COMPONENTS OF L2 LISTENING COMPREHENSION: A COMPONENTIAL MODEL

Doktora Tezi

Tuncay KARALIK

ESKİŞEHİR 2023

COMPONENTS OF L2 LISTENING COMPREHENSION: A COMPONENTIAL MODEL

Tuncay KARALIK

PhD DISSERTATION

Program in English Language Teaching

Department of Foreign Language Education

Supervisor: Assoc. Prof. Dr. Ali MERÇ

Eskişehir

Anadolu University

Graduate School of Educational Sciences

February, 2023

JÜRİ VE ENSTİTÜ ONAYI

ÖZET

YABANCI DİLDE DİNLEME ANLAMANIN BİLEŞENLERİ: BİR BİLEŞEN MODELLEMESİ

Tuncay KARALIK

Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Programı

Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Şubat, 2023

Danışman: Doç. Ali MERÇ

Bileşen yaklaşımı ile yürütülen bu çalışma dilbilgisi ve kelime bilgisi, yabancı dilde dinleme kaygısı, yabancı dilde dinlemeye isteklilik, bilişüstü farkındalık ve kısa süreli belleğin genel dinleme anlama ve ana fikir ve detaylar için dinleme, ve çıkarım yapma dinleme alt becerilerine nasıl katkı sağladığını araştırmayı amaçlamıştır. Bunun yanında, bu bileşenlerin kendi aralarındaki ilişki de çalışma kapsamında incelenmiştir. Araştırmaya 2020-2021 eğitim-öğretim yılı bahar döneminde Manisa Celal Bayar Üniversitesi ve Anadolu Üniversitesi'nde İngilizce hazırlık eğitimi alan orta ve üst-orta düzeyde yeterliliğe sahip 212 üniversite öğrencisi katılmıştır. Katılımcılar üç haftalık bir süre boyunca bir dizi ölçme aracını tamamlamışlardır: araştırmacı tarafından tasarlanmış farklı uzunluklarda ve türlerde dört metinden oluşan bir dinleme anlama testi, GSE'ye (Global Scale of English) göre hazırlanmış dil bilgisi testi, Kelime Düzeyleri Testi, Yabancı Dilde Dinleme Kaygısı Ölçeği, İkinci Dilde Dinleme İstekliliği Ölçeği, Üstbilişsel Farkındalık Dinleme Anketi ve sayı dizisi testi. Bileşen beceriler ile yabancı dilde dinleme ve alt beceriler arasındaki ilişki, Pearson Korelasyon ve regresyon analizleri ile ölçülmüştür. Bileşen becerilerin kendi arasındaki ilişkiler ise Yapısal Eşitlik Modellemesi (YEM) analizleri ile değerlendirilmiştir. Analizlerin sonuçları, bileşen becerilerin genel dinleme anlamada büyük bir varyansı önemli ölçüde açıkladığının ve fakat bileşenlerin katkısının alt beceriler arasında önemli ölçüde değiştiğinin altını çizmektedir. Bu sonuçlara ek olarak ise gelecek çalışmalarda doğrulanmak üzere bileşenler arasındaki etkileşimi gösteren istatistiksel ve teorik olarak sağlam bir model ortaya konulmuştur.

Anahtar Kelimeler: Dinleme Anlama, Bileşen Yaklaşımı, Dinleme Anlamanın Bileşenleri, Dinleme Alt Becerileri

ABSTRACT

COMPONENTS OF L2 LISTENING COMPREHENSION: A COMPONENTIAL MODEL

Tuncay KARALIK

Department Foreign Language Education

Anadolu University, Graduate School of Educational Sciences, February 2023

Supervisor: Assoc. Prof. Dr. Ali MERÇ

Adopting a componential approach, the present study aimed to investigate how grammar and vocabulary knowledge, L2 listening anxiety and willingness to listen in L2, working memory, and metacognitive awareness contribute to overall L2 listening comprehension and its subskills, i.e. listening for main ideas and details, and inferencing. In addition, how these component skills interact with each other in the process was also scrutinized. A group of 212 university students with intermediate to upper-intermediate proficiency taking English preparatory education at Manisa Celal Bayar University and Anadolu University in the spring term of 2020-2021 academic year participated in the study. The participants completed a series of instruments over a three-week period: a researcher-devised listening comprehension test consisting of four passages in varying lengths and genres, a grammar test prepared according to GSE (Global Scale of English), the Vocabulary Levels Test, the Foreign Language Listening Anxiety Scale, the Willingness to Listen in L2 Scale, the Metacognitive Awareness Listening Questionnaire, and a digit-span task. The relationship between the components and L2 listening and subskills was measured through Pearson's Correlation and regression analyses. The hypothesized interactions among the components were assessed through Structural Equation Modelling (SEM) analyses. The results of the analyses underline that the components significantly explain a large variance in overall L2 listening and that the contribution of the components varies significantly across the subskills. In addition, a statistically and theoretically sound model depicting the interaction among the components and L2 listening comprehension was put forward for further verification.

