## **Understanding the Impact of Social Networks on ESL Proficiency**

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#### **ABSTRACT**

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Given the importance of English for academic success and socio-economic mobility in Pakistan, proficiency in English as a Second language (ESL) is a necessity for Pakistani learners who aspire for better employability, social mobility, and academic success. However, despite the importance of comprehensible input in L2 for language learners' progression, most Pakistani ESL learners have limited L2 exposure or opportunities to develop their L2 skills, particularly in their home networks wherein the use of Urdu or regional languages is favored. Adopting the theoretical lens of Milroy's social network theory (1987), this study investigates how Pakistani ESL learners' social networks comprising family members, friends and peers promote or hinder their L2 learning. The data for the study was collected through questionnaires and interviews implemented with BS undergraduate ESL learners at a Pakistani university. This study finds that participants with weak and multiplex ties are more likely to make gains in L2 proficiency. In contrast, strong and uniplex ties hinders Pakistani ESL learners from improving their L2 proficiency as the learners tend to predominantly use Urdu or regional languages when communicating within such networks. Based on these findings, it is argued that social networks can be leveraged by ESL learners to gain exposure to English and opportunities for L2 learning.

**Keywords:** ESL, L2, ELT, social network, TESOL

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In Pakistan, English enjoys prominence as a language of communication in the government, corporate sector, and other domains as well as the medium of instruction at tertiary level (Shamim, 2011). In order to successfully navigate educational settings and the workplace, Pakistani (ESL) learners must demonstrate advanced proficiency in English as an L2. While most ESL learners in Pakistan are exposed to English at a young age, formal opportunities to develop their L2 skills by means of interacting in the target language are largely limited to the classroom. In informal social interaction with family and friends, Pakistani ESL learners tend to use either Urdu which is the national language of the country, their respective regional languages, or codeswitch between the languages in their linguistic repertoire.

It is noted that an environment in which the target language is used for communication pre-dominantly creates a setting for language learners to interact in target language more often than they would otherwise do (Isabelli-Garcia, 2006, p.231). Koffi, Ridpath & Al Jumaah et al (2017, p.50) point out that the social network of individuals is made up of relationships developed with friends, neighbors or peers which are significant because they provide the learners with language-related information on the target language they are learning. Krashen (1985, p.4) says that language input is a very fundamental element in second language learners. According to Krashen, the usefulness of sources or variables for the learning of a second language lies in the linguistic information they can furnish. In view of the influential role of social networks on L2 learning indicated in SLA research, this study investigates the role social networks play in facilitating Pakistani ESL learners in developing their L2 skills.

The present study looks at the components of networks that play a key role in L2 learning, including relationships, actors, type of ties, structures of relations and set of relations. For instance, according to Milroy & Gordon (2003, p. 117), language learners' social networks may be understood as a sum of the relationships and ties that connect them geographically, in social spaces or even virtual spaces. Based on this idea, Borgatti & Halgin (2011, p. 1169) note that members of such a network can be represented as "set of actors or nodes along with a set of ties of a specified type (such as friendship) that binds them through shared end points". Zappa-Hollman & Duff (2015) point out that when analyzing a language learners' social network, the attention of the researcher must turn to structures of relations amongst members and delineate the respective roles enacted by the actors in these relationships.

## Social network analysis

Social network analysis is used for measuring individuals' structure of social connections and assessing the extent of the social interactions instantiating amongst people (Milroy, 1987). Wasserman & Faust (2009) delineate that the basic

components of social networks comprise actors, relational ties, dyads, trial subgroups and other groupings. For instance, in the context of the present investigation, the Pakistani university L2 learners were the main actors in the social network structure, and the relational ties of family member, friend and peer comprise some of the social connections that can exist and overlap in a single relationship as explained by Robin (2015). The actors forge connections with one another through the mechanism of these ties, some of which can be quite broad.

#### Measures of social network

According to social network theory, the social networks are of two types:

- 1. Multiplex
- 2. Uniplex

A social network is multiplex when the individual in a social network structure shares multiple linkages with others. So in these networks, as Wardhaugh and Fuller (2015, p. 71) point out, there are stronger emotions of connection and self. On the other hand, uniplex connections are simple as the actors are linked with each other through only one social activity, which may consist only of going to school together or only playing sports with each other. Wardhaugh & Fuller (2015, p. 71) note that the actors in uniplex structures experience limited prospects for social interconnection and show attenuated cohesion and sense of distinctiveness. Noting that the intensity of the relation is key to analyzing social structures, Scott (2017, p.76) points out that this intensity can be accorded numerical value. According to Chambers (2009), the Density of a network structure shows the interconnections amongst the nodes, and measuring it entails dividing existing linkages by potential linkages. Milroy (1980), instead of terming this as dense or loose network, uses the terms "high density network" or "low density network". Comprising the core of his or her network, an individual will have social connections with different individuals and groups, and when the people he/she knows have relationships with one another, then the network will become multiplex and reflect high density (Türker, 1995, p.57). Such a network is likely to have members who are known to one another and communicate in the same language, thus influencing the linguistic norms of the network (Türker, 1995, p.57). In contrast, in a low density network, the individual at the core of the network is connected to several people, but these people are not connected to one another, thus implying more receptivity to linguistic innovation or change (Milroy, 2002, p.568). Figure 1 below shows "X" with a dense network, whereas Figure 2 shows "X" with a loose network:

