mind. If the proficiency level is very high at the outset, gains can be difficult to measure due to a possible ceiling effect. This is corroborated by findings of Paradowski et al. (in press). Furthermore, the students in our study were enrolled in content courses at university but not language courses. As the meta study by Xu (2019) impressively showed, intermediate SA students make more progress during SA than advanced students and learners enrolled in language courses, rather than content courses, also make more gains.

Finally, the results of our study once again, in line with much previous research, validate the importance of the length of the stay. This is particularly relevant in view of the trend toward shorter stays. Although this does not entail that a stay of 2–3 months is not effective, it does mean that stakeholders need to bear the importance of duration in mind and make money available for sufficiently long stays.

Limitations and Directions for Further Research

The present study represents a first attempt to investigate potential differences regarding students' social network composition, language use, as well as language gains in different SA contexts. Although our results showed a significant relationship between different contact profiles and the extent of TL use as well as language context, no influence of the profiles on the students' linguistic development was found. None of the social contact variables could be shown to have a significant effect on language gains. The study thus contributes to a rather long tradition of inconclusive findings on the role of TL contact and language development (see Paradowski et al., 2022), and findings should be interpreted with a number of limitations in mind.

One limitation that the present study shares with most previous studies on social networks and language engagement in the SA context is its reliance on self-reports of social interaction, which may not always be reliable due to respondents' difficulty in accurately estimating frequency and duration of interactions in retrospect (Mitchell, 2021). Future research would profit from more frequent, instantaneous collection of social interaction data by means of experience sampling, for example, by using the LangTrack App (Arndt et al., 2022).

Furthermore, findings are based on the collection of social contact data at one point in time only, which may not be representative of students' entire stay, as social networks must be assumed to develop and evolve. Future analyses of the longitudinal development of these SA students' social contacts and language use (which were assessed three times) could shed light on the robustness of the results presented here and examine the applicability of Coleman's (2015) concentric circles model of SA social networks for this sample.

A further limitation is that we categorized SA contexts as anglophone or ELF. The countries in these two categories can be very different in nature and may not necessarily be comparable in terms of their linguistic affordances (for instance, in terms of levels of English proficiency among the local population), as they may provide different opportunities to put the L2 into practice. Future research into ELFSA could fruitfully investigate whether different ELF contexts are equally conducive to English learning.

In addition, given the high proficiency level of a large proportion of the students in our sample presojourn and the holistic ratings on the OPIc, with its broad proficiency levels, it is not surprising that many of the students apparently did not make progress. The results might have been different if a more fine-grained proficiency measure had been used or if specific dimensions of competence had been analyzed (e.g., fluency, accuracy, complexity, sociolinguistic/pragmatic competence, formulaic language). It is also possible that everyday interactions in the TL may not play such a crucial role in the language development of such advanced learners.

Conclusion and Implications

The present study has shown that SA students with very different socializing patterns are similar in the extent to which they keep in touch with family and friends from home. Students across the board reported regular contact with their preexisting social network. Consequently, the students mainly differ in terms of how successful they are in establishing new ties, with a sizeable number of students hardly making any new friends, some students primarily establishing ties with other SA students, others primarily making friends with locals, and yet others being in touch with people from all these categories in a rather equal measure.

The fact that home-oriented students constitute the largest group in our sample and that these students do not entertain much contact with people that they newly met while abroad once more emphasizes the difficulty in establishing new contacts abroad reported by many previous studies. Such contacts may also be avoided especially by those students who might most profit from them

because of a perceived lack of language competences, shyness, or for other reasons. The development of programs and/or instruments preparing and coaching students on possible ways to increase their agency and social networking skills so that they would be better prepared and willing to actively engage with the host society and peers when abroad would be desirable, in particular, advice on how to deal with difficult situations (such as a perceived lack of interest of other people, strategies to create and nurture contacts, but also tips on how to deal with unwanted attention).To date, most interventions and predeparture orientations have focused on intercultural and linguistic aspects, and such focusing on social integration are virtually nonexistent (for exceptions, see Moreno Bruna & Goethals, 2020; Spencer & Olmos, 2017).

Importantly, the findings also indicate that students with very different network patterns and interactional partners make comparable progress in terms of oral proficiency as long as they do interact in the TL and not primarily in their L1. This argues for a greater sensitization of SA students to the potential of learner-learner interactions for linguistic development, since these are often evaluated negatively or skeptically by the learners (Heinzmann, Köylü et al., 2024; Borghetti & Beaven, 2017; Dervin, 2013).

Thirdly, the findings of this study corroborate the by now accumulated evidence on the potential of ELFSA contexts and ELF interactions for language learning. This could pave the way for greater recognition and exploitation of ELFSA contexts as legitimate language learning environments. If this recognition is accompanied by a valorization of the multilingual patterns of language use that are often associated with the use of English as a lingua franca, SA pedagogy can contribute to broader language policy aims, such as those associated with plurilingual and intercultural education. Accordingly, instruments for study abroad in (but not limited to) ELFSA contexts should include advice for students on planning their language use, encouraging them to exploit opportunities for interaction in English, including interactions with speakers of languages other than English.

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Notes

1 The English-speaking destinations included the UK ($n = 47$), Ireland ($n = 12$), the United States ($n = 7$), Canada ($n = 4$), and South Africa ($n = 1$).
2 The ELFSA destinations included Norway ($n = 11$), Sweden ($n = 10$), Denmark ($n = 4$), Malta ($n = 4$), the Netherlands ($n = 4$), Finland ($n = 3$), Portugal ($n = 3$), Spain ($n = 3$), France ($n = 2$), Israel ($n = 2$), Estonia ($n = 1$), Italy ($n = 1$), Latvia ($n = 1$), and Turkey ($n = 1$).
3 For seven participants, some information from different sources is not in the data set that we used for the analyses for the present article, as the data had not yet been cleaned at the time of the analyses.
4 The normal distribution of the dependent variable within each group was checked graphically. Levene's test was used to test variance homogeneity. In the case of different variances, the more robust Welch ANOVA was used.
5 As a prerequisite for the chi-square test, it was successfully checked that at most 20% of the expected cell frequencies are below 5, so that the test statistic approximately follows a chi-square distribution.
6 Predictors were tested for multicolinearity. The requirement that $n \geq 25$ for each group formed by categorical predictors could not be met.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Accessible Summary

Appendix S1. References of Included Studies.

Appendix S2. Supplementary Tables.