REPUBLIC OF TÜRKİYE
YILDIZ TECHNICAL UNIVERSITY
GRADUATE OF SOCIAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGES
ENGLISH LANGUAGE EDUCATION MA PROGRAM

MASTER'S THESIS

CROSSLINGUISTIC INFLUENCE ON SYNTACTIC COMPLEXITY IN THE FORMAL AND INFORMAL SPEECH OF MULTILINGUAL SPEAKERS

SARA SELEN ÖZTÜRK
237C5018

SUPERVISOR
ASST. PROF GÜLÜMSER EFEOĞLU

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237C5018
ORCID NO: 0009-0001-6899-7180

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ASST. PROF GÜLÜMSER EFEOĞLU

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Sara Selen Öztürk tarafından hazırlanan "Çok Dilli Bireylerin Resmi ve Resmi Olmayan Konuşmalarındaki Sözdizimsel Karmaşıklık Üzerindeki Çapraz Dil Etkisi" başlıklı çalışma, **30/03/2026** tarihinde yapılan savunma sınavı sonucunda oybirliği ile başarılı bulunmuş ve jürimiz tarafından Yabancı Diller Eğitimi Ana Bilim Dalı İngiliz Dili Eğitimi Programında **YÜKSEK LİSANS** tezi olarak kabul edilmiştir.

Danışman	**İmza**
[Dr. Öğretim Üyesi Gülümser EFEOĞLU]	……

Jüri Üyeleri	**İmza**
[Prof. Dr. Hatice Gülru YÜKSEL]	……
[Prof. Dr. Saman HASHEMİPOUR]	……

ABSTRACT

CROSSLINGUISTIC INFLUENCE ON SYNTACTIC COMPLEXITY IN THE FORMAL AND INFORMAL SPEECH OF MULTILINGUAL SPEAKERS

Within the recent shifts in approaches to language teaching, using language to communicate has gained enormous importance. Thus, the research on productive skills of the language has attracted greater attention by putting emphasis on language performance studies in second language acquisition (Vercellotti, 2018). In the context of English as a Foreign Language, spoken production is closely tied to syntactic complexity of the target language because due to the cognitive load that learners cope with throughout the production of speech, it is put forward to reflect complex language use better (Vercellotti, 2018). Hence, the interaction between the two plays a crucial role in understanding how English learners from different multilingual backgrounds manage the cognitive demands of L2 English production. Considering these, the aim of the current study was to investigate the crosslinguistic influence of previously acquired languages on L2 and L3 English syntactic complexity in formal and informal speech of B1-B2 level multilingual groups. A total of 17 participants were enrolled in the study. Following a purposeful sampling procedure seven participants were recruited for L3 English group, four for the L2 English group and six for the native speaker (NS) group. Adapting a causal-comparative design, spoken data were collected through individual online interviews conducted with each group using the Language Situations elicitation technique (Wiese, 2020). After identifying syntactic complexity measures based on L2 syntactic complexity analyzer (Kim & Lu, 2024) quantitative data analyses were performed. The results of the analyses showed that L3 English group outperformed L2 English group in terms of mean length of AS units, clauses, the number of dependent clauses and complex nominals. In addition, within registers native speaker (NS) group outperformed L2 and L3 English group in mean length of AS-units, the number of clauses per AS-units, complex AS-units per AS-units, and verb phrases per AS-units. Furthermore, crosslinguistic proximity of previously acquired languages to the target language was found out to have a prominent impact on L2 and L3 English spoken production. The linguistic proximity of previously acquired languages was found to be equally effective in the usage of different linguistic properties. Lastly, the structural analysis revealed that crosslinguistic effects are present in grammatical errors in AS-units in L2 and L3 groups' spoken production.

Keywords: Crosslinguistic influence, syntactic complexity, multilingualism, acquisition of English as a foreign language.

ÖZET

ÇOK DİLLİ BİREYLERİN RESMİ VE RESMİ OLMAYAN KONUŞMALARINDAKİ SÖZDİZİMSEL KARMAŞIKLIK ÜZERİNDEKİ ÇAPRAZ DİL ETKİSİ

Dil öğretimi yaklaşımlarındaki yeni değişmelerle birlikte dili iletişim kurmak için kullanmak büyük önem kazandı. Bu sebeple ikinci dil edinimi alanındaki dil performansı çalışmalarına vurgu yapılarak dilin üretken becerileri üzerine olan çalışmalar büyük ölçüde dikkat çekti (Vercellotti, 2018). Yabancı Dil Olarak İngilizce bağlamında konuşma üretimi, hedef dilin sözdizimsel karmaşıklığına yakından bağlıdır. Dolayısıyla farklı çok dil geçmişine sahip olan İngilizce öğrenenlerin ikinci dil İngilizce üretimindeki bilişsel taleplerle nasıl başa çıktığını anlamada konuşma üretimi ve sözdizimsel karmaşıklık arasındaki etkileşim önemli bir rol oynamaktadır. Bütün bunlar düşünüldüğünde bu çalışmanın amacı B1-B2 seviyesindeki çok dilli grubun önceden edinilmiş dillerinin resmi ve resmi olmayan İngilizce konuşmalarındaki sözdizimsel karmaşıklık üzerindeki çapraz dil etkisini araştırmaktır. Çalışmanın amacı doğrultusunda amaçlı örnekleme tekniği kullanılarak GER-ITA-ENG grubu için yedi, TUR-ENG grubu için dört ve NS grubu için altı katılımcı bulunmuştur. Yarı deneysel dizayn kullanılarak her bir gruptan konuşma verisi Dil Durumları (Language Situations) söyletim tekniği (Wiese, 2020) ile çevrimiçi görüşmelerde toplanmıştır. İkinci Dil Sözdizimsel Karmaşıklık Analizörüne (L2 Syntactic Complexity Analyzer) (Kim & Lu, 2024) göre sözdizimsel karmaşıklık ölçütleri belirlendikten sonra nicel analizler yapılmıştır. Analizlerin sonucuna göre GER-ITA-ENG grubu ortalama konuşma ünitesi ve cümlecik uzunluğunda, bağımlı cümleciklerde ve karmaşık isim öbeği kullanımlarında TUR-ENG grubunu geçmiştir. Buna ek olarak, resmi ve resmi olmayan konuşmalar arasındaki grup farklarında ana dili İngilizce olan grubun diğer grupları ortalama konuşma ünitesi, her bir konuşma ünitesindeki cümlecik sayısı, her bir konuşma ünitesindeki karmaşık konuşma üniteleri ve her bir konuşma ünitesindeki fiil öbeği kullanımlarında geçmiştir. Buna ek olarak, önceden edinilen dillerin hedef dile olan yakınlığının ikinci ve üçüncü dil olarak İngilizce konuşma üretiminde belirgin bir etkisi olduğu bulunmuştur. Farklı dil yapılarının kullanımında önceki dillerin dilbilimsel yakınlığının eşit derecede etkili olduğu bulunmuştur. Son olarak yapısal analiz ikinci ve üçüncü dil gruplarının konuşma üretimindeki konuşma ünitelerinde yer alan gramer hatalarında çapraz dil etkisi olduğunu ortaya koymuştur.

Anahtar Kelimeler: Çapraz dil etkisi, sözdizimsel karmaşıklık, çok dillilik, İngilizcenin yabancı dil olarak edinimi.

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"So, you are changing how people speak huh?"

Sara Selen ÖZTÜRK

March, 2026; İstanbul

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LIST OF ABBREVIATIONS

SLA	: Second Language Acquisition
L1	: First Language
L2	: Second Language
L3	: Third Language
CLI	: Crosslinguistic Influence
CEM	: Cumulative Enhancement Model
TPM	: Typological Primacy Model
LPM	: Linguistic Proximity Model
ESL	: English As Second Language
EFL	: English As Foreign Language
CAF	: Complexity, Accuracy and Fluency
AJT	: Acceptability Judgment Task
JEC	: Japanese-English-Chinese
NS	: Native Speaker
AS	: Analysis of Speech
L2SCA	: L2 Syntactic Complexity Analyzer

1. INTRODUCTION

In this chapter, the basis of the current study, and several intervening factors such as crosslinguistic influence and syntactic complexity in multilingual speech are explained in a detailed way. The purpose of the study is included in this chapter alongside the research questions which guided the course of it. Lastly, the importance of study in the SLA field is presented.

1.1. Background To The Study

Recently, approaches and methodologies to language teaching have fostered the importance of learning a language to communicate. This situation led to increase in language performance studies in the field by seeking various ways to provide theoretical backgrounds for productive skills of the language (Vercelotti, 2018). Ln, which is referred as any additional languages that are known, is one of the core elements in the field, and amongst all the ongoing discussion for how to refer languages that are known; current study refers to known languages based on their order of acquisition. Learning to speak in an Ln is stated as a considerably complex skill since the learner needs to master linguistic knowledge and processing abilities to negotiate the meaning and deliver a convenient message that they intended to (Leonard & Shea, 2017). Linguistic knowledge is the trigger for producing complex messages in speaking, and this complexity is widely referred as syntactic complexity. Syntactic complexity is defined as the usage of sophisticated structures in word, phrase and sentence level utterances (Hwang et al.,2020; Ortega, 2003). This notion leads to syntactic complexity being one of the most vital constructs in language performance studies.

Within the impacts of historical and political events, and globalization, multilingualism is another vital notion which attracted the attention and needs further investigation to have deep insights and its relation to previously investigated notions in SLA field (Mitchel et al., 2019). Cognitive processes of multilinguals are stated to be diverse and complex in their nature; therefore, they cause an urgent need to examine

linguistic factors such as crosslinguistic influence and dominance of the languages in transfer issues.

According to Odlin's (2012) definition, the term crosslinguistic influence refers to impacts of one language on other languages, and vice versa. Moreover, crosslinguistic influence not only affects comprehension but also affects production. Especially with multilinguals, it is pivotal to deepen knowledge and insights into how transfer works and which language or languages are dominant in syntactic complexity of spoken production. In addition, due to the development of variationist approaches to language, examining notions in different registers has become more of an issue in SLA field.

1.2. The Purpose of The Study

The need for further research on crosslinguistic influence in spoken production in second language acquisition field is remarked by De Clerq & Housen (2017). Furthermore, crosslinguistic influence issue is an inevitable aspect for multilingual research to understand the relationship among languages, their impacts to one another, and the process of third language acquisition whether it is processed in wholesale or property by property (Westergaard, 2017). Therefore, the stance of this study is to draw conclusions about how languages influence one another, how this situation has an impact on complex spoken language of learners in different registers, and their language acquisition processes.

Syntactic complexity which has been abundantly investigated in written production is mostly associated with detecting the proficiency levels of the learners; thus, majority of the complexity studies are related with proficiency. However, understanding other factors such as different first language backgrounds, additional languages, and productions in cognitively demanding situations is as significant as other dimensions to infer certain implications for language acquisition and learning. Therefore, the main aim of the current study is to examine crosslinguistic influence on syntactic complexity in spoken production across registers with learners from different first and additional language backgrounds.

The current study was carried out to have better perspectives and outcomes in how crosslinguistic influence exists in syntactic complexity of spoken production across registers in L3 English and L2 English, and which language is dominant or whether

previously acquired languages affect the process equally or not. Also, understanding the differences which presumed to exist in L3 English and L2 English speakers, and the role of crosslinguistic influence in this notion is one of the main aims; thus, the research questions which guided the study in aforementioned purposes are below:

1. Is there a difference in syntactic complexity between formal and informal speech among L2 English, L3 English, and NS groups?

    1.1 Is there a difference in syntactic complexity among L2 English, L3 English, and NS groups in formal speech?

    1.2 Is there a difference in syntactic complexity among L2 English, L3 English, and NS groups in informal speech?

2. What is the source language for CLI in L2 and L3 acquisition?

To find answers for the questions in the current study Language Situations Video (Wiese, 2020) which is an elicited production task was utilized in online interviews with the participants. Then, transcriptions of oral data were examined for quantifications of the data to run analysis and detect the differences. In addition, transcribed utterances were analyzed for presumed CLI effects.

1.3. Significance of The Study

Investigating crosslinguistic influence in any linguistic area is vital because starting with Contrastive Analysis which predicated on that different L1's have their places upon acquired languages beginning with initial stages of development. Within the evolving theories and models about crosslinguistic influence, its impacts on third language acquisition and multilingualism attracted greater attention because as Ortega (2019) stated multilingualism is a notion which cannot be denied and neglected recently. Furthermore, despite the vast majority of research, what triggers and what guides the transfer is not understood broadly (McMannus, 2022)

Since the related literature lacks studies including crosslinguistic influence on syntactic complexity with multilinguals, grounding the basis of this thesis in this topic is beneficial and suitable to have a clear understanding of one of the pivotal factors which needs further support in SLA research in linguistic properties. The research which based the framework of the current study involved multilingual participants for

instance, in her study Lyloyd-Smith (2021) investigated the dominant language that causes crosslinguistic influence in English as L3, and she found evidence for equal influence from L1 and L2. Moreover, Westergaard et al. (2016) who first proposed the framework and shaped its principles found evidence for equal transfer especially with children in several linguistic properties. However, there is not enough evidence and instances of studies, which examined the crosslinguistic influence in syntactic complexity specifically. Similarly, current literature has a huge gap regarding spoken production with L3 English and L2 English on the topic of the current research. Most of the studies consulted comparisons between written and spoken production to draw conclusions about syntactic complexity, and attained certain features to written language and other features to spoken language. Nonetheless, Mitchel & Myles and Marsden (2019) stated that due to the developments in online communication, the sharp line between written and spoken language became weak; therefore, attaining features to a specific modality may not be enough to explain its characteristics. Moreover, Biber & Conrad and Reppen (1998) stated that since knowing which linguistic features will be used or gain importance in modalities is nearly impossible, making distinctions is not sensible.

Lastly, as Vercellotti (2018) indicated contrary to the beliefs on the ability of written language in reflecting syntactic complexity better, the cognitive processes and its demands clearly point spoken language to be a better indicator of syntactic complexity due to the load that learners deal with when producing utterances in speaking. The challenging aspect of speaking is evident in the process.

In a nutshell, the substantial part of this study lies in its oral data from learners with different language backgrounds by aiming to have various perspectives, and understanding of how influence occurs and leads, and which language or languages are the sources for such influences on syntactic complexity, and how learners with same proficiency levels differs in speaking across registers in their complex utterances, and what the factors are in discrepancies.

Exploiting narration tasks with pictures, comics, videos, etc. to elicit naturalistic data in both written and spoken form is highly preferred by researchers in SLA field. Therefore, the current study utilized Language Situations, which is an elicited production task developed by Wiese (2020) to collect the oral data from participants via online interviews. Besides allowing for naturalistic data collection, one of the

fruitful aspects of this data collection tool is that it enables for register shift in its procedure.

The contributions of current study in literature are more diverse and exclusive insights about how crosslinguistic influence exists in spoken production in different language repertoires, and their interaction to one another in syntactic complexity. Taking L3 English into consideration and comparing them with L2 English speakers with different L1 backgrounds has great potential in providing apprehension in how second and third language acquisition occurs, and how they differ grammatically. Furthermore, the findings of the current study provide deep reflections on language learning process by attracting attention to transfer issues, which is one of the fundamental aspects of SLA field, and supporting facilitation while eliminating non-facilitation in learning is pivotal for learners who are struggling in language learning process.

2. LITERATURE REVIEW

In this chapter, key research on the topic of current study is shared and explained by defining the key terms, which are related to the current study. The focus of the chapter is shaped around the key terms such as multilingualism, CLI, syntactic complexity and register and previous studies are reviewed with their theoretical backgrounds and crucial findings, which contributed to the current study. In the last part of this chapter the framework of the study is discussed, and presented with its related literature and the theory which the framework is grounded in with the results of the former research.

2.1. Multilingualism and English as L3

With the advent of globalization, communication occurred as a necessity between people from multiple countries with variant language backgrounds. Along with English being lingua franca throughout historical events and migration, most of the countries had more than one official languages with additional language communities such as minority language speakers that they contain revealing the term multilingualism as its importance cannot be degraded. Maher (2017) defines societal multilingualism as a social notion which includes groups of people who interact with varying proficiency degrees in different languages. In addition, Maher (2017) highlights what a multilingual person is by drawing a line between mastering a language fully, and using language with several functions in diverse contexts. In prevalent definition of multilingualism individuals were defined as who can process two or more languages in an interaction (De Zarobe & De Zarobe, 2015; Wei, 2013).