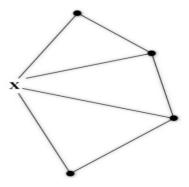


Figure 1: High-dense closed personal network structure of X. (Milroy, 1987, p. 20)

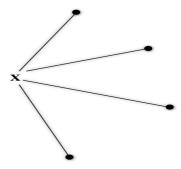


Figure 2: Low-density open personal network structure of X. (Milroy, 1987, p. 20)

## Social network and social language acquisition

Sociolinguistics has always been interested in the linguistic practices and approaches adopted by individuals in their social network (Chambers, 2009; Eckert, 2000). Research in sociolinguistics has focused on gauging the influence of L2 learners' network membership on their target language learning (Whitworth, 2006). For instance, an early study showed that the social networks of international learners consisted of students with the same nationalities and as well as students from their host nations (Krywulak, 1995). This study highlights the importance of conational networks in the initial months for adjustment. However, these networks do not add much to the language learning of L2 and hinder their L2 progress in the long-term. However, the host national networks help the students improve language competency at a greater level and become more familiar with the host culture and traditions. Hence, the findings of the study reinforced the argument that robust ties with host networks aid the development of students' linguistic competence. Another study conducted by Fraser (2002) showed that the language learners (LLs) who undertook more social interaction within target language contexts, such as attending a camp, or a volunteer group or a musical orchestra

group, showed more improvement in their language proficiency. This was evident in their ability to read and write well in the L2 in comparison with peers who adhered to the classroom-based syllabus and initiatives.

Whitworth (2006) also determines that if L2 learners engage in activities outside of their classroom, it contributes to their L2 learners' development more than the L2 learners who remain engaged only inside the classroom. Hence, the importance of these findings to the present study is that they identify the influential role of interaction with target language speaking community members (Krywulak, 1995) and outside classroom social interaction (Fraser, 2002) in improving L2 proficiency.

For example, Wiklund (2002), examining how the nature of the social networks within which the immigrant participants took part influenced their L2 learning, found that the students who were strongly networked with the native speakers demonstrated better competence in the Swedish language. The main aim of his research was to evaluate the influence of broader social networks on progress and competence in the target language. He examined the subset of three close friends of an immigrant in Sweden. These friends belonged to three distinctive groups, with one belonging to Sweden and the other belonging to any other group which was neither Swedish nor the same as the individual's own ethnic group. Wiklund then measures the density, multiplexity as well as the frequency of interactions these actors had and then compares their performance with performance in Swedish.

Later studies have looked at how motivation, target language attitudes as well as social interaction influence the speaking proficiency of Spanish L2 learners within the Argentinian context (Isabelli-Garcia, 2006) and the role of context and contacts in L2 learning (Segalowitz & Freed, 2004). The study by Isabelli-Garcia (2006) revealed a positive relationship between native speakers and competence in the target language and the influential role of casual interaction between L2 learners and native speakers on target language performance. Examining the speaking competence of Spanish language learners studying the target language while at home and in the target language contexts, the study found that the learners in the native speaker community improved their oral proficiency to a greater extent.

The literature shows that learners with strong familial and friendship ties with members from the same ethnic background are unable to improve their language speaking abilities (e.g Krywulak, 1995). However, the students who can create strong ties with native speakers improve significantly in their L2 proficiency (e.g. Isabelli-Garcia, 2006; Segalowitz & Freed, 2004; Wiklund, 2002). In conclusion, the findings of the studies reviewed in this section suggest that international learners should make efforts to engage and interact more with target language

speakers so that they may receive consistent language input and increase their language proficiency.

### Methodology

This study attempts to find answers to the following questions:

- 1. Based on the notions of multiplex and uniplex social networks, what are the networks participated in by the language learners within the study?
- 2. In what ways do the participants' social networks influence their L2 gains and proficiency?
- 3. How does the dominant use of L<sub>1</sub> by the participants affect the establishment of social networks which lead to L<sub>2</sub> gains?

This research adopts a case study approach as the objective is to look at the social networks of L2 learners within a specific tertiary educational setting in an urban area. Hence, this case study aims at exploring the impact of multiplex and open social networks on L2 proficiency of undergraduate Pakistani students. Questionnaires were administered to collect information on the participants' social networks. Based on self-rating of L2 proficiency, participants with varying degrees of L2 competence were invited to participate in semi-structured interviews for gaining insight into their ESL proficiency and nature of social networks.