Keywords: Listening comprehension, Componential Approach, Components of Listening Comprehension, Subskills of Listening

03/02/2023

ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ

Bu tezin bana ait, özgün bir çalışma olduğunu; çalışmamın hazırlık, veri toplama, analiz ve bilgilerin sunumu olmak üzere tüm aşamalarında bilimsel etik ilke ve kurallara uygun davrandığımı; bu çalışma kapsamında elde edilen tüm veri ve bilgiler için kaynak gösterdiğimi ve bu kaynaklara kaynakçada yer verdiğimi; bu çalışmanın Anadolu Üniversitesi tarafından kullanılan "bilimsel intihal tespit programı"yla tarandığını ve hiçbir şekilde "intihal içermediğini" beyan ederim. Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçları kabul ettiğimi bildiririm.

Tuncay KARALIK

03/02/2023

STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES

I hereby truthfully declare that this thesis is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with "scientific plagiarism detection program" used by Anadolu University, and that "it does not have any plagiarism" whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

Tuncay KARALIK

ACKNOWLEDGEMENTS

I would like to present my gratitude to lots of valuable people but for whose support this dissertation could not have been what it has been.

First of all, I am very grateful for the support of my supervisor, Assoc. Prof. Dr. Ali MERÇ, who constantly encouraged me since the very beginning of the process by his constructive and informative guidance. He has been a great supervisor and companion in this long journey with ups and downs.

I also appreciate deeply the invaluable contribution of my dissertation monitoring committee members Prof. Dr. Özgür YILDIRIM and Asst. Prof. Dr. Sercan SAĞLAM, who have provided constant guidance in the fine tuning of the inquiry. I would like to thank to the thesis committee members Assoc. Prof. Dr. Mustafa CANER and Asst. Prof. Dr. Mustafa SARIOĞLU for their constructive feedback.

I also want to express my gratitude to Asst. Prof. Dr. Hülya İPEK, who has contributed greatly to the selection of the materials by accepting to take part in the expert opinion phases. My sincere thanks go to Prof. Dr. İlknur KEÇİK, Asst. Prof. Dr. Gonca SUBAŞI and Lect. Neslihan AYDEMİR, Dr. Yiğit SAVURAN, Lect. Hilal SARIKAYA ARSLANTAŞ who also provided expert opinion on several instruments.

I would like to present my sincere thanks to Asst. Prof. Dr. Yusuf ÖZTÜRK who eagerly accepted to conduct the pilot study in his department. I am also greatly indebted to Dr. Hüsem KORKMAZ and his colleagues, but for whom the majority of the data could not have been gathered so this thesis could not have come to existence. I also would like to thank Asst. Prof. Dr. Sercan SAĞLAM, Lect. Mehmet DURANLIOĞLU, and Lect. Meriç AKKAYA ÖNAL for data colection.

I am also grateful for the company of Res. Asst. Musa TÖMEN, Asst. Prof. Dr. Samet TAŞÇI, Lect. Şenay AKKUŞ, and Lect. Samet DENİZ throughout the process.

My dear wife Gülcan ERDOĞAN KARALIK and my precious daughter, Arya deserve the deepest thanks for bringing joy to my life, I love you.

Lastly, I would like to acknowledge the financial support of TÜBİTAK as part of their constant efforts to take all scientific endeavors a step further.

Tuncay KARALIK

February, 2023

TABLE OF CONTENTS

Page

Page

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

1. INTRODUCTION

In everyday life, one is expected to carry out an important task: comprehension of the incoming stimuli ranging from short conversations with your friends to instructions in a manual, from advertisements to traffic signs. Comprehension is a specialized type of reasoning process that brings about a mental representation of a message when attempting to understand both oral and written text (Perfetti, Landi, & Oakhill, 2005) and it serves as the key to function well in daily life. It's even more important in educational settings where there is a constant flow of stimuli comprised of rich course knowledge which the students need to process for their academic development. In L2 learning environments, the situation is more complicated since the target language does not only comprise the content to be processed but it also serves as the medium of delivery itself. In such contexts comprehension is important for both academic and linguistic development since it is the only way to develop linguistically and academically (Rashidi & Khosravi, 2010). Consequently, comprehension is much more important for linguistic development. This is well reflected in the well-known comprehensible input hypothesis put forward by Krahshen (1985). The model proclaims that in order for linguistic development to occur, language learners need to be exposed to input slightly above their current levels. Here it is the teachers' responsibility to ensure that the linguistic input brought to the language class is within the reach of their students. It is vital for practitioners to control for any factor causing the language material to exceed the L2 learners' levels. To this end, factors affecting comprehension can be classified as task-related and learner-related factors. The former category involves elements like text length, linguistic complexity, text content, and task item types (Brunfaut & Révész, 2015). The elements in the first category are most of the time within the reach and intervention of language teachers as they can determine which materials are appropriate for the learner group they teach as long as they are not obliged to follow a certain syllabus or course-book. It is the second category elements that complicate the process of providing comprehensible input for a given group of language learners. The same language material will not be comprehended at similar levels by every individual in a group due to individual characteristics. With all the resources at hand, e.g., background knowledge about the topic, and linguistic repertoire including vocabulary and grammar knowledge, individuals undergo a process of assigning meaning to the incoming messages. However, it is not always possible to achieve the desired levels of comprehension for every individual due to deficiencies in

the resources they employ during the process of building mental representations of the stimuli they receive.