The discussion of the distinctive features of being multilingual in terms of greater cognitive flexibility, increase in metalinguistic awareness, etc. (Butler, 2013; Aronin & Hufeisen, 2009; De Angelis, 2007; Hoffmann, 2001; Jessner, 2008) led researchers and educators to propose different definitions for multilingualism because majority of the researchers concur that multilinguals carry distinctive features, and being a multilingual does not equate to being monolingual or even bilingual (De Zarobe & De

Zarobe, 2015). By having several resources compared to monolinguals, multilinguals alternate languages for different purposes of communication with their interlocutors, and they use those languages in mixed or isolated fashion. In addition, as opposed to native speakerism defenses Ortega (2019) defines success as "being able to function in more than one language" (p.25) in the context of SLA, and the scholar highlights the multilingual mind, and linguistic-cognitive work besides social turn. When all these previously mentioned factors unite, they constitute a complexity of the dimensions which are not identical to bilingualism or monolingualism. Furthermore, the complex paradigms of the notion such as age of acquisition (whether an individual has learned three languages in order, has two L1's and L2 or has two L1's and an L3, etc.) caused certain theories and principles to be far from sufficient in explaining the phenomena (Butler, 2013). This circumstance led being multilingual to be divided into two categories: additive versus subtractive. Additive multilinguals were considered to master additional languages after they acquired their mother tongues while subtractive multilinguals referred as eliminating mother tongue at the expense of additional languages (Cenoz, 2013). In such complexity, researchers continue to have very limited knowledge regarding how transfer works in multilinguals. It has been assumed that certain factors such as proficiency levels, recency of use, age of acquisition, order of acquisition, status of languages, etc. (Butler, 2013; Cenoz, Hufeisen, and Jessner, 2001; De Angelis, 2007) leave traces in ongoing debates about transfer in multilingual individuals. Especially the holistic views on multilingualism are prone to account for the usage of multilinguals' linguistic resources together, it was remarked that multilingual language is more creative and involves instantiations of language interplay, which opens a space up for transfer (Cenoz, 2013). Since multilinguals have more than one language in their repertoire, the source of the transfer and whether it emerges in a wholesale or stepwise fashion was abundantly investigated with various theoretical frameworks in acquisition of English as L3, and whereas some of the models proposed evidence on wholesale transfer and only one language as a source, other models supported piece by piece and equal transfer from other languages. These models were explained in detail in the next sections of the current study.

2.2. Crosslinguistic Influence in Multilingual Acquisition

One of the fundamental aspects of second language acquisition that differentiates it from first language acquisition is transfer (Odlin, 2003; Schacter, 1988). Transfer was defined as the usage of native language knowledge in target language production if the features of target language do not exist in learner's native language repertoire (Kellerman, 1977; Kellerman, 1979). In addition, in Selinker and Lamendella's (1981) paper, in which they offered updates and new perspectives on Interlanguage Hypothesis, it was put forwarded that especially in the initial stages learners heavily rely on their native languages in the development progress of their interlanguage. In addition, the concept of transfer began mainly with Weinreich's work titled Languages in Contact. In his work, Weinreich focused on negative transfer claiming that it has huge impacts on acquisition process rather than positive transfer because second language utterances seemed to be divergent from target language structures, leading the term interference to be utilized in field abundantly. In addition, Kellerman (1979) explained the reasons behind interference by closely linking it to typological distance between languages, and the scholar put the discussion forward by pointing transferability conditions of structures. And depending on their degree, if a structure cannot be transferred, it may cause interference. However, other scholars defended that positive transfer is vital in acquisition process by providing profound evidence in the field. Therefore, due to its facilitating conditions transfer should not be assumed as an equivalence to interference (Odlin, 2003). Crosslinguistic influence is defined as the either positive or negative impact of one language on the other (Odlin, 2005). This impact can be found in any linguistic subsystems such as syntax, morphology, phonology, etc. Certain methodologies were developed to gauge transfer and included participants with different native languages, but a common target language by also involving the interlanguages is an efficient way to detect any possible transfer in targeted structures and see variant outcomes. In these methodologies, statistical comparisons may be profound in its nature to explain the notion; however, the significance of the presence of a structure in speech or writing cannot be neglected as it also provides strong evidence for transfer (Odlin, 2003).Thus, within the rise of multilingualism due to several factors as it is mentioned previously, investigating how crosslinguistic influence occurs in both comprehension and production of multilingual

learners, and the source language or languages attracted greater attention in transfer studies.

2.2.1. Crosslinguistic Influence in L3 Development

To CLI in L3, several models were developed to find out about the impact of previously acquired languages in third language acquisition process. And whether these effects are in a positive or negative way was investigated. The notion of transfer is substantially investigated with multilinguals by seeking answers for certain factors such as the distance between previous languages, language dominance, recency of use, etc. Especially, to examine whether the transfer comes from first or second language, several frameworks and models were developed throughout the years. One of them was L2 Status Factor which was proposed by Bardel and Falk (2007). The scholars indicated that the role of L2 is pivotal compared to L1 in transfer, and they reshaped their claims by taking Ullman's (2005) Declarative/Procedural Model into account. The models indicated that while L1 is stored in procedural memory L2 is stored in declarative memory, which means that L2 will be in the center of transfer for any additional language since it will be also stored in declarative memory (Hopp, 2018; Bardel & Falk, 2012). In their study Abbas, Degani and Prior (2021) studied undergraduate students whose L1 was Arabic, L2 was Hebrew and L3 was English. Eye-tracking method and grammaticality judgment tasks were utilized for English sentence processing to gauge the language effects. The findings showed instantiations of robustness of participants' L2 in grammaticality judgment task which provided support for L2 Status Factor Model.

One of the other models is Cumulative Enhancement Model in which the conceptual foundation belonged to Flynn (2004). Rothman (2011) stated that all previously acquired languages affect language acquisition cumulatively only in a positive way by rejecting L1 dominance, and the scholar proposes further support for L2 Status Factor Model and other additional languages are accepted to impact L3 acquisition. To provide support for the model Flynn, Foley and Vinnitskaya (2010) examined relative clause usage in English as L3 with adults whose L1 was Kazakh, L2 was Russian by employing elicited imitation method. The results suggested strong evidence for CEM by emphasizing that transfer may occur cumulatively and facilitatively from previous

languages without acceptance of a dominant one. Because participants' L1 which is a head-final language did not cause any deficiency in their productions in English.

In another model which is called Typological Primacy Model, Rothman (2011) stated that transfer depends on the distance between languages meaning that the source for the transfer will be typologically similar language to the target language. Later, the model developed a hierarchy to clarify how the source is selected and explained that language mechanism follows the order of lexicon, phonology, morphology, syntax, semantics, etc. in L1 and L2 and when the mechanism determines a similarity in a subsystem this language is selected for transfer. This phenomenon is also called wholesale transfer. Puig-Mayenco and Marsden (2017) provided strong evidence for TPM in terms of the role of structural proximity in transfer in acquisition of English as L3. The study included Catalan and Spanish bilinguals whose L3 is English, and they were acquiring polarity item "anything". The results suggested that the participants' acceptability rates depended on their L1, which showed that structural similarity led to transfer.

The other model is Scalpel Model which was proposed by Slabakova (2017), and the scholar prioritized the transfer from previous languages based on their proximity; however, the scholar highlighted some elements causing this transfer to be possible such as frequency, transparency, processing complexity, etc. in the input provided to the learners in addition to their proficiency levels and language dominance. Angelovska, Roehm and Weinmüller (2019) examined syntactic transfer in participants whose L1 was a non-V2 language such as Arabic, Turkish, Bosnian, Croatian, etc. and L2 was German. The study utilized timed grammaticality judgment tasks to gauge transfer for verb second condition and its violations. Based on the results of the task, the scholars concluded that the study contributed to Scalpel Model by providing the role of dominance and proficiency level and their interaction in the judgment task. When the proficiency level increased the effect of dominance diminished and vice versa. Besides equal transfer from previously languages, there are additional factors such as mentioned above were effective in the acquisition process.

In addition to all these models, one of the frameworks which generates principles and explanatory approaches to crosslinguistic influence in third language acquisition is Linguistic Proximity Model (LPM) which was proposed by Westergaard et al. (2017) by generating new perspectives for the generativist theories (Chomsky, 1965), and

supporting that Ln acquisition emerges by parsing incrementally in a stepwise fashion, not by resetting or restructuring. The framework grounded its theories and principles on Full Transfer Potential which was explained as "anything may transfer but not necessarily everything" (Westergaard, 2019). LPM predicts that Ln acquisition emerges by virtue of property-by-property learning, contrasting the support for wholesale transfer which was put forward by Typological Primacy Model (Rothman, 2015). Moreover, property-by-property transfer indicates that any effect can be found at every stage of L3 acquisition (Westergaard, 2019). One of the main accounts of the framework for CLI is that the similarity of previously acquired languages is vital for transfer regardless of the order of acquisition of the languages. Thus, the transfer may emerge from first and second languages equally depending on the proximity degree of properties. Furthermore, the model accounts for the acquisition in initial and developmental stages of Ln rather than only initial stages, which were addressed in TPM. Westergaard et al. (2016) states that both facilitative and non-facilitative influence from previously acquired languages happen to occur in Ln acquisition.

Additionally, the high amount of non-facilitation is expected in production rather than comprehension (Westergaard, 2021). Even though ongoing debates and refusals have arisen for the model, in his commentary on LPM Archibald (2020) relieved his positive stance with the framework by highlighting several key research on CLI in phonology. And the presence of equal transfer from previously acquired languages in clusters and vowels was evident in the findings of the studies. In addition, Archibald (2020) concludes his commentary by indicating that LPM has abundantly explanatory power towards third language acquisition which is an aspect that TPM lacks. Furthermore, in her response to commentaries on her work regarding microvariation in multilingual situations, Westergaard (2021) settled some of the key points which were labelled as serious concerns by other scholars, and the researcher stated that to answer the question how crosslinguistic influence occurs within the model, the process of co-activation of similar structures in languages should be taken into account rather than copying or transferring all linguistic system. In addition, the researcher added that the current version of the model indicated that other factors such as frequency, saliency, age, proficiency, etc. also play a role in the process with linguistic proximity, but still the parser will choose among the options which are activated strongly. Moreover, the lack of explanation for the usage of term L3 was explained as not being the central concern

for the model since defining what L3 is related to the learning context; however, the primary focus of the model is on co-activation of linguistic properties (Westergaard, 2021). Several studies which were conducted hitherto investigated the theories and principles of LPM. Westergaard et al. (2016) examined Norwegian-Russian child bilinguals whose L3 was English on two-word order phenomena as a linguistic property which shared certain similarities with Norwegian (Aux-S) and Russian (Adv-V) in different types of sentences. Although Norwegian is typologically similar to English more, a facilitative influence from Russian was observed in Adv-V condition. To avoid mirror study design and to consolidate the results of the study, Norwegian and Russian L2 groups were involved, and it was found out that bilingual group's scores were significantly lower than the Russian L2 group for Adv-V condition which presented evidence for a non-facilitative influence coming from Norwegian.

Similarly, Mitrofanova and Westergaard (2018) compared Norwegian-Russian bilinguals with Norwegian monolinguals in a picture sentence matching task by creating an artificial language. The language showed similar features to Norwegian in lexical items; however, it contained nominative and accusative case features from Russian as well. The results showed that bilinguals outperformed monolinguals because monolinguals did not show any awareness of the case feature. And they only focused on grammatical features which once more proved the significance of linguistic proximity rather than typological similarity even in extremely early stages. In another study, Lorenz et al. (2018) investigated pronominal objects in ditransitive clauses with Russian-German and Turkish-German bilinguals who were secondary school learners and were acquiring English as their foreign language. The scholars utilized English word order test in which participants should put the words in order to make it grammatical in English, and they were allowed to make modifications to make it sound like more accurate. The results of the study provided contributions to LPM. The findings reported that participants provided frequent patterns in their heritage languages for pronominal object placement, which allow for variation such as using direct objects before indirect objects, etc. In addition, their majority language which was German was found to be effective for low-frequency pronoun patterns.

Lloyd-Smith (2020) found evidence for LPM in a study in which researcher examined the syntactic transfer in L3 English with the Italian-German population. The movement of embedded Wh questions was focalized because it showed different

features among languages. AJT's were applied and analysis of the results showed that both languages had an impact on the acceptability rate of the sentences meaning that observing equal CLI from languages is possible and evident. Likewise, Jensen et al. (2021) investigated several linguistic properties (definiteness, obligatory copula, XSVO word order, genericity, subject-verb agreement, etc.) in syntactic, syntax-semantic and morphological conditions by exploiting AJT's with Norwegian-Russian bilinguals, and Norwegian and Russian monolinguals. The results showed that in five out of seven conditions, participants' decisions showed influence from either Russian or Norwegian facilitatively which yet again proved the irrefutable presence of linguistic proximity, and the role of all previously acquired languages in L3 acquisition process in developmental stages.

The model was also investigated in different languages as L3 besides English. For instance, Cherici (2021) conducted research on null and overt subjects of a group of participants whose L1 is Chinese, L2 is English and L3 is Italian. Researcher had an aim to discover the direction and degree of influence of previously acquired languages on these two different language properties in L3 Italian by exploiting AJT's. Based on the results, it was inferred that L1 Chinese might have an influence on the high rate of acceptance of null subject sentences while L2 English might have another influence on the acceptance of non-target usage of overt subjects in L3 Italian. Furthermore, the wholesale transfer concept was rejected with the high rate of null subject acceptance in the study.

Furthermore, Guo and Yuan (2024) examined L1 Cantonese L2 English and L3 Mandarin and L1 English L2 Cantonese and L3 Mandarin users in SFP clusters with three different types including Type 1 (le ba) as a shared feature between Cantonese and Mandarin. Type 2 (le ma) and Type 3 (ba ma/ma ba) which has no equivalent in Cantonese yet displays a question tag feature as in English. Participants were expected to fill the gaps with these SFP clusters in sentences. Findings addressed that structural similarity is profound and presence at advanced stages of acquisition, and learners are prone to be exposed to facilitative effects which can occur from either L1 or L2 depending on the degree of similarity.

Moreover, Luan et al. (2024) utilized judgment tests to find out about the direction and type of the transfer in PP position, head position in relative clauses, and sloppy reading of null arguments with intermediate level participants in two groups (L1 Chinese, L2

English, L3 Japanese, and vice versa) along with native speaker groups for those languages. The analysis led researchers to certain interpretations such as non-facilitation were present in the JEC group in aforementioned properties due to structural differences among these languages leading to misuse and misplacements in the JEC group.

Lastly, the principles of LPM were investigated in other sublinguistic systems besides syntax and morphosyntax such as phonology. Kopečková et al. (2022) focused on transfer in phonology in a third language acquisition study. The study consisted of two groups of participants whose L1 is Polish, L2 is English, L3 is German, and vice versa. They investigated rhotic sounds, /w/ and final obstruent devoicing with an elicited delayed production task in these groups. Based on the results, researchers pointed out that the findings were explained by LPM best because to produce /r/ participants relied on their L1 whereas for /w/ they relied on their L2 mostly which showed a tendency for the principles of LPM.

In a nutshell, all these studies clearly highlight the presence of equal transfer from previously acquired languages in several linguistic subsystems for L3 acquisition. The evidence in these studies underlines the basis and principles of Linguistic Proximity Model by providing that both previous languages have potential to be the source language for transfer in various linguistic properties evidently. Thus, all these contributions related to the model shape the basis of the current study because the hypotheses and the outcomes of the current study align with the model, and all this evidence paves the way for further contributions.

2.2.2. Crosslinguistic Influence in Syntax

One of the linguistic subsystems is syntax which was abundantly investigated by the scholars in both L2 and L3 English comprehension and production. And CLI was one of the dimensions which involved various studies on syntax. These studies included diverse linguistic properties or subcategories in syntax, and the role of crosslinguistic influence is substantially investigated. These studies were mentioned in Ionin's (2025) paper of collections, and the studies included Generalized Classifier Languages such as Mandarin, Korean, Japanese, etc. In a study which was carried out by Jiang et al. (2011) two groups were involved with L1 Mandarin, L1 Japanese and L1 Russian, their L2 was English, and they were tested with self-paced readings to detect any

influence from L1 for plural marking in English. The findings showed that L1 Mandarin and L1 Japanese group did not slow down when they encounter with a missing plural; however, L1 Russian group slowed down because in Russian plural marking is also obligatory as it is in English. Thus, results showed the presence of an impact from participants' L1s on L2 English.

In another study which investigated L1 effects on plural marking in English Choi and Ionin (2021) involved L1 Korean and L1 Mandarin groups which have English as their L2. Even though both groups showed sensitivity towards plural marking despite their L1's contrasting features with English, it was found out that due to L1 transfer Korean group performed better in plural marking with quantifiers than Mandarin group. Öksüz et al. (2025) examined different types of writings from participants who have various L1 backgrounds such as Turkish, French, Italian, Arabic, Russian etc. to find out whether there is an L1 effect on the acquisition of L2 English articles. The findings revealed that the language groups which have articles and less linguistic distance used articles more accurately than the other groups which do not have articles, and more linguistic distance meaning that L1 impact existed in learners' productions by indicating typological effects as well.

Diversely, Gil (2025) investigated the usage of Korean wh-indefinites with L1 Japanese and L1 English speakers. Acceptability judgment task and translation tasks were utilized and the results suggested that even though Japanese learners are assumed to have higher acceptability levels due to typological similarity with Korean, L1 English group had higher acceptability rates for wh-indefinites despite the lack of such structure in their language. In addition, these findings suggested that L1-L2 similarity lacks accountability of such discrepancies in performances; thus, macrovariation and microvariation should be checked mainly in such cases. Similar to previous study in the paper Gil (2025) includes research which was conducted by Grillo et al. (2022) and in the research L1 Chinese and L1 Korean groups participated for experiential constructions (perfect aspect) in L2 English. English and Chinese share some similarities in terms of expressing perfect aspect with "ever" whereas the expression is totally different in Korean. Yet AJT self-paced reading results showed that Korean group outperformed Chinese group in presenting high attainment for perfect aspect despite the language's typological distance, and the absence of such structure in their language. All in all, these studies suggested that typological distance may not be

enough to explain how transfer works but different types of acquisition tasks (restructuring vs. development), macrovariation and microvariation should be considered while explaining the phenomena.