Through purposive sampling (Patton, 2002), 10 undergraduate Pakistani students were selected and they had a mix of competent L2 speakers and L2 speakers with limited proficiency in their social network structures. The 10 participants were given questionnaires to fill and then, based on their responses and L2 competence, a sample of three participants across the proficiency spectrum was chosen for interviewing. The three interviewees selected comprised one advanced L2 Learner, an average L2 Learner and a below average L2 Learner. The interview was semi-structured and included open-ended questions to generate more in-depth responses.

Qualitative interviewing was chosen as it was seen to enable the understanding of the world from the subjects' points of view, to unfold the meaning of people's experiences, to uncover their lived world prior to scientific explanations (Kanglong & AfzaaL, 2020; Kvale, 1996).

## **Data analysis**

The majority of the learners were female (80%) and except for one participant, they were aged between 22-25 years. A large percentage of the participants (60%) had qualified FA/FSc, and almost all of the participants had received primary and secondary schooling in English within an urban setting. In view of the above, the sample was sufficiently homogenous in terms of their schooling and the language

of their education to allow for an examination of the impact of social networks on their L2 proficiency.

### Participant No. 1

Pı's network was made up equally of family (persons 1 & 2) and colleagues (persons 3&4). P1 listed down his mother and wife (persons 1 & 2) and colleagues (person 3 & 4) as the people he interacted with the most. Pi communicated in Urdu with his mother (person 1) and English and Urdu with his wife (person 2) and in English with his colleagues (persons 3 & 4). With his family members, P1 tended to engage in leisure talk, while with his colleagues, he communicated on topics related to business and work. With all four participants, P1 interacted less than 2 hours each daily, suggesting somewhat limited interaction. P1 rated his interactants' English proficiency as limited (persons 1, 3 & 4), whereas person 2's proficiency was rated as developing. P1 noted that he was not hesitant in communicating with interactants who predominantly used English, suggesting his own confidence in using English for communication purposes. P1 noted that speaking with person 2 (wife) helped them to improve their English language proficiency mutually, but speaking with his colleagues did not as he did not find their 'level of English' to be 'good'. P1 reported that watching movies in English language was the most important factor in helping him to develop his English proficiency beyond the classroom.

Table 1: Participant 1's social network

	Person 1	Person 2	Person 3	Person 4	
Language used to communicate	Urdu	English & Urdu	English	English	
Number of hours interacted	Less than 2 hours	Less than 2 hours	Less than 2 hours	Less than 2 hours	
Ties/Connections	Mother	Wife	Coworker	Co-worker	

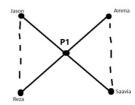


Figure 3: Analysis of Pi's social network:

Pi's social network is uniplex. He communicates with all four of the people for less than 2 hours. His wife and mother are loosely tied to each other as they talk on weekly basis. His coworkers are also loosely connected as they all share no relationship outside of their work place.

Table 2 The Degree of all nodes in Pı's social network:

Node	Degree
nı: Amma	1
n2: Saavia	1
n3: Jaison	1
n4: Reza	1
Density of valued graph:	0.6

### Participant No. 2

P2's network was made up of mostly family (persons 1, 2 & 4) and one friend (person 3). P2 listed down her mother and sister (persons 1 & 2), friend and niece (persons 3 & 4) as the people she interacted with the most. P2 communicated in Urdu with her mother (person 1) and English and Urdu with her sister (person 2) and in English/Urdu with her friend (person 3) and Urdu with her niece (person 4). With her mother, friend and niece, P2 tended to engage in discussions around entertainment, while with her sister, she communicated on topics related to academics. With all four participants, P2 interacted less than 2 hours each daily, suggesting somewhat limited interaction. P2 rated her interactants' English proficiency as limited (persons 1 & 4), whereas person 2 and 3's proficiency was rated as developing. P2 noted that she was not hesitant in communicating with interactants who predominantly used English, suggesting her own confidence in using English for communication purposes. P2 noted that speaking with any of the people did not influence the way she communicates or understands English in any way, or vice versa. However, the academic settings and entertainment have also played roles in influencing her communication and understanding of English language. P2 reported that watching movies in English language was the most important factor in helping her develop her English proficiency beyond the classroom.

Table 3: Participant 2's social network

	Person 1	Person 2		Person 3	Person 4
Language used to	Urdu	English	&	English &	Urdu
communicate		Urdu		Urdu	
communicate		Urdu		Urdu	

Amount of hours interacted	Less than 2 hours	Less than 2 hours	Less than 2 hours	Less than 2 hours
Ties/Connections	Mother Family/social	Sister Family/social	Friend Class mate	Niece

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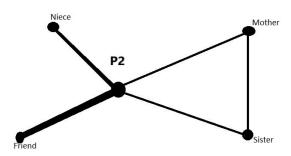


Figure 4: Analysis of P2's social network

P2 shares a multiplex bond with her friend as they are best friends as well as classmates. With her mother and sister, she shares a close multiplex bond as well because they're family members. So they usually have lunch together, go out together, etc. However, with her niece she shares a uniplex bond.

Table 4: The Degree of all nodes in P2's social network:

Node	Degree
nı: Mother	2
n2: Sister	2
n3: Friend	2
n4: Niece	1
Density of valued graph:	0.5

## Participant No. 3

P3's network was made up mostly of family (persons 1, 2 & 3) and one friend (person 4). P3 listed down her family (persons 1 2 & 3), and friend (person 4) as the people she interacted with the most. P3 communicated in English with Sadaf (person 1)

and English and Urdu with Jahanzaeb (person 2) and in Urdu with Maham (person 3) and Englis/Urdu with Yawar (person 4). With Sadaf, Maham and Yawar, P3 tended to engage in entertainment talk, while with Jahanzeb, she communicated on topics related to Politics. With Sadaf and Yawar (person 1 & 4), P3 interacted for 3-5 hours, with Jahanzeb (person 2) for more than 5 hours, with Maham (person 3) for less than 2 hours. P3 rated person 1's English proficiency as advance, whereas person 2, 3 and 4's proficiency was rated as developing. P3 noted that she was not hesitant in communicating with interactants who predominantly used English, suggesting her own confidence in using English for communication purposes. P3 noted that speaking with any of the people did influence the way she communicates or understands English. As she used to be shy when she was a teenager and couldn't communicate in English, however, her conversations with Sadaf helped improve her English-speaking skills.

P<sub>3</sub> reported that watching movies in English language was the most important factor in helping her develop her English proficiency beyond the classroom.

	Person 1	Person 2	Person 3	Person 4
Language used	English	English &	Urdu	English &
to communicate		Urdu		Urdu
Number of	3-5 hours	More than 5	Less than 2	3-5 hours
hours		hours	hours	
interacted				
Ties/Connectio	Cousin	Brother	Cousin	Best
ns	Friend/soci	Friend/soci	Best	Friend/soci
	al	al	Friend/soci	al
			al	

Table 5: Participant 3's social network

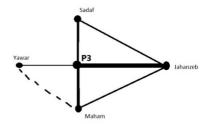


Figure 5: Analysis of P3's social network

P<sub>3</sub> shares a multiplex bond with the people she mentioned except for Yawar (person 4) with whom she shares a uniplex bond. Sadaf is her cousin as well as her friend which is why they do multiple activities together and talk 3-5 hours daily. The person 2 is her brother who is also her friend so they talk more than 5 hours per day. Person 3 is another cousin Maham who communicates with P<sub>3</sub> for less than 2 hours per day. Yawar, the fourth person, is Hanya's best friend and they communicate every day for more than 5 hours. They also go out together, socialize etc. Sadaf, Jahanzeb and Maham are all close with each other because they're cousins. However, only Maham is friends with Yawar.

Node	Degree
nı: Sadaf	2
n2: Jahanzeb	2
n3: Maham	2
n4: Yawar	1
Density of valued graph:	0.7

Table 6: The Degree of all nodes in P3's social network

### Participant No. 4

P4's network was made up equally of family (persons 3 & 4) and friends (persons 1 & 2). P4 listed down her family (persons 1 & 2), and friends (3 & 4) as the people she interacted with the most. P4 communicated in English and Urdu with Maaz (person 1) and English and Urdu with Mihr (person 2) and in Urdu with Ami (person 3) and Englis/Urdu with Abu (person 4). With Maaz and Mihr (persons 1, 2 & 3), P4 tended to engage in leisure talk, with Ami, she tended to engage in entertainment talks while P4 engaged in talking about Business with Abu (Person 4). With Maaz (Person 1), P4 interacted for 3-5 hours, with Mihr (Person 2), Ami (Person 3) and abu (Person 4) for less than 2 hours. P4 rated Maaz's (Person 1) English proficiency as advance, Mihr's (Person 2) as developing (Person 2), Ami's (Person 3) as limited and Abu's (Person 4) English proficiency as developing. P4 noted that she was hesitant in communicating with interactants who predominantly used English, suggesting her own lack of confidence in using English for communication purposes. She stated that she got anxious around people that had nice accents because it made her feel self-conscious. P4 also noted that speaking with any of the people did influence the way she communicates or understands English as, in her view, watching excessive YouTube videos helped her and Mihr (person 2) a lot. Maaz (person 1) uses quite difficult words as part of his normal conversations hence that helped increase her vocabulary. P4 reported that watching movies in English language was the most important factor in helping her develop her English proficiency beyond the classroom.