2.3. Register and Spoken Production in SLA

Non-linguistically the broad and acceptable definition of register variation is discrepancies in interactiveness, purpose, relations, etc. among participants (Biber, 1995). The three main components of studies in register comprise of representation of the situations in which register is used and linguistic characteristics and functional relations with situations and linguistic forms. This relation is accepted to be bidirectional meaning that all components have an impact on one another by causing changes in utterances. Furthermore, functional patterns can be associated with situational characteristics such as social relations among participants (Biber, 1995, p.10). Also, participants control more than one register during the day because they experience various situations in which they need to make certain adjustments to their utterances; therefore, the acquisition of different characteristics is fundamental (Biber & Conrad & Reppen, 1998, p.136). In SLA context, based on many scholars' stances, the ability to utilize register variation is a late feature in acquisition process (Kouwenhoven et al., 2016). Thus, only in later and developmental stages, Ln language users start to master the variation between registers.

2.3.1. Register Variation in Spoken Language

Communicative competence which was proposed by Hymes (1966) is defined as the ability to communicate in socially acceptable ways; thus, the speakers are expected to apply skills in appropriate contexts. Adjusting speech properly in diverse situations which means making necessary changes in register is also a vital aspect of communicative competence (White, 1974, p.130). This vital aspect is not only essential for first language but also in second language learning since it plays a huge role in terms of presenting language in context so that the process becomes efficient. Single register phenomena such as (in)formality are commonly studied notions for spoken language. In addition, as Lasan (2021) stated based on previous research acquiring the variation of (in)formality for L2 is vital for the development of communicative competence. The scholars mostly carried out studies for variations in

production regarding written language and attained features to formal and informal utterances in writing. For instance, Lasan (2021) conducted the choices of EFL speakers of register in e-mail writing. The findings showed that for EFL speakers, address forms are perceived to have more saliency than vocabulary choices in formal e-mails, and this was discussed to be related to L1 pragmatic transfer. Also, nominalizations, passive voice and using full forms rather than contractions were found to be features of formal e-mails. In additional studies, the appearance of complex noun phrases was found in formal academic writing (Larsson & Kaatari, 2020; Qin & Uccelli, 2020; Lasan, 2021). Yet the studies regarding (in)formality of spoken language are scarce in the field and existing studies include comparisons between formal and informal which is generally centered as spoken vs. written production, preferences or choices of learners regarding registers, and fluctuant communication strategies towards (in)formality.

To examine preferences of learners towards (in)formality in one of the studies, Van Compernolle (2016) investigated the relationship between preferences of (in)formality and multilingualism of adult speakers with different L1 backgrounds and language knowledge. Online survey results showed no relation of preferences with multilingualism; however, an indirect relationship among multilingualism and acceptance of linguistic variation was found which equates to positive correlation with informal language use.

Utilizing communication strategies during speech is a vital aspect of communicative competence, and Kouwenhoven et al. (2016) investigated how communication strategies vary among formal and informal speech of L2 English speakers of Spanish. The findings indicated that speakers used more cognitively demanding strategies in formal speech such as reformulation whereas they used effortless strategies such as code-switching in informal speech.

The relationship between complexity and register of L2 English speakers in various proficiency levels is one of the topics which needs further research. In her study, Liddy (2004) studied with L2 English speakers of Korean with diverse proficiency levels beginner, intermediate and advanced groups. One of the focuses of the research was the complexity of utterances in registers among different proficiency levels. The results postulated that through intermediate to advanced levels the complexity of utterances, wordiness and speech acts increased in formal situations. Additionally, by

utilizing data from corpus Szmrecsanyi and Engel (2023) investigated the variation across (in)formal registers in speaking for the complexity of linguistic properties of dative alternation, and future temporal reference alternation of English speakers. The results of the comparisons of conversations between family members (informal) and parliamentary debates (formal) indicated that in dative alternation spoken formal register was the least complex one while in future temporal reference alternation the least complex one was spoken informal register, and overall formal registers were found to be most complex ones.

2.4. Syntactic Complexity in SLA and Multilingualism

In SLA field various definitions for syntactic complexity have been presented so far, and the most amenable one among them is the complexity of structures in texts, and linguistic systems including number of components and their relations (Pallotti, 2014). The notion of syntactic complexity has been investigated with multiple measurements such as mean lengths of units, mean lengths of clauses, phrases, certain clause types, argument structures, dependency distance, etc. (Pallotti, 2014) over a certain period, and has been considered as one of the fundamental characteristics of production alongside fluency and accuracy. Syntax is accessible in the same way in spoken and written modalities (Cleland & Pickering, 2006; Park, 2022), and numerous research have focused on the notion in written language and examined it with several measures developed in phrasal and clausal levels. In early work, Ortega (2003) examined L2 writings of ESL and EFL learners and used holistic measures such as mean length of sentences, mean length of T-units. The comparison showed higher complexity results for ESL learners than EFL learners in writing. Furthermore, Biber et al. (2011) proposed new perspectives towards complexity measures, and specifically highlighted that phrasal complexity is a key feature in writing which should be emphasized investigating complexity. In addition, Lu (2011) presented 14 complexity measures to be utilized and by analyzing thousands of essays the scholar concluded that learners developmentally shift from clausal complexity to phrasal complexity as they become more proficient. However, as Vercellotti (2018) stated investigation of syntactic complexity in spoken language is often necessary and pivotal since language users have to undergo a cognitive load with certain constraints such as time pressure, unplanned speech, flow of thoughts, etc. when producing speech utterances, which can

reflect complexity in syntax better than written form in which there is absence of time pressure and presence of planning.

2.4.1. Syntactic Complexity in Spoken Production

As the importance of syntactic complexity is obviously known in production, syntactic complexity in speaking is a key element in terms of reflecting the cognitive work and process, and how learners form their utterances to negotiate the intended meaning. Several research focused on the difference within modalities in terms of complexity by comparing written and spoken language in various populations and with designed tasks. These studies which are about comparing modalities and their outcomes are explained chronologically in the next lines. By utilizing data from corpus Biber et al. (2011) made comparisons between academic writing and conversation discourse for syntactic complexity. The data were analyzed based on three categories: finite dependent clauses, non-finite dependent clauses and dependent phrases with subcategories related to them. Results of the comparison postulated that producing complex finite and non-finite dependent clauses is a feature of conversation discourse while forming complex phrases especially in nominal levels is a feature of academic writing. These findings align with previous research that claims complexity can be found in clausal level in speaking whereas it can be found in phrasal level in writing. In another study with different types of tasks Kormos and Trebits (2012) found nearly no difference in syntactic complexity in terms of exploiting relative and subordinate clauses between written and spoken productions of intermediate English learners in secondary school. Subsequently Kormos (2014) conducted a study with secondary school students to measure the differences across spoken and written language with four narration tasks including cartoon description and picture narration. The measurements were based on clausal and phrasal level including subordinate clauses and mean length in addition to calculating noun phrases and pre and postmodifiers in those phrases. The complexity of noun phrases was found considerably high in writing than speaking on the other hand, usage of connectives such as “and” and “but” was found to be significantly different in speaking than writing. Furthermore, Hwang et al. (2020) conducted their research on modality differences by involving the role of syntactic complexity in the prediction of proficiency levels of child L2 learners. To measure spoken production, learners enrolled in dyadic interaction with their peers and Lu’s (2010) complexity measures were applied to gauge the data. The analysis

provided the conclusion that participants used high amount of coordination with “and” and subordination and length of utterances were less in spoken language. Having made a clear distinction, Park (2022) compared a monologue and a writing task produced by undergraduate Korean learners, the researcher used the data which were present in corpus. The comparison of syntactic complexity was made based on Lu’s indices (2010), and the analysis of measures demonstrated that nine measures out of 14 were significantly different, and eight of them belonged to writing. Further and deeper analysis highlighted that coordination involving “and” at the beginning of clauses and subordination with “because” were mostly found in spoken language whereas other types of subordination, finite clauses, relative clauses and longer sentences were marked as a feature of written language.

Examining syntactic complexity only in spoken production across different proficiency levels holds a significant part in the field because syntactic complexity is granted to reflect proficiency levels of the learners. Therefore, De Clerq and Housen (2017) included participants with different proficiency levels to examine the syntactic complexity. Findings suggested that coordination in all levels was conspicuous in utterances through all levels and English L2 learners whose level was the highest outperformed English native speakers in terms of the production of subordinate clause types, and the most significant results were in adverbial and subordinate finite clauses. The development and diversity were observed through different proficiency levels, and there was not any evidence for the simplification of the language in advanced learners’ utterances. By predication on the notion of the development of complexity in beginning levels will be with coordination while in intermediate levels it will be in clausal subordination (Norris & Ortega, 2009; Lambert & Nakamura, 2018), the study involved Japanese English speakers with different proficiency levels by utilizing six oral description tasks to measure complex syntax in oral production. Participants were divided into intermediate and advanced level groups with a native speaker group to perform the task. The results of the description tasks demonstrated that subordination with adverbial and relative clauses increases in intermediate level whereas phrasal complexity in noun phrases decreases with the high proficiency levels. As stating the vital role of investigating syntactic complexity in speaking due to the guidance of superior reflection of cognitive demands, Vercellotti (2018) investigated the structural complexity and variation through monologic speeches which were produced by

English L2 learners who enrolled in pre university Intensive English Program. Several types of measures were used such as length of AS-units, phrasal complexity, and clausal complexity measures especially including the usage of finite and non-finite clauses across developments of participants. The results of monologues revealed that all measures improved through developmental stages, and there was not any trade-off effect between complexity and finite and non-finite clauses. The number of usages of complexity constructs increased. All these studies show significant and deep insights and understanding about how syntactic complexity occurs within speech, what type of the linguistic components or syntactic complexity measures emerge with different tasks, and what it tells about its relationship with proficiency levels.

The interconnection of accuracy and fluency with complexity is a profound feature of speaking which cannot be neglected. Therefore, a great deal of researchers shaped their studies around CAF framework which explains the connection between complexity, accuracy and fluency, and how one can affect one another because a gap of knowledge could cause deterioration in fluency and vice versa (Tonkyn, 2012). In one of the studies Hwang (2025) examined the syntactic complexity in the view of the CAF framework and worked with L1 Korean L2 English child learners. In a picture narration task participants created storylines based on three different pictures and transcriptions were analyzed with argument structure constructions as measures to determine the complexity. The results highlighted that the use of L2 in a familiar environment such as home leads to a fostered syntactic repertoire, which increases the complexity eventually. In addition, it was claimed that the usage of L2 at home benefited syntactic complexity because Korean and English have two distinct typology, and certain argument structures are absent in Korean; thus, being exposed to English may be facilitative in the production stage for participants. Similarly, under the CAF framework Tonkyn (2012) investigated syntactic complexity of postgraduate intermediate English speakers with pre and post interviews, and in between participants enrolled in class hours which was full of instruction on target language. The results indicated that there was an increase in subordinate clauses in post interviews after the instructed classroom hours. In addition, in one of the cases it was determined that high level of syntactic complexity may have masked the low level of accuracy regarding their relationship according to the framework.

In this chapter, key findings related to the topic of the current study were presented and principles of current study's framework were introduced and outlined. In summary, these research studies contribute to field by providing outcomes about how syntactic complexity occurs in speaking, crosslinguistic influence emerges, what the source language or languages are for transfer, and the tendency of people across registers is in speaking However, previous research included multilingualism, CLI studies, syntactic complexity in spoken production and register studies either in isoloation or in a broad fashion. Still, it is evident that the field lacks a general understanding about how syntactic complexity occurs in spoken production with multilinguals, the role of crosslinguistic effects on this highly cognitively demanding process, and its implications to language learning. Thus, the significance of the current study is highlighted once more in this chapter and subsequent chapter provides elaboration on the methodology of the current study.

3. METHODOLOGY

In this chapter, the methodology of the current study is explained. The chapter introduces the research design of the study briefly, then explains the features of participants and setting in a detailed manner. Subsequent sections in the chapter consist of elaborate descriptions and explanations of data collection tools and data collection procedures. Finally, the chapter ends with an explanation of the data analysis process by exploiting quantitative data and analysis procedure for the current study.

3.1. Research Design

The purpose of the current study is to investigate crosslinguistic influence on syntactic complexity in the formal and informal speech of multilingual speakers with different native and second languages, and to make comparisons among these speakers. A quasi-experimental research design was employed to clarify the qualitative data with its quantification, and to discover the crosslinguistic influence with qualitative parts in participant's speech.

Clark and Creswell (2015) explain causal-comparative study as a non-experimental design to compare the outcomes of groups based on several variables after a certain event. The oral data in the current study were collected by having online interviews with participants exploiting Language Situations, a video which supports naturalistic data collection (Wiese, 2020), and based on recorded interviews transcriptions of speeches of participants were formed to be scrutinized. The data analysis part contained quantification of oral data to show the mean scores of complex structures in syntax in participants' speech. Additionally, the study grounded on a current theory LPM, which is one of the models that is employed to analyze CLI in third language acquisition processes.

3.2. Participants and Setting

The current study's sampling type was purposeful sampling (Clark & Creswell, 2015) and included participants with distinctive language features. Based on these features, three groups of participants were formed as GER-ITA-ENG (L3) (n=7), TUR-ENG (L2) (n=4) and NS (L1) (n=6) group. GER-ITA-ENG group consisted of 7 participants, and 4 of them were female (57.14%) while 3 of them were male (42.86%). The participants were adults, their ages ranged from 23 to 30, and the mean age of the participants was 27. The participants were from Bozen, Italy which is in the South Tyrol province of North Italy. South Tyrol once belonged to Austro-Hungarian County; however, after World War I with the agreement between two countries Italy started to govern the region. Thus, the participants' native language was German (Table 1). They learned Italian as their second language when they started to be involved in the community, and they have started to be exposed to English as their third language. The beginning of their first exposure to English ranges from primary school to secondary school and their ages were between 8-15 years old. The participants whose native and second languages were different from German and Italian were excluded from the study. Participants who have an additional language which they were proficient in and have English as a fourth language were excluded from the study as well. The native language of one of the participants was Italian and second language was German; however, since the framework of this study does not take the order of acquisition of the languages into account, the participant was not excluded from the study. Participants with additional languages who have lower levels of proficiency in the aforementioned languages were kept in the study because the theories regarding crosslinguistic influence indicate that linguistic systems can only start to influence other languages after receiving certain amount of input. Therefore, the influence for the target language is not expected from low levels of proficiency.

Table 1. GER-ITA-ENG Participant's Information

Participants	L1	L2	L3	Age	Age of First Exposure to English	Usage of English in Daily Life
1	German	Italian	English	30	13	2 hours a week
2	Italian	German	English	26	10	1-2 hours a week
3	German	Italian	English	29	15	No usage except for holidays
4	German	Italian	English	27	8	No usage except for holidays
5	German	Italian	English	23	9	No usage
6	German	Italian	English	28	11	No usage
7	German	Italian	English	28	9	7 hours a week

The TUR-ENG (L2) group consisted of four participants, and two of them were female (50%) while two of them were male (50%). The participants were young adults and their ages ranged from 20 to 23. The mean age of the participants was 21. The participants were from Istanbul, Turkiye, and their native language was Turkish (Table 2). Participants learned English as a second/foreign language, and they were exposed to English starting from 2nd-4th grades. The participants were not proficient in any additional language, and the participants who had high proficiency levels in any additional language were excluded from the study.

Table 2. TUR-ENG Participants' Information

Participants	L1	L2	Age	Age of First Exposure to English	Usage of English in Daily Life
1	Turkish	English	21	10	10 hours a week
2	Turkish	English	20	6	During university hours everyday
3	Turkish	English	23	8	1 hour per month

4	Turkish	English	20	9	During university hours everyday

The NS (L1) group were recruited as a control group to form a baseline for the study and consisted of six participants and, one of them was female (16.67%) while five of them were male (83.33%). The participants were adults and their ages ranged from 26 to 73. The mean age of the participants was 47. The participants were from several provinces of the United States of America. Their native language was English (Table 3), and they did not have any second language.

Table 3. NS Participants' Information

Participants	L1	Age
1	English	73
2	English	26
3	English	27
4	English	32
5	English	65
6	English	62

The English proficiency level of GER-ITA-ENG and TUR-ENG groups were determined using Cambridge Online Placement Test. Based on the test results, all participants were classified as B1-B2 level learners in terms of overall English proficiency. In addition, participants provided self-ratings for each language skill, which were used to obtain skill-specific proficiency profiles.

Table 4. Means of Self-Ratings of English for GER-ITA-ENG (L3) Group

	Reading	Writing	Listening	Speaking
Mean scores	2,71	2,28	3,28	2,14

Self-ratings were calculated based on 1-5 scale, which participants rated their own skill proficiency in English.

Table 5. Means of Self-Ratings of English for TUR-ENG (L2) Group

	Reading	Writing	Listening	Speaking
Mean scores	4,25	2,14	3,25	3

Due to the distance between researcher's and participants' locations, all the interviews were held via Zoom, which is an online meeting platform. Participants were reached

out via e-mail and WhatsApp, and they reached out to researcher via the same social media channels.

3.3. Data Collection Tools

The purpose of the study was to examine the crosslinguistic effects of previously acquired languages in syntactic complexity of the participants' formal and informal speech in English. Participants completed a linguistic background questionnaire to provide information about their previously acquired languages and their proficiency levels in receptive and productive language skills. In addition, Cambridge Online Placement Test was administered to determine the proficiency levels of the participants in English. Lastly, the collection of formal and informal speech texts was executed by exploiting "Language Situations", which is an open access instrument in the form of video to capture naturalistic and spontaneous data from participants during online interviews. As Wiese (2020) stated it allows the generation of more controlled data than utilizing only narratives, and the instrument is amenable for making comparisons between different languages which is the case in present study. Subsequent sections of this chapter will explain all the instruments elaborately.

3.3.1. Linguistic Background Information Questionnaire

The questionnaire was utilized to collect both personal and linguistic information from participants. The questionnaire consisted of 6 sections including information about the study and questions regarding their consent to participate, personal information, linguistic information, English language proficiency rating, and second/foreign language information parts. The personal information part contained questions such as participants' name, age, e-mail address, sex, place of birth, highest level of schooling. Second, the linguistic information part questioned participants' mother tongue, language of education from primary to university level, age and place of first exposure to English, how long they have been learning English, and how often they use English. In these two parts, participants were expected to provide related information in the form of a short answer. Third, participants were asked to rate their English proficiency level for receptive (reading-listening) and productive (writing-speaking) skills of the language from 1-5. Finally, the last two sections involved information and ratings for second/foreign languages if they have an additional one.

3.3.2. Cambridge Online Placement Test

Cambridge Online Placement Test which was taken from Cambridge official website was utilized to determine participants' proficiency scores of the language alongside their self-ratings. This test was specifically used because it is an online test which makes it practical and easy to access since the majority of the participants in the current study live abroad. In addition, the parts that are included in the test were administered to measure certain linguistic areas such as vocabulary, grammar, use of English by measuring whether learners are using the language accurately in meaningful context. The test consisted of five parts in which the grammar, vocabulary and functions were measured with 5 questions in each part. The maximum score a participant can get is 25 points, which means each question equals one point. The test can be readily accessed and found online; therefore, the link for the General English test was sent to participants via e-mail, and participants were supposed to take the test and send the screenshot of the result page to the participant. The result page contained their scores out of 25 and which language level they are in from A1 to C2. Based on the total scores and range of the levels of participants, which is provided by the website, the participants' proficiency levels were determined. However, the score range was modified and adapted by the researcher and the participants' overall proficiency level was determined based on 20 questions. The participants who answered 10 questions out of 20 correctly were labelled B1 level learners.

3.3.3. Language Situations

The study employed Language Situations to collect data from the participants particularly because of its strength to elicit naturalistic data in spoken form as well as being a valid and reliable source to provide ability to capture this data among registers (Weise, 2020). In addition, the tool empowers the collection of controlled elicitation which makes it a valid and reliable option for making comparisons among different speakers, languages, and registers. The tool allows data collection with people from different language backgrounds, thus; it provides opportunities to study these languages and their interactions with the data which are gathered (Weise, 2020). Language Situations consisted of a 40-second-long video which showed a fictional event in sequence, and participants were expected to watch the video and narrate what they witnessed to a police officer, and then a friend to switch between registers. As the

meetings were held via an online meeting application Zoom, due to the distant locations between participants and researcher, the participants were told to imagine a police officer and a friend of theirs while narrating the events. Participants watched the video twice, having 5-minute breaks in between to enable the register shift. The meeting was recorded, and then the recordings were transcribed via Descript which is an online tool to transcribe and edit videos, recordings, etc.

3.4. Data Collection Procedure

The data had been collected through the 2025 summer term in online interviews via Zoom. The researcher applied for necessary permission from the Ethics Committee of the university. The consent forms were obtained from participants in the beginning of the study and during online interviews participants stated they give their consent to be part of the study orally. Participants from Bozen, Italy and the United States of America were reached out by the acquaintances of the researcher, and participants from Turkey were reached out by the researcher. The Linguistic Background Information Questionnaire was sent to all participants, and they filled out the form to be placed in suitable groups based on their native and second/foreign language features. In the questionnaire participants filled out a self-rating part for their proficiency levels in receptive and productive skills of language. However, to conduct a more reliable process, the Cambridge Online Placement Test was implemented to determine the proficiency levels of participants. Then, the time slots for the online interviews were formed via Doodle which is a website to arrange meeting times, and the links were sent to participants via e-mail, and they were expected to choose the appropriate time for online interviews. After setting suitable times Zoom links for online interviews were sent to participants via e-mail as well.

In the beginning of the interview the participants were informed elaborately about the study and its purpose. The researcher explained the procedure and answered their questions if there were any. Then, the researcher started to record the interview, and participants gave their consent orally. After that, the researcher played the Language Situations video, and participants watched it. When the video ended the researcher told participants to tell what happened to a police officer. Nearly all the participants talked about what they witnessed for 1-2 minutes. Afterwards, to allow for a register shift the researcher and the participants had a 5-minute break. After the break ended, the

participants watched the same video, and this time the researcher told them to narrate what happened to one of their friends. When the participants finished talking about what they witnessed to one of their friends the researcher ended the process and stopped the recording. Normally all the participants watched the video twice, however from time to time there were some problems related to internet connection and system of the website, that is why some of the participants had a chance to watch the video for a third time to avoid any misanalysis or lack of data. Finally, all the recordings had been transformed into audio and video. Then they had been uploaded to Google Drive folder to secure and access the data easily.

3.5. Data Analysis

This section provides detailed explanations of the quantitative analysis and related processes in the study.

3.5.1. Quantitative Analysis

The data for quantitative analysis were collected with Language Situations (Wiese, 2020) via online interviews with participants in three groups. The collected data were in oral form; thus, first the recordings of the interviews were transcribed via Descript and manually checked twice by the researcher. Then, the transcriptions of oral data were segmented into AS-units which was proposed by Foster et al. (2000) and is defined as an independent clause or a subclausal unit and all subordinate clauses attached to it. As Foster et al. (2000) stated in their paper, there are a variety of units with several rules and principles for spoken language in the field such as syntactic, semantic, intonational, etc. However, segmentation rules of those units radically vary depending mainly on the purpose of the study, and there is confusion regarding the segmentation of spontaneous and natural speech components such as substitutions, ellipsis, fragments, false starts, repetitions, etc. and the principles of segmentations related to coordination and subordination which are highly significant in syntactic studies. Thus, Foster et al. (2000) introduces AS-unit with well-established principles and providing more structured data regarding segmentations for coordinated and subordinated clauses, substitutions, ellipses, fragments, false starts, repetitions, self-corrections, etc.

In addition, three levels of application are introduced to allow for adaptations depending on the purpose of the studies. Therefore, the reason behind implementing segmentations in AS-units was due to the need of structured oral data for the study. Level three application rules were applied to transform data into proper forms structurally because this level allows the elimination of substitutions, ellipses, fragments, false starts, repetitions, self-corrections by making data suitable for syntactic study. Besides the eliminations of aforementioned components independent clauses were counted as AS-units, and all finite and nonfinite clauses were counted as well. Omissions of pronouns and subjects in the following independent clauses starting with a coordination conjunction were counted as clauses attached to their preceding unit because there was not any gaps or pauses in participants' speech, and Foster et al. (2000) suggested that if there is a gap which lasts five seconds in speech then an independent clause with omitted subject and a coordination conjunction should be counted as AS-units. All adverbial clauses starting with "because" were counted as dependent clauses, and if it indicated a stance from the speaker then it was counted as an AS-unit (Foster et al., 2000).

L2SCA (L2 Syntactic Complexity Analyzer) which was developed by Lu (2010) to measure syntactic complexity in writing was used to analyze the complexity of oral data of the groups. Even though the analyzer was developed to calculate written data, in the results of the study about syntactic complexity in spoken language which involved L2SCA as the analyzer for oral data by Kim and Lu (2024), it was stated that the analyzer is also reliable for measuring oral data in the form of AS-unit replacing T-units which is used for written data. Thus, all the T-units were equated with AS-units in indices and manually coded including clause boundaries due to avoid any misanalysis because of the punctuations in transcripts. 14 complexity indices which are present in L2SCA were applied to calculate the data; however, measures related to sentence levels were not exploited since in oral production the end of the utterance is often uncertain meaning that anything which appears in oral form cannot be treated as a sentence fully; thus, only 11 complexity measures were taken into account for the analysis (Table 6), and the abbreviations of the measures which included T-unit were changed into AS-unit. And other automated complexity measures which include AS-units and clause boundaries were manually calculated due to the possible deviations related to the analyzer. However, indices related to measuring phrase level utterances

were exploited as it appeared in the analyzer by manually checking by the researcher to recognize the miscategorizations if there were any.

Table 6. Syntactic Complexity Measures

Indices	Representations
MLAS	Mean length of AS-units
MLC	Mean length of clauses
C/AS	Clauses per AS-units
CAS/AS	Complex AS-units per AS-units
VP/AS	Verb phrases per AS-units
DP/AS	Dependent clauses per AS-units
DP/C	Dependent clauses per clauses
CP/AS	Coordinated phrases per AS-units
CP/C	Coordinated phrases per clauses
CN/AS	Complex nominals per AS-units
CN/C	Complex nominals per clauses

Firstly, the transcripts were segmented in AS-units, clause boundaries to be able to be inserted in the analyzer and checked manually after the analysis. As the level three application suggested any false starts, repetitions, self-corrections, discourse markers, fragments were eliminated from the transcripts. Any piece of speech which did not serve the purpose of the study, including the comments about the study from participants during data collection procedure, were eliminated as well in order to allow for a purposeful collection and measurement of the data. The NeoSCA version of the analyzer was utilized to run the system on Windows properly. The analysis was completed for formal and informal oral data separately. Secondly, the formal oral data transcripts from participants in groups were formed in a Word file and uploaded to the analyzer. The order of the groups were GER-ITA-ENG (L3), NS, and TUR-ENG (L2). The analyzer provided results in two Excel tables which included numerical results and matches in 11 indices separately. Afterwards, the informal oral data transcripts were formed in a Word file and uploaded to the analyzer and the tables for numerical results and matches in 11 indices were obtained as well. The AS-units were double checked manually to decide whether they correctly replaced T-units in the analyzer or not. The miscategorizations were corrected and numerical results for indices were adjusted properly based on the correct numbers and calculations were made manually for each index as well. The table which showed matches were carefully checked for

any mismatches or omissions from the original transcripts, and if the numerical results were corrected by either increasing or decreasing the number of indices.

Then, two separate tables for formal and informal speech were formed to run Shapiro-Wilk Normality tests to determine whether the data were distributed normally in groups and numerical results of indices. Afterwards, depending on the purpose of each research question, a set of tables were generated including numerical results from each participant in groups for each index for MANOVA with post hoc analysis. A statistics program SPSS 31.0.0 version was utilized to run the analysis. For RQ1 all the tables uploaded to the program once again to run Mixed ANOVA in order to find the differences if there are any. For, RQ1.1, and RQ1.2 separate tables containing formal and informal speech of each group were uploaded to the program, and MANOVA with post hoc tests was run to detect any differences in 11 indices within groups, if so, which indices differ in which groups. In addition, due to small sample size Kruskal-Wallis with Dunn's post hoc comparisons were run to ensure the robustness of the data for RQ1.1 and RQ1.2. The results for differences in indices between groups were reported in the result section for formal and informal speech.

3.5.2. Qualitative Analysis

For RQ2, all AS-units in transcriptions which were produced by participants in registers were collected in separate Excel tables, and AS-units were analyzed whether there were any errors or not. Then AS-units were labelled as grammatical or ungrammatical. If the AS-units were ungrammatical, then the source of the error was determined to trace any transfer effects from previously acquired languages. The sources of errors were categorized, and sample sentences were included for each source of error. Then, the ratios of errors for each category were calculated. Whether those errors were caused by any positive or negative effects from previously acquired languages were reported and explained elaborately.

Lastly, to provide further support and evidence for CLI, speech samples were provided for the syntactic complexity measures which significantly differed among the groups based on MANOVA and post hoc test results. Any previously acquired language effect were traced in speech samples and whether it caused certain measures to be differed among groups in terms of complexity of the utterances were reported and explained in detail in the results section of the study.

4. RESULTS

In this chapter, the results of the quantitative analyses of the data gathered were presented in depth. The main purpose is to investigate the crosslinguistic influence on syntactic complexity in the formal and informal speech of multilingual speakers. In addition, to compare and contrast the constructs and effects between and within the groups. The results of the following questions will be discussed in this chapter:

1. Is there a difference in syntactic complexity between formal and informal speech among L2 English, L3 English, and NS groups?

    1.1 Is there a difference in syntactic complexity among L2 English, L3 English, and NS groups in formal speech?

    1.2 Is there a difference in syntactic complexity among L2 English, L3 English, and NS groups in informal speech?

2. What is the source language for CLI in L2 and L3 acquisition?

Oral data were gathered via online interviews, and quantifications were formed on L2SCA and checked manually first, and then related analyses were run on SPSS to achieve the quantitative data and its results.

4.1. Normality Assessment (Shapiro-Wilk Test)

To investigate the crosslinguistic influence on syntactic complexity of groups' formal and informal speech the quantification of oral data were examined. The scores were compared between groups. To examine whether distribution of the data is normal or not Shapiro-Wilk Normality Test was run. Table 7 shows the distribution of normality test results. In addition, Levene's Test of Variances was conducted to examine homogeneity of variance across groups for each syntactic complexity measure in both speech registers. The findings indicated that all indices met the homogeneity assumption (p>.05), except for the VP/AS measure in informal speech (p=.01).

Table 7. Shapiro-Wilk Normality Test Results for MLAS, MLC, C/AS, CAS/AS

	GROUP	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
MLAS FORMAL	L3	.299	7	.059	.853	7	.132
	L2	.295	4	.	.821	4	.145
	NS	.358	6	.016	.776	6	.035
MLAS INFORMAL	L3	.215	7	.200*	.895	7	.304
	L2	.214	4	.	.946	4	.692
	NS	.194	6	.200*	.976	6	.931
MLC FORMAL	L3	.283	7	.095	.849	7	.120
	L2	.309	4	.	.916	4	.517
	NS	.353	6	.019	.733	6	.013
MLC INFORMAL	L3	.211	7	.200*	.888	7	.265
	L2	.422	4	.	.678	4	.006
	NS	.206	6	.200*	.907	6	.415
C/AS FORMAL	L3	.223	7	.200*	.912	7	.411
	L2	.239	4	.	.888	4	.375
	NS	.206	6	.200*	.893	6	.335
C/AS INFORMAL	L3	.209	7	.200*	.911	7	.401
	L2	.279	4	.	.939	4	.647
	NS	.223	6	.200*	.961	6	.829
CAS/AS FORMAL	L3	.185	7	.200*	.930	7	.549
	L2	.250	4	.	.927	4	.577
	NS	.171	6	.200*	.973	6	.914
CAS/AS INFORMAL	L3	.167	7	.200*	.943	7	.665
	L2	.279	4	.	.939	4	.647
	NS	.215	6	.200*	.916	6	.476

According to Shapiro-Wilk test results, formal MLAS, MLC in NS group, and informal MLC in L2 group displayed a non-normal distribution (p<.05)

Table 8. Shapiro-Wilk Normality Test Results for VP/AS, DC/AS, DC/C

	GROUP	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
VP/AS FORMAL	L3	.241	7	.200*	.876	7	.208
	L2	.258	4	.	.908	4	.471
	NS	.269	6	.200*	.824	6	.096
VP/AS INFORMAL	L3	.221	7	.200*	.880	7	.225
	L2	.243	4	.	.964	4	.806
	NS	.279	6	.160	.909	6	.430
DC/AS FORMAL	L3	.163	7	.200*	.961	7	.830
	L2	.204	4	.	.953	4	.737
	NS	.373	6	.009	.695	6	**.005**
DC/AS INFORMAL	L3	.210	7	.200*	.963	7	.840
	L2	.309	4	.	.913	4	.497
	NS	.203	6	.200*	.938	6	.644
DC/C FORMAL	L3	.199	7	.200*	.964	7	.851
	L2	.270	4	.	.947	4	.697
	NS	.284	6	.143	.857	6	.178
DC/C INFORMAL	L3	.155	7	.200*	.971	7	.909
	L2	.293	4	.	.918	4	.528
	NS	.146	6	.200*	.990	6	.989

The results of normality tests determined a non-normal distribution for informal DC/AS in NS group (p<.05).