	Perso		Person 3	Person 4
	n ı			
Language used	Englis	English and	Urdu	English and
to	h and	Urdu		Urdu
communicate	Urdu			
Number of	3-5	Less than 2	Less than 2	Less than 2
hours	hours	hours	hours	hours
interacted				
Ties/Connectio	Best	Best	Mother	Father
ns	friend	Friend/soci	Family/soci	Family/soci
110	mena	al	al	al
		Class mate		

Table 7: Participant 4's social network

Maaz P4 Abu

Figure 6: Analysis of P4's social network:

P4 shares a multiplex network with her parents and Mihr. However, it is uniplex with Maaz as she only communicates with him on phone for 3-5 hours. She has the strongest ties with Mihr as she is her childhood best friend as well as classmate and they do multiple activities together like socializing, shopping, going out and studying. P4 shares a close multiplex bond with her parents as well because, as a family, they do multiple activities together, and a bond with family members living together cannot be uniplex because you are tied to them in various activities.

Table 8: The Degree of all nodes in P4's social network

Node			Degree
nı: Maaz			1
n2: Mihr			2
n3: Ami			2
n4: Abu			2
Density o	of v	alued	0.6
graph:			

### Participant No. 5

P5's network was made up equally of family (persons 1 & 4) and friends (persons 2 & 3). P5 listed down her family (persons 1 & 4), and friends (Person 2 & 3) as the people she interacted with the most. P5 communicated in English and Urdu with all which include Anum, Minahil, Majid, Shahzeb (Persons 1, 2, 3 & 4). With all 4 persons, P5 tended to engage in leisure talk. With Anum (Person 1), P5 interacted for 3-5 hours, with Minahil and Majid (Persons 2 & 3) for less than 2 hours, and with Shahzeb (Person 4) for more than 5 hours. P5 rated all 5 people's English proficiency as Advance. P5 noted that she was not hesitant in communicating with interactants who predominantly used English, suggesting her own confidence in using English for communication purposes. P5 noted that speaking with any of the people did influence the way she communicates or understands English as she says that Minahil (Person 2) makes me want to improve my writing skills. P5 reported that socializing with people who are competent English language speakers was the most important factor in helping her develop her English proficiency beyond the classroom.

Table 9: Participant 5's social network

	Person 1		Person 3	Person 4
Language used	English and	English and	English and	English and
to communicate Urdu		Urdu	Urdu	Urdu
Number of hours 3-5 hours		Less than 2	Less than 2	More than 5
interacted		hours	hours	hours
Ties/Connection Sister		Best	Friend/Socia	Brother
<b>s</b> Family/socia		Friend/socia	1	Family/socia
1		1	Neighbor	1
		Neighbor		

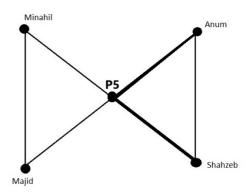


Figure 7: Analysis of P5's social network

P5 shares a multiplex bond with her siblings as they do many daily social activities together. She shares a multiplex close bond with Majid and Minahil as they are friends who talk regularly, do social activities, and are neighbors.

Table 10	The Deg	ree of all	nodes in	P5's	s social	network

Node	Degree
nı: Anum	2
n2: Minahil	2
n3: Majid	2
n4: Shahzaib	2
Density of valued graph:	0.6

## Participant No. 6

P6's network was made up of mostly friends (persons 1, 3 & 4) and other (person 2). P6 listed down her friends (persons 1, 3 & 4), and other (person 2) as the people she interacted with the most. P6 communicated in English and Urdu with Rameen, Hamza (persons 1, 3 & 4) in English and Urdu, in English with Furqan (person 2). With Rameen and Sara (persons 1 & 4), P6 tended to engage in entertainment talks, with Hamza (Person 3), P6 engages in leisure talks, and with Furqan (Person 2), P6 is engaged in talking about Academics. With Rameen, Hamza and Sara (persons 1, 3 & 4), P6 interacted for 3-5 hours, with Furqan (Person 2) for more than 5 hours. P6 rated Rameen, Hamza and Sara's (persons 1, 3 & 4) English proficiency as developing, Furqan's (person 2) English proficiency as advance. P6 noted that she was not hesitant in communicating with interactants who predominantly used

English, thereby suggesting her own confidence in using English for communication purposes. P6 noted that speaking with any of the people did influence the way she communicates or understands English as she states that talking to them constantly helped improve her language skills. P6 reported that socializing with people who are competent English language speakers was the most important factor in helping her develop her English proficiency beyond the classroom.