Table 9. Shapiro-Wilk Normality Test Results for CP/AS, CP/C, CN/AS, CN/C

	GROUP	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
CP/AS FORMAL	L3	.165	7	.200*	.980	7	.962
	L2	.304	4	.	.811	4	.123
	NS	.222	6	.200*	.942	6	.678
CP/AS INFORMAL	L3	.374	7	.004	.777	7	**.024**
	L2	.321	4	.	.899	4	.424
	NS	.305	6	.085	.832	6	.111
CP/C FORMAL	L3	.181	7	.200*	.963	7	.844
	L2	.306	4	.	.758	4	**.046**
	NS	.208	6	.200*	.875	6	.248
CP/C INFORMAL	L3	.327	7	.023	.821	7	.066
	L2	.301	4	.	.908	4	.474
	NS	.315	6	.063	.781	6	**.040**
CN/AS FORMAL	L3	.255	7	.187	.884	7	.245
	L2	.262	4	.	.877	4	.327
	NS	.430	6	.001	.613	6	**.001**
CN/AS INFORMAL	L3	.213	7	.200*	.897	7	.316
	L2	.287	4	.	.892	4	.393
	NS	.391	6	.005	.732	6	.013
CN/C FORMAL	L3	.155	7	.200*	.965	7	.858
	L2	.203	4	.	.962	4	.792
	NS	.427	6	.001	.632	6	.001
CN/C INFORMAL	L3	.157	7	.200*	.953	7	.755
	L2	.255	4	.	.918	4	.525
	NS	.367	6	.011	.765	6	.028

Shapiro-Wilk test results showed that in formal speech CP/C in L2 group, CN/AS, CN/C in NS group, informal CP/C, CN/AS, CN/C in NS group and CP/AS in L3 group displayed a non-normal distribution (p<.05).

4.2. Manova With Post Hoc Results

To examine whether there is a significant difference in the results of each construct MANOVA was run on SPSS. Then, post hoc tests were run to detect the presence of differences for constructs among the groups in formal and informal speech.

4.2.1. Formal Speech Results

To examine whether there is a difference on syntactic complexity for MLAS, MLC, C/AS, CAS/AS, VP/AS, DC/AS, DC/C, CP/AS, CP/C, CN/AS, CN/C MANOVA with post hoc tests were run among groups' formal speech quantifications.

Table 10. Multivariate Test Results of Formal Speech

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	1.000	2033.440[b]	11.000	4.000	.000
	Wilks' Lambda	.000	2033.440[b]	11.000	4.000	.000
	Hotelling's Trace	5591.960	2033.440[b]	11.000	4.000	.000
	Roy's Largest Root	5591.960	2033.440[b]	11.000	4.000	.000
GROUP	Pillai's Trace	1.847	5.503	22.000	10.000	.004
	Wilks' Lambda	.003	6.370[b]	22.000	8.000	**.005**
	Hotelling's Trace	50.329	6.863	22.000	6.000	.012
	Roy's Largest Root	43.649	19.841[c]	11.000	5.000	.002

Results of MANOVA yielded that there was a statistically significant difference among the groups on syntactic complexity measures in formal speech Wilk's Lambda value is =.003, F (22,8) = 6.370, p<.05. These results provide evidence to answer RQ1 indicating a difference, and evidence shows that groups notably differ in generating syntactically complex spoken utterances in formal speech.

Table 11. MLC Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
MLC FORMAL	Bonferroni	L3	L2	1.4664	.63585	.111	-.2617	3.1945
			NS	1.6298*	.56439	**.036**	.0959	3.1636
		L2	L3	-1.4664	.63585	.111	-3.1945	.2617
			NS	.1633	.65483	1.000	-1.6163	1.9430
		NS	L3	-1.6298*	.56439	**.036**	-3.1636	-.0959
			L2	-.1633	.65483	1.000	-1.9430	1.6163
	Games-Howell	L3	L2	1.4664	.69445	.162	-.6223	3.5552
			NS	1.6298*	.53606	**.029**	.1770	3.0825
		L2	L3	-1.4664	.69445	.162	-3.5552	.6223
			NS	.1633	.64256	.965	-1.9072	2.2338
		NS	L3	-1.6298*	.53606	**.029**	-3.0825	-.1770
			L2	-.1633	.64256	.965	-2.2338	1.9072

Since the distribution was not normal in MLC construct in NS group (p<.05) Games-Howell results were utilized in comparison of the groups. Games-Howell results indicated that there is a statistically significant difference between NS and L3 group (p=.029). These results showed that mean score for mean length of clauses in L3 group (M= 1.62, SD= .53) is significantly different than NS group (M=-1.62, SD=.53). Taken together, L3 group's clauses were longer thus were more complex than NS group's clauses.

Table 12. C/AS Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
C/AS FORMAL	Bonferroni	L3	L2	.0554	.20941	1.000	-.5138	.6245
			NS	-.7421*	.18588	.004	-1.2473	-.2370
		L2	L3	-.0554	.20941	1.000	-.6245	.5138
			NS	-.7975*	.21566	**.007**	-1.3836	-.2114
		NS	L3	.7421*	.18588	**.004**	.2370	1.2473
			L2	.7975*	.21566	.007	.2114	1.3836
	Games-Howell	L3	L2	.0554	.13258	.909	-.3162	.4270
			NS	-.7421*	.21228	.020	-1.3503	-.1340
		L2	L3	-.0554	.13258	.909	-.4270	.3162
			NS	-.7975*	.20395	.015	-1.4029	-.1921
		NS	L3	.7421*	.21228	.020	.1340	1.3503
			L2	.7975*	.20395	.015	.1921	1.4029

The distribution of the data was normal; thus, Bonferroni results were checked to detect any differences and the results showed statistically significant difference for C/AS construct L3 and NS group (p=.004) also between L2 and NS group p=.007. These results indicated that the mean score for the usage of clauses per AS-unit in L3 group (M= -.74, SD=.18) is significantly different than NS group (M=.74, SD=.21). According to these results, NS group produced more clauses in each AS-unit in their spoken utterances than L3 group. Similarly, the mean score for the usage of clauses per AS-unit in L2 group (M=-.79, SD=.21) is significantly different than NS group (M=.79, SD=.20). These results yielded that NS group utilized more clauses per AS-unit in formal speech than L2 group.

Table 13. VP/AS Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
VP/AS FORMAL	Bonferroni	L3	L2	-.0525	.22357	1.000	-.6601	.5551
			NS	-.8167*	.19845	**.003**	-1.3560	-.2773
		L2	L3	.0525	.22357	1.000	-.5551	.6601
			NS	-.7642*	.23024	**.015**	-1.3899	-.1384
		NS	L3	.8167*	.19845	.003	.2773	1.3560
			L2	.7642*	.23024	.015	.1384	1.3899
	Games-Howell	L3	L2	-.0525	.12826	.913	-.4160	.3110

			NS	-.8167*	.22977	.022	-1.4943	-.1390
		L2	L3	.0525	.12826	.913	-.3110	.4160
			NS	-.7642*	.22742	.031	-1.4449	-.0835
		NS	L3	.8167*	.22977	.022	.1390	1.4943
			L2	.7642*	.22742	.031	.0835	1.4449

Statistically significant results were found in Bonferroni test for VP/AS construct between L3 and NS group (*p*=,003) and L2 and NS group (*p*=,031). Based on these results, L3 group's mean score (*M*=-.81, *SD*=.19) considerably differs than NS group (*M*=.81, *SD*=.22) meaning that NS group produced more verb phrases in AS-units in formal speech. Similarly mean score of L2 group (*M*=-.76, *SD*=.23) remarks a difference than NS group (*M*=.76, *SD*=.22) in terms of producing verb phrases, which concludes that NS group was the generic group in producing verb phrases per AS-units.

Table 14. DC/AS Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
DC/AS FORMAL	Bonferroni	L3	L2	.1132	.20314	1.000	-.4389	.6653
			NS	-.2693	.18031	.473	-.7593	.2208
		L2	L3	-.1132	.20314	1.000	-.6653	.4389
			NS	-.3825	.20921	.267	-.9511	.1861
		NS	L3	.2693	.18031	.473	-.2208	.7593
			L2	.3825	.20921	.267	-.1861	.9511
	Games-Howell	L3	L2	.1132	.10654	.563	-.1972	.4236
			NS	-.2693	.21090	.446	-.8749	.3363
		L2	L3	-.1132	.10654	.563	-.4236	.1972
			NS	-.3825	.18861	.195	-.9821	.2171
		NS	L3	.2693	.21090	.446	-.3363	.8749
			L2	.3825	.18861	.195	-.2171	.9821

The post hoc results between groups did not indicate any significant difference in DC/AS construct in formal speech with *p*>0.05. However, the mean scores of groups showed that L3 group (*M*= 326) produced higher amounts of dependent clauses than L2 (*M*=213) group. In addition, NS group had the higher mean score with *M*=595, which indicates that the participants in this group produced more dependent clauses than the other two groups. The difference in the mean scores between L3 group and L2 group demonstrated a substantial factor for the purpose of the study which is explained for RQ2.

Table 15. CN/C Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
CN/C FORMAL	Bonferroni	L3	L2	.3271*	.11934	**.048**	.0028	.6515
			NS	.0721	.10592	1.000	-.2157	.3600
		L2	L3	-.3271*	.11934	.048	-.6515	-.0028
			NS	-.2550	.12290	.171	-.5890	.0790
		NS	L3	-.0721	.10592	1.000	-.3600	.2157
			L2	.2550	.12290	.171	-.0790	.5890
	Games-Howell	L3	L2	.3271*	.07864	.016	.0816	.5727
			NS	.0721	.12018	.825	-.2886	.4329
		L2	L3	-.3271*	.07864	.016	-.5727	-.0816
			NS	-.2550	.12984	.187	-.6308	.1208
		NS	L3	-.0721	.12018	.825	-.4329	.2886
				.2550	.12984	.187	-.1208	.6308

A statistical significance was determined for CN/C construct between L3 and L2 group (*p*=,048). The mean score for L3 group (*M*=.32, *SD*=.11) determined notable difference in terms of using complex nominals per clause in spoken utterance than L2 group (*M*=-.32, *SD*=.07). This result concluded that L3 group participants produced more complex nominals in clauses than L2 group participants. No significant differences were found in other constructs among groups in formal speech.

4.2.2. Informal Speech Results

To examine whether there is a difference on syntactic complexity for MLAS, MLC, C/AS, CAS/AS, VP/AS, DC/AS, DC/C, CP/AS, CP/C, CN/AS, CN/C MANOVA with post hoc tests were run among groups' formal speech quantifications.

Table 16. Multivariate Test Results of Informal Speech

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	1.000	29613.162[b]	11.000	4.000	.000
	Wilks' Lambda	.000	29613.162[b]	11.000	4.000	.000
	Hotelling's Trace	81436.196	29613.162[b]	11.000	4.000	.000
	Roy's Largest Root	81436.196	29613.162[b]	11.000	4.000	.000
GROUP	Pillai's Trace	1.407	1.079	22.000	10.000	.472
	Wilks' Lambda	.088	.865[b]	22.000	8.000	.632
	Hotelling's Trace	4.772	.651	22.000	6.000	.787
	Roy's Largest Root	2.596	1.180[c]	11.000	5.000	.456

Results of MANOVA yielded that there was not a statistically significant difference among the groups on syntactic complexity measures in informal speech Wilk's Lambda value is =.632, F (22,8) =.865[b,] p>.05. These results answer RQ2 indicating no difference among the groups in generating syntactically complex spoken utterances in informal speech. However, post hoc test results determined syntactically significant differences among groups in MLAS and VP/AS constructs for informal speech.

Table 17. MLAS Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
MLAS INFORMAL	Bonferroni	L3	L2	2.2346*	.75459	**.031**	.1838	4.2854
			NS	-.3329	.66980	1.000	-2.1532	1.4875
		L2	L3	-2.2346*	.75459	.031	-4.2854	-.1838
			NS	-2.5675*	.77712	.016	-4.6795	-.4555
		NS	L3	.3329	.66980	1.000	-1.4875	2.1532
			L2	2.5675*	.77712	.016	.4555	4.6795
	Games-Howell	L3	L2	2.2346*	.66893	.035	.1967	4.2726
			NS	-.3329	.70527	.886	-2.3018	1.6361
		L2	L3	-2.2346*	.66893	.035	-4.2726	-.1967
			NS	-2.5675*	.79711	.030	-4.8603	-.2747
		NS	L3	.3329	.70527	.886	-1.6361	2.3018
			L2	2.5675*	.79711	.030	.2747	4.8603

Bonferroni results displayed a significant difference for MLAS construct between L3 and L2 group (p=,031). The mean score of L3 group (M=2.23, SD=.75) spotted a

significant difference in the mean length of AS-units in informal speech than L2 group (*M*=-2.23, *SD*=.75). Based on these results, it can be inferred that L3 group's AS-units were longer and more complex than L2 group's utterances in informal speech.

Table 18. VP/AS Post Hoc Results

Dependent Variable		(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
VP/AS INFORMAL	Bonferroni	L3	L2	.2089	.10967	.233	-.0891	.5070
			NS	-.1569	.09735	.388	-.4215	.1077
		L2	L3	-.2089	.10967	.233	-.5070	.0891
			NS	-.3658*	.11295	**.018**	-.6728	-.0589
		NS	L3	.1569	.09735	.388	-.1077	.4215
			L2	.3658*	.11295	.018	.0589	.6728
	Games-Howell	L3	L2	.2089	.11410	.215	-.1106	.5285
			NS	-.1569	.09529	.284	-.4310	.1172
		L2	L3	-.2089	.11410	.215	-.5285	.1106
			NS	-.3658*	.07964	.018	-.6375	-.0942
		NS	L3	.1569	.09529	.284	-.1172	.4310
			L2	.3658*	.07964	.018	.0942	.6375

In multiple comparisons a statistically significant difference was determined for VP/AS construct between L2 and NS group's informal speech (*p*=,018). The mean score of NS group (*M*=.36, *SD*=.018) displayed a difference in producing verb phrases per AS-unit than L2 group (*M*=-.36, *SD*=.11). Taken together, it can be interpreted that NS group produces more verb phrases in AS-units leading to producing more complex informal speech than L2 group's utterance in speaking. There were not any significant differences in remaining constructs for the informal speech of groups.

4.3. Kruskal-Wallis with Post Hoc Results

Even though the normality assessment indicated that the distribution was normal for constructs expect for VP/AS in informal speech, due to the small sample size Kruskal-Wallis with Dunn's post hoc comparisons were run to ensure the robustness of data for each construct and the results were reported for formal and informal speech separately. Kruskal-Wallis tests and post hoc comparisons yielded consistent results with MANOVA except for MLAS construct in informal speech.

4.3.1. Formal Speech Results

To examine whether there is a difference on syntactic complexity for MLAS, MLC, C/AS, CAS/AS, VP/AS, DC/AS, DC/C, CP/AS, CP/C, CN/AS, CN/C Kruskal-Wallis with Dunn's post hoc comparisons were run among groups' formal speech quantifications.

Table 19. MLC Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	7.080	2	.029

Kruskal-Wallis test also indicated a statistically significant difference among the groups for MLC construct (*p*=.029).

Table 20. MLC Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	-1.852	7.000	12.857	0.714	.064	.192	.128
L2 - NS	0.358	7.000	5.833	-0.167	.720	1.000	.720
L3 - NS	2.502	12.857	5.833	-0.810	.012	.037	.037

Dunn's post hoc comparisons with Bonferroni correction yielded a significant difference between L3 group and NS group (*z*= 2.50, *p*=0.37). These results indicated that L3 group's clauses were more complex than NS group's clauses.

Table 21. C/AS Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	10.35	2	.006

Kruskal-Wallis test showed a significant difference among groups for C/AS construct in formal speech (*p*=.006).

Table 22. C/AS Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	-0.045	6.000	6.143	0.000	.964	1.000	.964
L2 - NS	-2.557	6.000	14.333	1.000	.011	.032	.021
L3 - NS	-2.915	6.143	14.333	0.952	.004	.011	.011

In Dunn's post hoc tests with Bonferroni correction, significant difference between L2 and NS group (*z*=-2.55, *p*=.032) and L3 and NS group (*z*=-2.91, *p*=.011) was found. These differences yielded that NS group used more clauses per AS-unit than other groups, and NS group produced more complex utterances.

Table 23. VP/AS Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	11.15	2	.004

Kruskal-Wallis results showed a statistically significant differences among the groups for VP/AS construct (*p*=.004).

Table 24. VP/AS Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	0.373	6.750	5.571	-0.214	.709	1.000	.709
L2 - NS	-2.379	6.750	14.500	1.000	.017	.052	.035
L3 - NS	-3.180	5.571	14.500	1.000	.001	.004	.004

Dunn post hoc results with Bonferroni correction indicated that production of VP/AS construct does not differ between L2 and NS group (*z*=-2.37, *p*=.05) however, it shows tendency to differ significantly. On the other hand, the construct differs between L3 and NS group (*z*=-3.18, *p*=.004). NS group utilized more verb phrases per AS-unit in spoken utterances.

Table 25. DC/AS Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	5.777	2	.056

Kruskal-Wallis test did not show any statistically significant difference among the groups for DC/AS construct. However, it showed a tendency to differ significantly with *p*=.056

Table 26. CN/C Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	8.679	2	.013

Kruskal-Wallis results yielded a statistical difference among the groups in CN/C construct in formal speech with *p*=.013.

Table 27. CN/C Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	-2.918	3.500	12.714	0.964	.004	.011	.011
L2 - NS	-1.486	3.500	8.333	0.708	.137	.411	.236
L3 - NS	1.563	12.714	8.333	-0.595	.118	.354	.236

Dunn post hoc tests with Bonferroni correction showed a significant difference between L2 group and L3 group in CN/C construct in formal speech (*z*=-2.91, *p*=.011). These results once again indicated that L3 group produced more complex nominals per clause than L2 group.

4.3.2. Informal Speech Results

To examine whether there is a difference on syntactic complexity for MLAS, MLC, C/AS, CAS/AS, VP/AS, DC/AS, DC/C, CP/AS, CP/C, CN/AS, CN/C Kruskal-Wallis with Dunn's post hoc comparisons were run among groups' formal speech quantifications.

Table 28. MLAS Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	6.380	2	.041

Kruskal-Wallis test showed a statistically significant difference among the groups for MLAS construct in informal speech (*p*=.041).

Table 29. MLAS Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	-2.128	3.500	10.21	0.821	.033	.100	.067
L2 - NS	-2.385	3.500	11.25	0.875	.017	.051	.051
L3 - NS	-0.370	10.214	11.25	0.143	.712	1.000	.712

Even though Kruskal-Wallis test pointed a difference among groups, Dunn's post hoc comparisons with Bonferroni correction did not indicate a difference between L2 and L3 group (*z*=-2.12, *p*=.100). This may be due to the small sample size effect.

Table 30. VP/AS Kruskal-Wallis Results

Factor	Statistic	df	p
GROUP	6.071	2	.048

Lastly, Kruskal-Wallis test yielded a significant difference among the groups for VP/AS construct in informal speech (*p*=.048).

Table 31. VP/AS Dunn's Post Hoc Comparisons

Comparison	z	W_i	W_j	r_{rb}	p	p_{bonf}	p_{holm}
L2 - L3	-1.484	4.250	8.929	0.500	.138	.414	.276
L2 - NS	-2.463	4.250	12.250	1.000	.014	.041	.041
L3 - NS	-1.187	8.929	12.250	0.357	.235	.706	.276

Dunn's post hoc comparisons with Bonferroni correction showed a difference between L2 and NS groups for VP/AS construct in informal speech (*z*=-2.46, *p*=.041). NS group produced more verb phrases per AS-unit in spoken production.

4.4. Mixed Anova Results

To answer whether there is difference on syntactic complexity between formal and informal speech of groups for MLAS, MLC, C/AS, CAS/AS, VP/AS, CP/AS, CP/C, DC/AS, DC/C, CN/AS, CN/C repeated measures ANOVA was run on SPSS. This research question holds a significant place in the study because it provides deep insights on how syntactic complexity differs among groups across registers.

Table 32. MLAS Mixed ANOVA Results

		Mean Difference	SE	df	t	p_{bonf}	p_{holm}
NS, FORMAL	(L3, INFORMAL)	3.486	1.186	14	2.940	.161	.134
	(L2, INFORMAL)	5.721	1.250	14	4.578	**.006**	.006
	NS, INFORMAL	3.153	1.183	14	2.665	.277	.166

Repeated ANOVA results showed a statistically significant difference of register on syntactic complexity with *p*=,006 between NS formal and L2 informal speech for MLAS construct. Pairwise comparisons with Bonferroni showed that NS group's formal speech differed than L2 group's informal speech in MLAS construct (*MD*= 5.72, *SE*= 1.25). According to these results, NS produced used syntactically complex AS-units in their formal speech than L2 group's informal speech.

Table 33. C/AS Mixed ANOVA Results

		Mean Difference	SE	df	t	p_{bonf}	p_{holm}
(L3, FORMAL)	(L2, FORMAL)	0.055	0.209	14	0.264	1.000	1.000
	NS, FORMAL	-0.742	0.186	14	-3.993	**.020**	.017
	(L3, INFORMAL)	0.043	0.159	14	0.270	1.000	1.000
	(L2, INFORMAL)	0.135	0.160	14	0.846	1.000	1.000
	NS, INFORMAL	-0.090	0.150	14	-0.605	1.000	1.000
(L2, FORMAL)	NS, FORMAL	-0.798	0.216	14	-3.698	**.036**	.026
	(L3, INFORMAL)	-0.012	0.183	14	-0.068	1.000	1.000
	(L2, INFORMAL)	0.080	0.210	14	0.381	1.000	1.000
	NS, INFORMAL	-0.146	0.185	14	-0.787	1.000	1.000
NS, FORMAL	(L3, INFORMAL)	0.785	0.155	14	5.053	**.003**	.002
	(L2, INFORMAL)	0.878	0.168	14	5.218	**.002**	.002
	NS, INFORMAL	0.652	0.172	14	3.797	**.029**	.024

There was a significant difference for C/AS construct between NS formal and L3 formal (*p*=,020), NS formal and L2 formal (*p*=,036), NS formal and GER-ITA-ENG informal (*p*=,003), and NS formal L2 informal speeches (*p*=,002). NS group's formal and L3 groups formal speech differed in the usage of clauses per AS-units (*MD*=-0.74, *SE*=0.18). In addition, NS group's formal speech and L3 group's informal speech were significantly different for C/AS construct (*MD*=0.78, *SE*=0.15). Moreover, NS group's formal and L2 group's informal speech was distinct in C/AS construct (*MD*=-0.79, *SE*=0.21). Lastly, NS group's formal and L2 group's informal speech also differed in C/AS complexity measure (*M*D=0.87, *SE*=0.16). Taken together, in both formal and informal speech NS group produced more clauses in AS-units which increases the complexity of AS-units than the other groups.

Table 34. CAS/AS Mixed ANOVA Results

		Mean Difference	SE	df	t	p_{bonf}	p_{holm}
(L3, FORMAL)	(L2, FORMAL)	-0.020	0.091	14	-0.224	1.000	1.000
	NS, FORMAL	-0.353	0.081	14	-4.382	**.009**	.009
	(L3, INFORMAL)	-0.007	0.081	14	-0.088	1.000	1.000
	(L2, INFORMAL)	0.030	0.096	14	0.310	1.000	1.000
	NS, INFORMAL	-0.098	0.084	14	-1.161	1.000	1.000
(L2, FORMAL)	NS, FORMAL	-0.333	0.093	14	-3.559	**.047**	.038
	(L3, INFORMAL)	0.013	0.094	14	0.141	1.000	1.000
	(L2, INFORMAL)	0.050	0.107	14	0.467	1.000	1.000
	NS, INFORMAL	-0.078	0.097	14	-0.801	1.000	1.000
NS, FORMAL	(L3, INFORMAL)	0.346	0.084	14	4.126	**.015**	.014
	(L2, INFORMAL)	0.383	0.098	14	3.891	**.024**	.021
	NS, INFORMAL	0.255	0.087	14	2.918	.169	.124

A statistical significance was found for CAS/AS construct between L3 formal and NS formal (*p*=,009). In addition, a statistical significance was also present in L2 formal and NS formal (*p*=,047). Between NS formal and L3 and L2 informal speeches showed a greater difference with *p*=,015 and *p*=,024. NS group's formal speech differed in generating complex AS-units than L3 group's formal speech (*M*D=-0.35, *SE*=0.08). Also, NS group's formal speech differed than L3 group's informal speech for complex AS-units (*M*D=0.34, *SE*=0.08). Similarly, NS group's formal speech was significantly different than L2 group's formal speech (*M*D=-0.33, *SE*=0.09). In addition, NS group's formal speech was different in producing complex AS-units than L2 group's informal speech (*M*D=0.38, *SE*=0.09). All these results indicated that NS group's participants formed more complex AS-units per AS-unit in formal speech than L3 and L2 groups' formal and informal speech.

Table 35. VP/AS Mixed ANOVA Results

		Mean Difference	SE	df	t	p_{bonf}	p_{holm}
(L3, FORMAL)	(L2, FORMAL)	-0.052	0.224	14	-0.235	1.000	1.000
	NS, FORMAL	-0.817	0.198	14	-4.115	**.016**	.014
	(L3, INFORMAL)	-0.021	0.148	14	-0.145	1.000	1.000
	(L2, INFORMAL)	0.188	0.161	14	1.167	1.000	1.000
	NS, INFORMAL	-0.178	0.153	14	-1.169	1.000	1.000
(L2, FORMAL)	NS, FORMAL	-0.764	0.230	14	-3.319	.076	.056
	(L3, INFORMAL)	0.031	0.190	14	0.163	1.000	1.000
	(L2, INFORMAL)	0.240	0.196	14	1.225	1.000	1.000
	NS, INFORMAL	-0.126	0.192	14	-0.655	1.000	1.000
NS, FORMAL	(L3, INFORMAL)	0.795	0.160	14	4.972	**.003**	.003
	(L2, INFORMAL)	1.004	0.170	14	5.911	**<.001**	<.001
	NS, INFORMAL	0.638	0.160	14	3.989	.020	.016

Lastly, for construct VP/AS the ANOVA results demonstrated difference between L3 formal and NS formal (p=.016), L3 informal and NS formal (p=.003) and L2 informal and NS formal with p=<.001. Bonferroni results revealed that NS group's formal speech and L3 group's informal speech significantly differ in producing verb phrases per AS-units (*M*D=-0.81, *SE*=0.19). In addition, NS group's formal and L3 group's informal speech were distinct in terms of the usage of verb phrases per AS-units (*M*D=0.79, *SE*=0.16). Moreover, NS group's formal speech and L2 group's informal speech were statistically significant in utilizing verb phrases per AS-units (*M*D= 1.00, *SE*=0.17). These results yielded that NS group's participants produced more verb phrases per AS-units which make their formal speech more complex than other groups' formal and informal speeches.

4.5. Crosslinguistic Influence Results

For RQ4 the transcriptions of oral data of each group were analyzed to find specific instantiations for the constructs that differed significantly among the groups. All the elements in participants' productions which are related to syntactic complexity measures were counted with L2SCA and manually, and calculations and ratios were made accordingly. In addition to quantification of the data, based on AS-units, the grammaticality was analyzed elaborately, and L2 and L3 English groups were compared in terms of grammatical errors and their sources, and any previously acquired language effect was traced in these sources. Lastly, the comparisons were made among languages and language features were explained to present the reasons behind the presence of crosslinguistic effects in line with the microvariation principle, which was emphasized by the framework of the current study.

4.5.1. Formal Speech

To answer RQ4 for transcriptions of the oral data for formal and informal speech were examined in statistically significant constructs between groups. For MLC construct the ratio was calculated with division of total number of words to total number of clauses which were uttered by participants in groups. In L3 group participants produced 952 words and 127 clauses in total, and their average ratio for MLC was 7.63. On the other hand, the L2 group produced 242 words and 39 clauses in total, and their average ratio was 6.16. Lastly, NS group produced 629 words and 104 clauses in total, and the average ratio was 6.

Table 36. MLC Ratio of Groups

L2			L3			NS		
Words	Clauses	Ratio	Words	Clauses	Ratio	Words	Clauses	Ratio
242	39	6.16	952	127	7.63	629	104	6

These calculations evidently show that L3 group's mean length of clauses were the highest among the other groups. One of the factors behind such result may be related to the production of coordinated clauses with ellipsis of the subject in L3 group's utterances. L3 English speakers. The utterance of Participant 1 shows an instance for the usage of coordinated clauses with ellipsis:

"The dog sees the ball and get excited from it" (Participant 1- L3)

DET NOUN VERB DET NOUN CCONJ VERB ADJ PP PRON

Participant 2's utterance in L3 English L3 group indicates the same pattern:

"and another man crossed the road and like slipped over"

CONJ DET NOUN VERB DET NOUN CCONJ INTJ VERB PP (Participant 2-L3)

Same pattern was also present in NS and L2 groups, Participant 2 in NS group produced such clause in their formal narrative:

"the dog didn't like basketballs and chased after it" (Participant 2- NS)

DET NOUN AUX VERB NOUN CCONJ VERB PART PRON

Participant 1 in L2 group also produced coordinated clause with ellipsis of the subject to narrate the event:

"the car behind did not stop fast enough and crashed into the first car" (Participant 1-L2)

DET NOUN ADV AUX VERB ADV ADJ CCONJ VERB ADP DET DET NOUN

Aforementioned spoken utterances revealed that having certain and different language features is instrumental in learner productions since Italian is the second language of participants in L3 group, and Turkish is the first language. Thus, previous languages influenced their clauses in English by facilitating the omission of the subject when generating a coordinated clause in the same context because both these languages are pro-drop languages, which does not require the repetition of the subject due to their strong inflectional morphologies. Even though English holds strict syntax rules in terms of the presence of subject in each utterance, the usage of coordinated clauses with ellipsis in NS group participants' utterances put forwards a significant point leading to the conclusion that the effects, which come from previous languages for certain linguistic properties, cause learners to produce native like utterances by outlying syntactic rules of English.

Moreover, for DC/AS construct the number of dependent clauses per AS-unit was counted and the ratio was calculated. L3 group produced 30 dependent clauses in total, and their average ratio of production was 0.32. In addition, NS group produced 26 dependent clauses, and the average ratio of dependent clauses was 0.59.

Table 37. DC/AS Ratio of Groups

L2		L3		NS	
Dependent Clauses	Ratio	Dependent Clauses	Ratio	Dependent Clauses	Ratio
6	0.21	30	0.32	26	0.59

The oral data in L3 group and NS group consisted of several types of clauses such as relative clauses, adverbial clauses with "because", noun clauses, participle clauses etc. and phrase level usages in each clause indicating that L3 group and NS group participants produced several and plenty of dependent clauses in each AS-unit in formal speech. The utterance of Participant 7 shows the usage of relative clause:

"there was a dog from the other side who ran over to get the ball." (Participant 7- L3)

PRON VERB DET NOUN PP DET DET NOUN PRON VERB PART PP VERB DET NOUN

Adverbial clauses were mostly formed by utilizing "because" such as the example in Participant 6's utterance:

"the blue car has to stop immediately because the dog is barking" (Participant 6-L3)

DET ADJ NOUN AUX VERB ADV SCONJ DET NOUN AUX VERB

Participant 6 in NS group utilized participle clause which was labelled as high-proficiency utterance (De Clerq & Housen, 2017), and even it was considered as a native production:

"the dog barked, creating chaos" (Participant 6-NS)

DET NOUN VERB VERB NOUN

Whereas L2 group produced 6 dependent clauses, and the average ratio of DC/AS construct was 0.21. Only Participant 4 in L2 group produced relative clauses, and no instantiation of adverbial clauses was found in their productions. These results indicated that even though learners had the same proficiency levels in English, since the linguistic properties differed in their previous languages participants in L3 group received facilitation from their L1, which is German, in forming relative clauses because two languages share identical rules for generating and utilizing relative clauses with relative pronouns by having head initial position feature in contrary to participants in L2 group, who cannot receive any facilitation from their L1, which is

Turkish, and formation of relative clauses was inhibited due to head final position feature of the language.

Lastly, post hoc results indicated a significant difference between L3 group and L2 group for the construct CN/C in formal speech. L3 group uttered 76 complex nominals in formal speech, and their average ratio was calculated as 0.59. On the other hand, L2 group produced 11 complex nominals per clauses, and their average ratio was 0.27.

Table 38. CN/C Ratio of Groups

L2		L3	
Complex Nominals	Ratio	Complex Nominals	Ratio
11	0.27	76	0.59

Oral data demonstrated that L3 group participants were more prone to form complex nominals by utilizing premodifiers and postmodifiers with relative pronouns while L2 group participants preferred to form complex nominals with premodifiers and prepositions as postmodifiers. In L3 group one example of Participant 1's utterance was:

"a father who has a ball in his hand" (Participant 1-L3)

DET NOUN PRON VERB NUM NOUN ADP ADJ NOUN

Only Participant 4 in TUR-ENG group produced a complex nominal with relative pronouns:

"the cars which color is blue" (Participant 4-L2)

DET NOUN PRON NOUN VERB NOUN

Same structure was also found in NS group's Participant 2:

"the person who was rolling around" (Participant 2-NS)

DET NOUN PRON AUX VERB ADV

In a nutshell, based on participant utterances and preference for usage of premodifiers and postmodifiers to form complex nominals, it can be concluded that the discrepancies in linguistic properties in previous languages continue to have an impact on the production of the learners. As L3 group receives affordance from German and Italian in the formation of complex nominals since the rules that these two languages overlap in the positions of premodifiers and postmodifiers, participants in L2 group

may lack this facility owing to head final position feature of the language. Since German and Italian shares head initial position and rules about forming complex nominals with pre and postmodifiers and especially with relative clauses are similar, these factors boosted complex nominal formation effectively. However, Turkish only shares the rule of forming complex nominals by using adjectives before the noun with English and all the other rules are bounded to head final position feature of the language, and they occurred less in L2 English speakers' productions for complex nominals. Even though head final position assisted learners in producing complex nominals with premodifiers because the feature is identical in Turkish and English, the lack of application of relative pronouns may have played a role in decreasing the number of complex nominals in their speech. The fact that participants were able to form complex nominals with postmodifiers despite structural difference indicates that it is already acquired since the linguistic property is amenable to their current proficiency level, and their proficiency levels allow such automatization of the usage.