	Person 1	Person 2	Person 3	Person 4
Language used to communicate	English and Urdu	English	English and Urdu	English and Urdu
Amount of hours interacted	3-5 hours	More than 5 hours	3-5 hours	3-5 hours
Ties/Connections	Friend/Social University fellow	Best Friend/Social	Friend/social	Friend/social

Table 11 Participant 6's social network

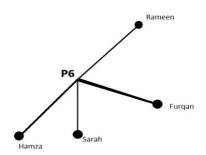


Figure 8: Analysis of P6's social network

P6 shares a uniplex bond with her friends Furqan, Sarah and hamza but, with Rameen, she shares multiplex bond as they are friends as well as university fellows. Her friends are not familiar with one another. She talks to Furqan (person 2) the most (more than 5 hours) which is why she shares the strongest ties with him. However, with the rest of her friends, she talks only for 3-5 hours.

Table 12: The Degree of all nodes in P6's social network

Node	Degree
nı: Rameen	2
n2: Furqaan	1
n3: Hamza	1
n4: Sarah	1
Density of valued graph:	0.4

### Participant No. 7

P7's network was made up of family (persons 1, 2), friends (person 3) and others (person 4). P7 listed down her parents (person 1), siblings (person 2), friends (person 3) and teachers (person 4) as the people she interacted with the most. P7 communicated Urdu with parents (person 1) and English and Urdu with siblings, friends, and teachers (persons 2, 3 & 4). P7 tended to engage in leisure talk with parents (person 1), entertainment with siblings and friends (persons 2 & 3), while P7 engaged in talking about academics with teachers (person 4). P7 interacted for 3-5 hours, siblings and teachers (Person 2&4), for more than 5 hours with parents (Personi), and for less than 2 hours with friends. P7 rated parents and friends' (person 1 & 3) English proficiency as limited, siblings and teachers' (person 2&4) English proficiency as advance. P7 noted that she was not hesitant in communicating with interactants who predominantly used English, thereby suggesting her own confidence in using English for communication purposes. P7 noted that speaking with any of the people did influence the way she communicates or understands English in any way, or vice versa. She states that since her parents do not understand this language, it affected her communication skills in the language, and she would not feel confident participating in class in English. However, by communicating with siblings and teachers in English language, she was able to improve. P7 reported that watching movies in English language was the most important factor in helping her develop her English proficiency beyond the classroom.

Table 13: Participant 7's social network

	Person 1	Person 2	Person 3	Person
				4
Language used to	Urdu	English and	English and	English
communicate		Urdu	Urdu	and
				Urdu
Amount of hours	More than 5	3-5 hours	Less than 2	3-5
interacted	hours		hours	hours

Ties/Connections	Parents	Sibling	Friend/social	Teacher
	Family/social	Family/social	Class mates	

Parents

Teacher P7 Siblings

Figure 9: Analysis of P7's social network:

P7's social network is multiplex as she mostly communicates with her parents and siblings on a daily basis, and together they do a lot of social and daily activities. She talks to her teachers 3-5 hours per day but shares no other ties with her teachers. She shares a multiplex bond with her friend as they are her classmate too.

Table 14: The Degree of all nodes in P7's social network

Node	Degree
nı: Parents	2
n2: Siblings	2
n3: Friends	2
n4: Teacher	1
Density of valued graph:	0.5

#### Discussion

In this section, we discuss findings with reference to the controlling questions mentioned above. Here we take up questions one by one. Question 1 reads: "Based on the notions of multiplex and uniplex social networks, what types of social networks do the participants interact with at university and at home?" The findings show that the ten selected participants interacted mainly with multiplex closed networks in their family and as these social networks comprised family members, the networks were dense in nature. Through our analysis of the social networks of undergraduate Pakistani students, it is identifiable that they tend to participate in close multiplex networks more often than in open multiplex/uniplex networks.

Question 2 reads: "In what ways do the participants' social networks influence their L2 gains and proficiency?" The analysis of the data shows that all the participants were able to communicate in English to varying levels of proficiency. Many of them observed that they had experienced schooling in English since early childhood and that they used English for social communication in their social networks. Most of the participants used both English and Urdu in their social networks to communicate, with communication in English taking place in interaction with their friends and Urdu being used for communicating with family. According to the participants, they used Urdu with family members because it was more informal and was used in conversation at home. However, amongst friends, they are more likely to converse in English because of the multiple connections they shared with their friends. For instance, participant (4) mentioned that their close friends were also their classmates and they often did university projects together so they had more opportunities to talk to one another in English in professional formal settings and informal settings too. This shows that participants who share multiplex open networks with their peers are more likely to communicate in English.

The study finds that when social networks were uniplex and closed, gains in L2 proficiency were slow (P1), whereas when the social networks were strong, open and multiplex, speakers' L2 competence improved (P5). Interestingly, the analysis also shows that if the networks were open but largely uniplex, L2 gains were likely to be limited (P6). Social networks with multiplex, yet largely closed bonds (e.g. family-oriented) were also not likely to result in advances in L2 proficiency (P7).