The facilitative effect may have come from both German and Italian in L3 group's utterances; however, the fact that there was not any instance of forming complex nominals with adjectives by utilizing them after the noun, which is a structure in Italian exploited to stress the meaning indicates that main and major impact comes from participants' L1 which is German.

4.5.2. Informal Speech

In informal speech MLAS construct significantly differed between L3 group and L2 group indicating that L3 English group's participants produced longer AS-units by forming them with multiple clause types than their counterparts in L2 group based on MANOVA results. However, considering the small sample size Kruskal-Wallis results did not detect any significant difference for MLAS construct between these groups. Still, when the ratios were checked it is seen that L3 group produced 987 words and 102 AS-units in total. Their average ratio was 9.76. Meanwhile, L2 group produced 282 words and 38 AS-units in total for informal speech. Their average ratio was 7.53 for MLAS construct.

Table 39. MLAS Ratio of Groups

L2			L3		
Words	AS-units	Ratio	Words	AS-units	Ratio

282	38	7.53	987	102	9.76

Even though the post hoc comparisons did not find any significant difference, Participant 7's utterance in L3 group clearly shows higher amounts of clause usage in one AS-unit based on post hoc results, which detected a significant difference for the mean length of AS-units in informal speech. In addition, mean scores also indicated that L3 group produced more clauses in AS-units than L2 group.

"And the man of the couple who ran to the woman immediately, the dog owner, and tried to help her gather the groceries which she had lost on the street." (Participant 7-L3)

CONJ DET NOUN GEN DET REL VERB PART DET NOUN ADV DET NOUN NOUN CONJ VERB INF VERB PRO VERB DET NOUN REL PRO TAM VERB PRE DET NOUN

This spoken utterance is counted as 1 AS-unit because it includes two relative clauses and one coordinated clause with ellipsis, which are all attached to an independent clause. Moreover, Participant 6 produced 1 AS-unit with three different clauses, an independent clause and an adverbial clause and a complement clause attached to it:

"*And that's annoying because at the end, yeah, it's not nothing that is necessary" (Participant 6-L3)

CONJ PART COPULA VERB CONJ PRE DET NOUN FILLER PRO TAM NEG QUAN PART COPULA ADJ

Yet their counterparts in L2 group formed their AS-units with independent clauses mostly, which led the length of units to be shorter while increasing the number of them. Participant 2's speech is one example for such condition:

"and ball caused the accident, the car in front of stopped and one behind hit it." (Participant 2-L2)

CONJ NOUN VERB DET NOUN DET NOUN PRE GEN VERB CONJ DET PRE VERB PRO

As it is evident in the utterance three independent clauses with two of them connected with "and" were generated by the participant and the speech consisted of 3 AS-units separately. The variation for the same construct evidently remarks the differences in cognitive load and work between L3 English and L2 English speakers. Having known

an additional language in which the distance is close to the target language, the ability to generate complex utterances is fostered by exploiting several structures which have nearly the same features in previous languages in L3 group since the cognition and its demands and processes have suitable accessible properties already. However, having a distant language to the target language prevents those utterances to be produced perplexingly because it is possible that despite their proficiency levels participants in L2 group may have chosen to be on the "safe zone" cognitively by applying coordinated clauses mostly, which eases the cognition and its demands during speaking.

Lastly, there was a significant difference between NS group and L2 group in VP/AS construct. NS group's participants uttered 83 verb phrases and their ratio for per AS-unit was 1.64. On the contrary, the participants in L2 group produced 49 verb phrases, and the ratio was 1.28 for VP/AS construct.

Table 40. VP/AS Ratio of Groups

L2		NS	
Verb Phrases	Ratio	Verb Phrases	Ratio
49	1.28	83	1.64

The oral data showed that participants in NS group used non-finite clauses in the form of gerunds and infinitives, collocations and phrasal verbs which increased the number of verb phrases and phrasal complexity as well. An example of Participant 5's utterance shows the verb phrase usage clearly:

"and then they ended up looking at the damage and assessing it and called 911" (Participant 5-NS)

CONJ CONJ PRO VERB GER PRE DET NOUN CONJ GERUND PRO CONJ VERB NOUN

In 1 AS-unit 4 different verb phrases were exploited by the participant, and they generated the clauses by focusing on the verb. This utterance provides intriguing aspects of English and native usage of it because English is subject-prominent language which arranges its grammatical rules in notion of subject. In NS group participants' spoken language it is evident that the grammar is organized around verb phrases, mostly eliminating the feature of the language. However, except for producing coordinated clauses with ellipsis, participants in L2 group generally lacked forming

clauses around verb phrases such as gerunds and infinitives, and the number of sequential clauses with verb phrases was not high. Turkish is a topic-prominent language, and importance is given to verbs mostly due to its inflectional system which covers several cases such as tense, aspect, modality, and even subject as being pro-drop. Yet the lack of production in verb phrases may be connected to instructed language learning. Since the participants were exposed to English at school, they were not aware of natural language use, and all the grammar rules were taught strictly by adhering to the syntax of English. Therefore, this condition may have led participants to avoid common usage of verb phrases and form full clauses with subjects placed to negotiate the meaning.

4.5.3. Structural Analysis

To seek further evidence and provide further elaboration on crosslinguistic influence in the productions of the groups, the grammaticality of spoken utterances and their sources were analyzed, and the types of errors were distributed. The analysis contained AS-units only and lexical and semantic errors were ignored, and no distinction was made between registers. Table 23 shows the numbers of AS-units in formal and informal speech and the numbers of grammatical vs. ungrammatical utterances of L3 group.

Table 41. L3 Distribution of Grammaticality

Formal		Informal	
Grammatical	Ungrammatical	Grammatical	Ungrammatical
49	35	71	29
Total: 84 AS Unit		Total: 100 AS Unit	

L3 group generated 84 AS-units in formal and 100 AS-units in informal speech in total. The participants in the group produced 35 ungrammatical AS-units in formal speech while they produced 29 ungrammatical AS-units in informal speech meaning that participants made more errors in formal speech than informal speech.

Table 42. L3 Distribution of Errors

Type	Sample	Number	Ratio %
Word order	*Behind a van is a family	14	21.8
TAM	*We do not saw the damage	15	23.4

Article	*I saw the what happened	7	10.9
Gender	*There was a lady packing his grocery	6	9.3
Case	*The woman of the dog run into the street	8	12.5
Double negation	*It is not nothing necessary	3	4.6
S-V Agreement	*There was two cars coming from the other side	6	9.3
Relative pronoun	* there is, {um, um,} a man and a woman, which, um, came back from {the. Um,} from buying something and from the grocery store	5	7.8

In L3 group, most frequently committed errors were word-order and Tense, Aspect, and Modality errors. Both German and Italian are SVO languages. Yet both are not as rigid as English in terms of word order. There are instances of flexible word order in both. For word order, relatively flexible word order in German imposing only V2 (verb being always in the second position) while in the case of Italian it is question word order, the basic sentence structure remains the same; a person just needs to add the interrogative tone and the question mark. In addition, in XSVO property since German places verb in the second place firmly from the sample it can be observed that participant applied XVSO order, which shows a precise impact from L1-GER. On the other hand, XSVO is flexible in Italian meaning that no strict rule is present about the position of verb. To sum up, L3 learners demonstrated CLI effects from their L1-GER. Since no instance of questions and application of XSVO were found in data, the effect of L2 Italian could not be traceable.

In terms of Tense, Aspect and Modality errors, these errors were predominantly related to incongruence between the tense of the previous and/or upcoming sentences. For instance, “The man lost the ball, so he immediately breaks. The car behind doesn’t see that and drove right into the white car”. Besides, irregular verbs such as “run, come, and see” seemed to pose much of the difficulty. No clear CLI effect was available from previous languages. Thus, they may stem from the missing lexical content in their multilingual lexicons and errors simply might be related to the nature of the task, which requires them to narrate the event. In brief, sticking to narrative language in their L3 English, these participants might have switched between present and past tense.

For relative pronoun usage, even though the number and the ratio of errors are less the sample indicates impact from participants’ L2-ITA. Because in Italian the relative

pronoun “che” is utilized to refer to both person and the object in relative clauses, and its usage is more flexible by providing ability to be used in most of the relative clause formation which is different than German and English usage. In English and German, the distinction between person and objects are strictly made and they are used with different types of relative pronouns. In the sample the inability of participant to use the appropriate relative pronoun for person in English postulates an influence from L2-ITA.

Table 43. L2 Distribution of Grammaticality

Formal		Informal	
Grammatical	Ungrammatical	Grammatical	Ungrammatical
16	12	18	20
Total: 28 AS Unit		Total: 38 AS Unit	

In L2 group participants produced 28 AS-units in formal and 38 AS-units in informal speech. In formal speech 12 AS-units and in informal speech 20 AS-units were ungrammatical indicating that participants made errors in informal speech mostly.

Table 44. L2 Distribution of Errors

Type	Sample	Number	Ratio %
Word order	*The car in front of stopped	9	28.1
TAM	*Finally he calling 110.	11	34.3
Passive	*The man was released the ball	6	18.7
S-V Agreement	*A woman and a dog is nearby their car	6	18.7

In L2 group, word order errors might stem from flexible word order in Turkish which means that their L1 had an impact in their utterances for these errors. Tense, Aspect and Modality errors are in line with L3 group’s errors, it is mainly related to the narration of the events. No traceable L1 effect was found in these errors. Furthermore, errors related to passive voice usage were only observed in L2 group. Only Participant 4 committed all passive voice errors in informal task. Thus, rather than a CLI, it might be either a developmental error or a performance error. In a nutshell, except for word order errors, other error types might be treated as natural part of acquisition processes rather than language effects.

5. DISCUSSION

The current study is intended to investigate the crosslinguistic influence on syntactic complexity in the formal and informal speech of multilingual speakers, how it differs among groups, and whether previously acquired languages have an equal impact or if only one language is dominant by applying the principles Linguistic Proximity Model. Within this context whether there is a difference in syntactic complexity among groups' formal and informal speeches, there is a difference in syntactic complexity between formal and informal speech among groups, and there is an equal transfer from previously acquired languages or a dominance from only one of the languages were investigated.

To answer the research questions of the current study 17 participants in total were recruited for three different groups with different language backgrounds (L3 English, L2 English, and L1 English), and oral data were gathered via online interviews in Zoom by utilizing an elicitation task "Language Situations", and participants provided their narratives to the researcher across registers. All the data were transcribed to be analyzed, and findings were finalized with quantitative analyses by employing SPSS and L2SCA. The findings were categorized as 1-) findings on syntactic complexity, 2-) findings on register, 3-) findings on CLI in this section to be discussed.

5.1. Syntactic Complexity

The comparisons among groups showed differences in some of the measures which were proposed by Lu (2010) as syntactic complexity measures. Based on the spoken production for the elicitation task, it was found that in terms of connectors speakers tended to link the storyline with conjunctions such as "and" most of the time by creating a new AS-unit with coordinated conjunctions. In terms of clause types, the number of dependent clause usage was higher in L3 English group than L2 English group. Also, adverbial clauses were formed with "because" mostly, and instantiations were only observed in L3 English group's utterances. Moreover, due to their usage of

several various clause types their AS-units' lengths were increased which means they provided more complex oral productions than L2 English group. In terms of phrasal complexity, the measures included complex nominals as an indicator, and findings postulated that L3 English group outperformed L2 English group in the formulation of complex nominals per clause. While L2 English group preferred to form their complex nominals with postmodifiers such as prepositions or adjectives most of the time, L3 English group used a diverse combination of prepositions, adjectives with determiners, relative clauses, etc.

These findings aligned with previous research on spoken production for instance, Hwang et al. (2020) found high amount of usage for coordinated clauses with "and" in spoken production. Moreover, Park (2022) also provided results about the usage of "because" and "and", which indicated that they were at considerable amounts which was interpreted as a feature belonged to spoken language. De Clerq and Housen (2017) inferred that in high proficiency levels (intermediate-advance) the complexity is not reduced, quite the contrary the complexity of units increases which may explain current study's results for the complexity of AS-unit; however, the discrepancies on this issue among groups are discussed in findings on CLI category. Similarly, Vercellotti (2018) found increased complexity especially regarding finite and non-finite clauses in high proficiency levels. Furthermore, based on the evidence in their study Lambert and Nakamura (2018) stated that subordination with adverbial and relative clauses increases in intermediate level learners, which is parallel with current study's results, participants' proficiency levels and Norris and Ortega's (2009) claim about clausal complexity as being observed in intermediate levels almost always.

Yet even though current study did not include comparisons between speaking and writing, based on the statement which was alleged by Mitchell, Myles and Marsden (2019, p.402) that the discrepancies between speaking and writing becomes blurry due to the presence of online communication; the current study's results do not overlap with some of the studies attaining several features to modalities by separating speaking and writing. Biber et al. (2011) indicated that producing complex phrases, especially at the nominal level is a feature of written language; however, our results with L3 English group showed that spoken language can also include various forms of complex nominals. Likewise, Kormos (2014) found that using connectives such as "and" and "but" was attributed to the speaking whereas using noun phrases and complexification

of them attributed to writing, which again contradicts with current study's results for L3 English participants. Discrepantly, in their studies Kormos and Trebits (2012) found no evidence for differences between speaking and writing for the usage of relative and subordinate clauses. Therefore, since the disparities between speaking and writing are presumed to be disappearing and modalities become standard based on the evidence from current study, it can be indicated that categorizing linguistic structures, syntactic features and their complexifications across modalities, and attaining certain features to writing and the others to speaking may not be fruitful to draw conclusions about current topic.

5.2. Register

Some of the syntactic complexity measures in spoken utterances of participants differed in formal and informal speech. In formal speech for C/AS and VP/AS NS group significantly differed than L3 English and L2 English group. They produced more clauses and verb phrases per AS-unit. The reason behind this may be due to the flexible way that they use the language since English is their native language. Even though the situation is formal, still they can bend the district rules of syntax in English. They produced different types of clauses and mostly non-finite clauses instead of trying to produce full independent AS-units to negotiate the meaning. For high number usage of verb phrases, NS group tended to form new clauses in AS-units generally with gerunds, and participle clauses were also utilized which is labelled as native-like utterance (De Clerq & Housen, 2017) mostly. Thus, this increases the number of measures and complexity of productions at the end. Variously, for MLC and DC/AS measures L3 English group outperformed natives and L2 English group. This discrepancy may be due to the phrasal complexity that L3 English group utilized in their clauses, and in terms of dependent clauses as it is also mentioned in findings on syntactic complexity, L3 English group produced more diverse types of clauses than L2 English which is also related to their previously acquired languages and the features of their languages, which will be mentioned under the last subheading in a detailed way. All in all, as it may be expected, the complexity and long utterances are presumed to be normal and standard, and they are seen as inevitable features of formal speech since previous research provides supportive evidence as well.

In informal speech results, only two measures which are MLAS and VP/AS differed among the groups. MLAS measure was higher in L3 English group utterances than L2 English group, and as it was the case in formal speech natives produced more verb phrases than L2 English group based on MANOVA results. However, regarding the small sample size Kruskal-Wallis results did not show any significant difference between L3 group and L2 group for MLAS construct. Thus, it can be interpreted that the findings overlap with previous research in which Liddy (2004) and Szmrecsanyi & Engel (2023) reported that utterances were more complex and longer in formal speech. In addition, once again, previously acquired languages have an impact on the presence of complex and long utterances in informal speech.

Lastly, first research question investigated whether there are discrepancies between formal and informal speech among the groups. The mean differences between registers among the groups in the results of Mixed ANOVA analysis clearly put forward that despite their proficiency levels and usage of complex spoken language, still L2 and L3 English group did not reach ultimate attainment because NS group differed in the usage of MLAS, C/AS, CAS/AS and VP/AS meaning that the mean length of their AS-units, usage of clauses per AS-units, usage of verb phrases in AS-units and complex AS-units were high compared to L2 and L3 English group both in formal and informal speech. These findings aligned with previous research which included native speakers to compare L2 English groups and found differences. All in all, even though L2 and L3 English group produced similar utterances with natives such as coordinated clauses with ellipsis, still so called native-like utterances such as participle clauses or usage of non-finite clauses with gerunds and infinitives lacked, which caused decrease in the length of AS-units, clauses and number of complex AS-units per AS-unit, and it reduced phrasal complexity in verb phrases.