Multiplex bonds with opportunities to interact with members of social network in informal and academic settings in addition to extended interaction with these peers were found to be beneficial for L2 competence development (P8). The study also finds that when the networks were largely closed (e.g largely family-oriented) but multiplex bonds existed with opportunities for L2 interaction at home and university (P10), and closed social network members were advanced L2 speakers with whom the participant had extended L2 interaction (P9), L2 gains were discernible.

Question 3 reads: "How does the dominant use of L1 by the participants affect the establishment of social networks which lead to L2 gains?" The analysis of questionnaire data shows that participants are more inclined towards family-oriented social networks and that in these family-based social networks, the participants are more likely to converse informally and use Urdu because of their comfort level with the language. However, it was observed that when the social network bonds were characterized by more open and multiplex bonds, the participants experienced more development of their L2 language skills through exposure to language, vocabulary, and language in use.

The analysis of data discussed above shows that participants (1, 2, 4, 7, 6) had limited to below average L2 proficiency (self-reported). While participating in uniplex and closed networks, these participants (P1, P2, P4 & P7) largely used Urdu to communicate. There were one or two members in their networks with whom they shared multiplex and open bonds, but the limited amount of times they spent interacting with their friends or peers at university or outside university meant that they had few opportunities to develop their L2. However, the participants (2, 5, 8, 9, & 10) had above average L2 proficiency because they participated in multiplex and open networks and used English to communicate often. Further, multiple interactions in different settings both academic and outside school helped them use English language more frequently.

These survey responses of 10 participants were then thematically analyzed and three of them were chosen through purposive sampling based on participants' self-rated L2 proficiency.

Participant 9 was selected as advanced L2 LL, Participant 2 was selected as average L2 LL and Participant 4 was selected as poor L2 LL. The interview conducted with these participants was semi-structured and based on their survey responses. It was then thematically analyzed and the following themes were identified.

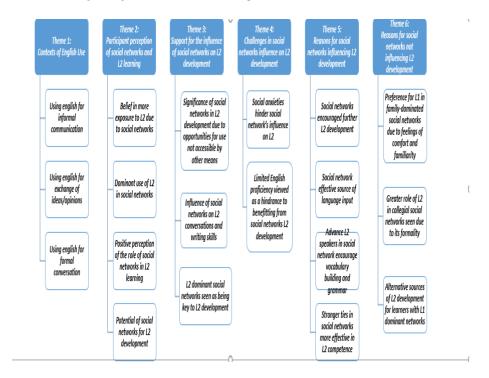


Figure 11: Theme-based analysis

### Theme 1: Context of English use

This theme is in line with the participants' interview responses, as the average participant states that "when we have intellectual discussions, we automatically switch to English, maybe because we are taught in English in our institutions, which is why we switch to it." Supporting the sub-theme b (Using English for exchange of ideas and opinions), the average L2 language learner states: "I don't talk in English with my social circle very frequently but, often, while discussing topics of educational nature and exchanging productive ideas." Similarly, advanced L2 Language Learner states: "I use English to discuss work with fellow colleagues, my ideas/opinions and to express my observations". Hence, we find that most L2 learners use L2 for formal conversations.

# Theme 2: Participants' perceptions of social networks and L2 Learning

Regarding these sub-themes, the advanced L2 LL observed that "it is important to have competent English speakers in your circle because it exposes you to the language on an advanced level", suggesting the importance of social networks for exposure to L2 that provides more complex input. Similarly, the less proficient L2 LL stated in the interview that "it helped me a lot. I would give credit of whatever English language skills I've developed to the fact that I had people around me who were good speakers of the language; Mihr and I used to talk to each other in English and because of that both of our [sic] language improved". The average L2 speaker also showed strong belief in the development of L2 if one uses it dominantly in social circle, stating "yes it does help develop skills because you're exposed to language more". The advanced L2 LL also observed that "having competent speakers around oneself means being able to have a conducive environment to learning and then using it competently". The study by Segalowitz and Freed examined the influence of setting and interaction in L2 learning. Their context included home-based study and studying as an international student. The oral language competence of Spanish language learners was examined in these settings. The findings demonstrated that such learners made more improvements in speaking ability within the target language as compared to those studying at home.

# Theme 3: Support for the influence of social networks on L2 development

The first sub-theme "influence of social networks on L2 conversation and writing skills" is supported by the statement of participant 9 who says that "it also influences the way I use L2 in written expression as well". The second sub-theme "Significance of Social networks in L2 development due to opportunities for use not accessible by other means" is supported by participant's statement that "Without

social networking/communication, one will not use the acquired language and, hence, will not be able to build proficient language skills in L2".