5.3. Crosslinguistic Influence in L3 and L2

The reasons why some of the measures differ between groups might mainly depend on the features of previously acquired languages. L3 group had German as L1, Italian as L2 and English as L3, in the meantime L2 group had Turkish as L1 and English as L2. German and Italian share some common features and their typology is similar, still in some linguistic properties the syntactic rules vary between these languages leading to microvariation analysis. On the other hand, Turkish has totally different typology, and

except for some minor features it does not share any common or similar feature with German and Italian. Therefore, the crosslinguistic influence may had pivotal and primary role in discrepancies of syntactic complexity measures in spoken utterances. To be specific, the reason that mean length of clauses and AS-units were longer in L3 English groups could be explained with typologically similar language effect which is both German and Italian in this case because the way that most of the clauses are formed is identical in both languages, and especially relative clause usage was an important indicator which was nearly absent in L2 English group, but a high usage was detected in L3 English group. As LPM states languages may share common features and they can be similar typologically; however, property by property acquisition is promoted in the way that CLI is effective because similarities or differences in linguistic subsystems are primary sources for such influence. Another point is about the formulation of complex noun phrases. L3 English group's previously acquired languages share the same feature with the usage of pre and postmodifiers which facilitated the formulation of noun phrases due to its head initial position; however, Turkish language is a head final language which means the formulation of noun phrases considerably differs except for adjective usage which is a common feature since adjectives are also used before the noun in Turkish. However, even though formulating complex noun phrases with relative clauses were avoided, still participants in L2 English group provided instantiations of noun phrases with prepositions despite structural differences between two languages. Another explanation of the lack of relative clauses may be related to acquisition process. As in White's (2025) commentary on linguistic distance and typological similarity, the related research suggested that relative clauses were found to be difficult to acquire; thus, their absence in utterances may not be linked to linguistic distance between languages directly. In addition, the difference for the usage of adverbial clauses with "because" may not be related to linguistic feature diversity because the connector is utilized in the same way in Turkish as well. Therefore, it may be related to the participants' reasoning abilities in their narrations, and simply their preferences and choices while they are connecting events and ideas together. In a nutshell, in property-by-property acquisition it is evident that linguistic proximity might be vital, and distinctiveness may lead inhibition and avoidance for utilization of certain structures in production regardless of proficiency levels as it is in the case with L2 English group, and stated by Öksüz et al. (2025) that when the proximity is limited between languages it leads learners to avoid

challenging structures in their production.. Also, it is vital to take the issues and questions which were proposed in White's (2025) commentary into consideration. Since, there is evidence on typological similarity does not guarantee positive transfer in all cases another explanation for such similar usages among groups may be related to their development in English as it was put forwarded by research that acquiring new knowledge progresses better than restructuring the existing knowledge in some cases.

In L3 English group, last research question was formed to seek answers for equal transfer or language dominance. The frame of Linguistic Proximity Model claims previously acquired languages are effective equally for certain linguistic properties in L3 acquisition process. The current study's findings are in line with the principles of the model and all the previous research and studies, which investigated influence from both languages. Even though it was suggested by Westergaard (2021) to design research with typologically distinct languages in multilinguals, and nearly all related research included typologically different languages the current study is a valuable evidence and resource to indicate that despite many similar linguistic properties and typology, still languages may have equal effects for their distinct language features. For instance, the results of the current study showed that production of coordinated clauses with ellipsis was present in all groups, and it increased the number of clauses and length of AS-units at the end. Despite the strict syntactic rules of English such as no allowance for pro-drop, participants utilized these clauses because both Italian and Turkish are pro-drop languages. The fact that natives also utilized these clauses may be related to their bending rules of English condition once again. The reason why there was not any presence for other different linguistic features in Italian such as formulating noun phrases by using adjectives after nouns on English may be related to common features, which English shares with German being dominant and facilitative more in the production. Thus, since LPM supports property by property acquisition and typologically similar languages can also differ in sharing distinct linguistic properties (microvariation), and since finding totally identical languages in every property on earth is not possible, using these languages in research has potential in providing fruitful insights as in this study which contributes to the model by presenting equal influence from previously acquired languages German and Italian on English as L3.

Lastly, results of the current study offer valuable aspects by including all the factors which were argued in Bardel & Falk's (2021) commentary on LPM. Factors such as age, sequence of languages, definition of L3 etc. were exerted as unclear elements in the model; thus, making the model defective and questionable. However, current study included adult participants who acquired all three languages in a row which means acquisition processes were not simultaneous, and being adult clears doubtful effects of critical age hypothesis in findings since it was mentioned as weak parts of the model (Bardel & Falk, 2021). All in all, current study provides strong evidence for Linguistic Proximity Model by including adult and L3 learners with different L1 and L2 which were acquired at different ages in an order.

6. CONCLUSION

The current study's purpose is to examine crosslinguistic influence on syntactic complexity in the formal and informal speech of multilingual speakers. The previous findings in the field aligned with current study's findings indicating that there are differences in terms of syntactic complexity in both formal and informal speech among the groups, and previously acquired languages has an equal impact on the acquisition of English as L3.

The RQ1.1 sought to investigate whether there is a difference on syntactic complexity in formal speech among the groups, and quantitative analysis results showed that measures of syntactic complexity MLC, C/AS, DP/AS, VP/AS, CN/C significantly differed among the groups and indicating that L3 English group's productions were more complex than L2 English group in formal speech.

The RQ1.2 question examined whether there is a difference on syntactic complexity in informal speech among the groups, and quantitative analysis results indicated that measures of syntactic complexity MLAS and VP/AS significantly differed among the groups and postulated that L3 English group's units were longer than L2 English group based on MANOVA results. Yet due to small sample size Kruskal-Wallis test did not indicate any differences between these groups in MLAS construct. Therefore, these results suggest that across registers formal case is more complex than informal case between these groups.

Furthermore, the RQ2 research question answered whether crosslinguistic influence occurs from previously acquired languages coequally or only one language becomes dominant. The instantiations in the transcripts of spoken utterances of participants were analyzed for certain linguistic properties in syntactic complexity measures, and an equal transfer from previously acquired languages was found in L3 English speakers' utterances. The spoken utterances in L3 English groups showed equal transfer both from German and Italian. While German displayed a facilitative role on

the majority of shared properties with English, Italian's pro-drop feature also had an impact on participant's utterances in English. In addition, in L2 English group Turkish displayed a nonfacilitative role in the majority of spoken productions by making participants to avoid utilizing linguistic properties in English, which were presumed to be known based on their proficiency levels. Yet L2 English speakers produced coordinated clauses with ellipsis and noun phrases with adjectives, which were used as prepositions, and these properties were shared structures with other groups. All in all, the findings of this research question contributed to the framework by providing evidence on multimodal transfer from languages, and based on their similarities or differences in terms of typology and linguistic properties, the influence can be either facilitative or non-facilitative in production.

What makes the current study essential lies in its focus on crosslinguistic influence because the notion is still investigated to understand its direction, how it happens, and how it is triggered especially in production. Also, involving L3 English and L2 English groups and making comparisons and drawing conclusions between them caused deepening the knowledge about multilinguals, and how all these languages that they are proficient in plays a role in transfer by coping with cognitive demands of speaking process. Moreover, even though they stated their daily usage of English is highly limited, multilinguals' productions were nearly native like, and they were competing with their native controls in syntactic complexity measures most of the time according to statistical results. This condition indicates that knowing more than one language may boost learners to reach ultimate attainment by increasing the diversity of structures and complexity if they receive facilitation from previous languages.

Another important result is the necessity to categorize features in writing and speaking, and to attribute some features to writing and the others to speaking because current study's findings indicate conflicting results with previous research. Previous research attained phrasal complexity and subordination as a feature of writing. However, as it can be seen from the findings, spoken production can also include phrasal complexity and subordination with several types of clauses. Furthermore, there is not any necessity for speech in informal context to be short and simple. Speaking in informal situations can involve complex structures and long utterances depending on the purpose of negotiation of the meaning.

6.1. Implications

The findings highlight the facilitative and non-facilitative effects of languages on one another evidently. In addition, these effects from previously acquired languages prominently emerges in acquisition and learning processes of learners by either activating or inhibiting certain structures to be occur in learner productions in English. This study consolidates the needs to implement further activities and tasks to develop the formation of complex spoken language in Turkish context, especially with subordination rather than coordination. Even though the formation of simple units across registers may be a preference, still based on the results of the current study it is evident that distant typology and syntax emerge as an inhibitor leading learners to avoid generating certain structures such as complex nominals with relative pronouns and types of clauses (relative, complement, participle, etc.) causing productions to be on the simple levels contrary to their proficiency levels. In EFL context, for Turkish learners of English in the instructed environment, and classrooms tasks containing subordinating conjunctions, and boosting pushed output, making learners utilize these typologically distant structures in their speech should be implemented to diminish non facilitative effects of Turkish, and to allow these already acquired structures to be activated in B1-B2 level learners. Lastly, as it was put forwarded by White (2025) and Gil (2025) development rather than restructuring may have an effective part in learning processes in typologically distant languages from the target language; therefore, Turkish may have not share common features with English. However, when learners develop the features of English without having a basis from Turkish this situation may support them to produce newly acquired structures more readily.

In L3 context, the findings indicated that having typologically similar language repertoire and receiving equal facilitative effects from these languages (Westergaard, 2017) boosted learners to produce complex spoken utterances across registers. Although learners' usage of English in daily life is highly limited, and some of them do not even use English at all, their spoken language contained complex structures in the clausal and phrasal level. To emphasize a point as it was suggested by Westergaard (2019), in addition to typological distance, microvariation between languages should also be considered in multilingual context and classrooms. Because according to the results of the current study, previous languages of the learners were typologically similar and eventually, they supported learners' spoken language in English. However,

most of the impact came from their L1 which was German, that is why some of the learners' utterances involved ungrammaticality such as strict verb second placement. If the learners relied on Italian syntax more, they would reduce producing ungrammatical units because Italian is more flexible than German. Thus, taking microvariation into account along with linguistic proximity would help learners produce more accurate utterances, and even boost them to form native-like utterances such as coordinated clauses with ellipsis.

6.2. Limitations and Suggestions for Further Studies

As the nature of conducting research includes limitations, this study has also some limitations in its nature. Sharing these limitations is an effort of researcher to make the study more understandable within its perspective. Firstly, even though the study is designed and conducted in a detailed manner, and groups were formed with participants from various language backgrounds, lack of high participant numbers may be defective in terms of the generalizability of the results. Only 17 participants in total for all groups were recruited due to the limitations of accessibility. For the future research the number of participants in each group should be increased, and to foster the reliability of the results and draw multiple perspectives monolingual groups for each language such as German and Italian monolinguals in this case should be included to have diverse points of view.

Another limitation of this study is involving only one language skill which is speaking. Participants were involved only in a narrative task in which they produced language across registers with the input that they received visually. To make findings more general and reliable, further research should include comprehension tasks as well to combine these two major language skills to make inferences about the current topic of the study. In addition, with multiple narration tasks the results for syntactic complexity and crosslinguistic influence can be more generalized and definitized.

Lastly, except for language features of participants no other factors such as their ages, cultures, lifestyles, intelligence, language aptitudes, etc. were involved and attained any accountability on the results of the current study. This highly specific occasion may act as a confounding variable on results since the cultural situation of the participants were not included and given importance in the current study. Therefore, future studies should consider the cultural backgrounds and their impacts for

examining the activation and inhibition of source languages for crosslinguistic influence, which may bring new insights into SLA field to explain why certain phenomena emerge the way it is. Within all these suggestions, future research can contribute to English language teaching field by implementing theories and valuable aspects of the findings about the presence of crosslinguistic influence and providing opportunities to learners to practice forming syntactically complex language to negotiate their intended meaning in a proper way by diminishing non-facilitative influence from previous languages.

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APPENDICES

Appendix 1. Linguistic Background Information Questionnaire

I give my consent to participate in the study: Yes/No

1. First Name:
   Last Name:
2. E- mail address:
3. Sex: Female / Male
4. Date of birth:
5. Place of birth: Please write the city and the country
6. Age:
7. Highest level of schooling: Secondary, High school, University
8. Mother tongue:
9. Language of Education: Please provide answer for each category below
   Primary school
   Secondary school
   High school
   University
10. Age and place of first exposure to English:
11. How long have you been learning English? (e.g. for 6 months)
12. How often do you use English? (e.g 5 hours a week)
13. How would you rate your English proficiency from 1 to 5?

Reading	1	2	3	4	5
Writing	1	2	3	4	5
Listening	1	2	3	4	5
Speaking	1	2	3	4	5

14. Have you taken any English proficiency/placement test? If so, please note the result:

15. I have another second or foreign language: Yes/No
16. Second or Foreign Language 1:
17. How would you rate your second/foreign language proficiency from 1 to 5?

Reading	1	2	3	4	5
Writing	1	2	3	4	5
Listening	1	2	3	4	5
Speaking	1	2	3	4	5

18. I have another second or foreign language: Yes/No
19. Second or Foreign Language 2:
20. How would you rate your second/foreign language proficiency from 1 to 5?

Reading	1	2	3	4	5
Writing	1	2	3	4	5
Listening	1	2	3	4	5
Speaking	1	2	3	4	5

Appendix 2. Participation Consent Form (Turkish)

DENEKLERİN GÖNÜLLÜLÜĞÜ

VE

AYDINLATILMIŞ ONAM FORMU

Bu araştırma Dr. Gülümser Efeoğlu danışmanlığında araştırmacı Sara Selen Öztürk tarafından yürütülerek çok dilli ve iki dilli bireylerin resmi ve resmi olmayan konuşmalarındaki çapraz dil etkisini inceleyecektir. Araştırmanın amacı çok dilli bireylerin konuşmalarındaki çapraz dil etkisini araştırarak dil öğrenimi ve dil öğretimi alanlarına katkı sağlamaktır. Araştırma bir yıl sürecektir ve altı ay boyunca katılımcılardan veri toplanacaktır. Katılımcılardan demografik form doldurması istenecek ve bu formda yer alan isim-soy isim, yaş, ana dil ve bilinen diğer diller, cinsiyet, eğitim düzeyi, vb. gibi kişisel bilgiler tamamen gizli tutularak üçüncü kişilerle veya kurumlarla hiçbir şekilde paylaşılmayacaktır. Veri toplama dönemlerinde çevrimiçi görüşmelerde katılımcılardan video izlemeleri ve bunu sözlü bir şekilde anlatmaları beklenecektir. Her çevrimiçi görüşmenin yaklaşık 30 dakika sürmesi ön görülmektedir.

Bu çalışmaya katılmak gönüllülük esasına dayanmaktadır. Katılımcılar araştırma süresinde tehdit altında hissetmeleri ve/veya rahatsızlık duymaları durumunda istedikleri zaman çalışmadan çekilebilirler. Çalışmayla ilgili herhangi bir durumda e-posta yoluyla araştırmacıya her zaman ulaşabilirler.

Yukarıda yer alan bilgileri okudum çalışmanın amacını ve gönüllü olarak üzerime düşen sorumlulukları anladım. Çalışma hakkında yazılı ve sözlü açıklama yapılarak bilgilerimin korunacağı araştırmacı tarafından temin edildi. Bu durumda araştırmaya kendi isteğimle katılmayı kabul ediyorum.

Katılımcının:

Adı-Soyadı:

İmza:

Appendix 3. Participation Consent Form (English)

VOLUNTEERISM OF PARTICIPANTS AND CONSENT FORM

This study examines crosslinguistic influence in the formal and informal speech of multilingual speakers and it is conducted by researcher Sara Selen Öztürk under the supervision of Dr. Gülümser Efeoğlu. The purpose of the study is to make contributions to language learning and language teaching field by examining crosslinguistic influence in multilinguals' speeches. The study will last one year, and the data will be collected in six months. Participants will be asked to fill out demographic form and their information about their names, age, mother tongue and additional languages, sex, and level of education will be kept private and will not be shared with third parties. During data collection procedure participants will be asked to watch a video in online interviews and narrate the video. Online interviews with each participant are assumed to last thirty minutes.

Participating in this study is on voluntary basis. In the case of feeling threatened or uncomfortable during the study participants can withdraw from the study. Participants can reach researcher for any questions about the study via e-mail.

I have read the information above; I have understood the purpose of the study and responsibilities as a volunteer. The researcher ensured that my information will be kept private by explaining the study both written and orally. I give my consent to participate in the study voluntarily.

Participant's

Name:

Surname:

Signature:

Appendix 4. Ethics Committee Approval

YILDIZ TEKNİK ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Araştırmaları Etik Kurulu

Toplantı Tarihi: **26.05.2025** **Toplantı No:** **2025.05**

SOSYAL VE BEŞERİ BİLİMLER ARAŞTIRMALARI ETİK KURULU TOPLANTI KARARI

Yürütücülüğünü Üniversitemiz Sosyal Bilimler Enstitüsü öğretim üyelerinden Dr. Gülümser Efeoğlu danışmanlığında lisansüstü öğrencisi SARA SELEN ÖZTÜRK tarafından yapılacak olan "Çok Dilli Ve İki Dilli Bireylerin Resmi Ve Resmi Olmayan Konuşmalarındaki Sentaktik Karmaşıklık Üzerindeki Çapraz Dil Etkisi" adlı çalışma ve bu çalışmada kullanılacak veri toplama araçları ve yöntemlerine ilişkin bilgilerde etiğe aykırı herhangi bir bulguya rastlanmamıştır.

Etik Kurul Üyeleri

DocuSigned by:

Prof. Dr. Murat DONDURAN
Başkan

DocuSigned by:

Prof. Dr. Fatih GÜLGEN
Üye

DocuSigned by:

Prof. Dr. Yiğit EVREN
Üye

DocuSigned by:

Doç. Dr. Begüm SATICI
Üye

DocuSigned by:

Doç. Dr. Nur CEMELELİOĞLU
Üye

DocuSigned by:

Doç. Dr. Gülbin ÖZKAN
Üye

DocuSigned by:

Dr. Öğr. Üyesi H. Ağan KARADUMAN
Üye