The less proficient LL stated in the interview that "I would give credit of whatever English language skills I've developed to the fact that I had people around me who were good speakers of the language". Upon consulting the literature review presented in the start of the study, we recognize a research with similar findings conducted by Krywulak (1995). This study shows that the international students participated in co-national as well as host social networks. This study highlights that the host national networks helped the students improve language competency at a greater level as well as get more familiar with the host culture and traditions. Hence, the present study supports the argument that forming strong ties with host national networks will be beneficial for students' linguistic competence. When we apply this study to the context of our research, we find that it supports the use of L2 in social network and provides more opportunities to develop language competence. The third sub-theme "L2 dominant social networks seen as key to L2 development" is proven through the participant's statement that "interacting with my immediate social circle more enabled [sic] me to use L2 and encouraged me to continue learning more of it". Another participant states that "I think it does (social network develops L2 skills); if I talk generally I'd say yes it does because you're exposed to language more". The research done by Fraser (2002) mentioned in the literature review further supports this theme. As Fraser (2002) found, the LL who participated in more social interactions in L2 contexts, such as joining a camp, or a volunteer group or a musical orchestra group, showed more improvement in their language proficiency. This language improvement was evident in their ability to read and write in the target language as opposed to learners who stuck to the classroom-based syllabus and initiatives. Hence through this we conclude that more interaction with a social network that uses L2 predominantly encourages L2 development.

# Theme 4: Challenges in social networks and their influence on L2 development

For the first sub-theme "Social anxieties hinder social network's influence on L2," the participant states that "I don't consider myself a highly competent English speaker or an advanced speaker because of my social anxieties". For the second sub-theme of "Limited English proficiency viewed as a hindrance to benefitting from social networks L2 development", the participant states that "when someone talks to me in English, I immediately feel threatened and self-conscious that I may make a mistake and I'm not able to talk to them in English". This barrier is heavily supported in both international and national literature. A Pakistani study also exists on the topic conducted by Bhatti (2018) on "Investigating the Perceptions of L2 Learners on Language Learning Anxiety: A Study of Undergraduate Students". The present investigation supports earlier research in different L2 and EFL settings,

such as those focused upon by Wilson (2006) and Horwitz (2001) which show that anxiety in L2 learning hinders target language acquisition in academic and social settings.

# Theme 5: Reasons for social network influencing L2 development

The sub-theme "social networks encourage further L2 development" is proven through the participant's statement that "it is important to have competent English speakers in your circle because it exposes you to the language on an advanced level". Social network intensity has been established as a significant factor through the study conducted by Dewey et al. (2012) which examined the social networks of Arabic learners. They found that the L2 language learners who forged strong connections with native speakers showed more progression in L2 learning than peers who lacked such connections. Hence, we also establish that if an individual's social network comprises competent L2 speakers, it determines better L2 language development and language gain. "Social networks [also comprise an] effective source of language input" with one of the participants noting that "Maaz helped me by correcting me and teaching me". The next sub-theme is "Advanced L2 speakers in social network encourage vocabulary building and grammar" which is supported by the participant's statement that "his use of vocabulary really helped mine because I'd constantly have to check the dictionary to know what he means [sic] so that I don't embarrass myself in front of him". Both these themes are supported by the literature review in Fraser's study.

# Theme 6: Reasons for social networks not influencing L2 development

The first subtheme "Preference for L1 in family-dominated social networks due to feelings of comfort and familiarity" is identified through a participant's statement: "I think because my social circle is mainly my friends and family, so we're more comfortable talking in our native language. It has to do with our environment even. . . . with Urdu [sic] we've been speaking it since we were born, we share jokes in Urdu and it's homey". Another participant stated that "with my father and mother, I talk in Urdu because we talk informally". Krashen (1985) claims that learners with low motivation and anxiety can both cause the affective filter to rise and form a "mental block" that acts as a resistance in the face of any comprehensible input from being used for acquisition. Hence, the L1 use reduces the L2 LL's anxieties and enhances the affective environment for learning". Through this review of Krashen's study on affective filter, we understand that the reasons L2 LL resort to L1 in their social networks is because of feelings of comfort; however, this has little to no effect on their L2 development. The second subtheme "Greater role of L2 in collegial social networks due to its formality" is identified through the statement by average LL that "if my social circle consisted of my colleagues then perhaps I'd be using English more because it has a formal touch to it". The advanced participant stated that "I use English to discuss work with fellow colleagues, my ideas/opinions and to express my observations."

Literature on SLA has focused on how L2 learners' social networks influence their speaking competence and learning in English. This study inquired into the nature of the social networks Pakistani ESL learners form in a setting wherein the language they are learning is a second language. While claims as to the generalizability of this study are not possible due to the limited sample, the present research provides insights of utility to the Pakistani ESL context. It confirms that when L2 learners have a social circle that is dense, strong, open, and multiplex, they will show better L2 competence and performance as compared to an L2 learner who has closed but multiplex or closed and uniplex networks. The study also reveals that the participants who had more diverse social networks (social networks that comprised friends more than family) reported more effective L2 comprehension as did participants with social networks comprising advanced L2 speakers in the family.

#### **Declaration of Conflicts of Interest**

The authors declared no conflicts of interest with respect to the authorship and publication of this article.

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