In order to determine and address the elements in the second category, the individual factors affecting the comprehension process, a substantial body of research has been conducted in reading skill. It is nearly taken for granted that the primary source of academic and linguistic knowledge is reading and thence there is an abundance of studies investigating ways to facilitate reading comprehension. As a result, scholars have come up with different approaches to reading comprehension. One such approach is the componential view of reading which underlines that reading comprehension is a higher order skill dependent on success in lower order component skills. The existence of component skills within a macro skill has important implications for teaching contexts. One significant implication is that language skills such as reading and listening comprehension should be viewed as a sum of component skills. Urquhart and Weir (1998), for example, suggested that a componential approach to reading comprehension aims at finding out whether certain constituents are present in the reading process. Similarly, Carr and Levy (1990) asserted that componential approaches to reading strive for identifying individual differences affecting reading and exploring their shared relationship and contributions to reading. Shiotsu and Weir (2007) defined the goal of componential approach as "identifying possible explanatory skill factors or components involved in the reading process" (p. 99). They further elaborated the procedures in componential approaches suggesting that a componential approach includes measuring learners' success in different components quantitatively and coming up with explanations about the effect of these components on the overall success in text comprehension based on the correlation scores between these measures and comprehension. In a nutshell, the first implication foresees that success in higher order skills such as reading and listening comprehension is dependent on success in lower order skills such as vocabulary and grammar knowledge and strategy use. The difficulty in detecting the factors that explain variance in text comprehension has led researchers to adopt componential approach due to its inherent practicality in determining what causes success or failure in a certain skill, and in designing the necessary interventions once the components are identified. As a result of these practicalities, componential research is thought to have much to offer for professionals in the field of language teaching since it can capture the complex nature of

text comprehension and uncover the complex interaction among the components involved in the process.

Adopting a componential approach to reading comprehension, scholars in the field have discovered several factors affecting reading comprehension as vocabulary knowledge (Chen, 2011; Koda, 2005; Stanovich, 2000, Zhang, 2012), grammar knowledge (Akbari, 2014; Lee, 2016; Zhang, 2012), and morphological knowledge (Guo, Roehrig & Williams; Zhang & Koda, 2012). Considering this complex network of components, researchers in the field have come up with comprehensive models to capture the complex nature of reading comprehension such as reading as psycholinguistic guessing game (Goodman, 1967), the interactive compensatory model of comprehension (Stanovich, 1980), and Carrell's version of schema theory (Carrell & Eisterhold, 1983). Psycholinguistic guessing game foresees that reading should not be taught explicitly but just providing the learners with lots of reading materials will do the job on its own. The interactive compensatory model suggests that lack of linguistic knowledge will be compensated by topic knowledge. Carrell's version of schema theory assumes that it will be enough for the learners to comprehend text if they are familiar with the rhetorical structure and background of the text. While these models have undermined the role of linguistic components in comprehension, a more plausible explanation for text comprehension comes in the form of multilevel mental representations. More specifically, there are three distinct mental representations of verbal text, according to text comprehension experts (Kintsch, 1988; Van Dijk & Kintsch, 1983; Zwaan & Radvansky, 1998). Another comprehensive model, namely Construction Integration Model by Kintsch (1988), suggests that comprehending texts requires success in three distinct but related levels: surface level (linguistic and cognitive components such as vocabulary and grammar knowledge, and working memory), propositional level (making meaning of sentences in discourse), and situation level (constructing meaning on prior knowledge). First, the surface relates to the precise phrasing of spoken or written content. Second, the text-base is a network of propositions that houses the semantic content (Kintsch, 1988). The model successfully captures the complex nature of reading comprehension and highlights the fact that success in text comprehension is dependent on several components skills.

A review of the literature of text comprehension clearly shows that reading has been the main focus of attention with the idea that it is the one source of literacy development,

which has led to neglect of listening skill. The following section will cover some concerns regarding the literature on listening comprehension.

1.1. Statement of the Problem

The main handicap of L2 listening research is that the process is generally explained with reference to findings obtained in L2 reading research. Scholars have been taking L2 listening comprehension for granted thinking that similar dynamics govern the processes involved in L2 reading and listening. As a result, generic comprehension frameworks proposed for L2 reading comprehension e.g., construction integration model (Kintsch, 1988), and the compensatory model (Bernhardt, 2005), have been frequently referred in L2 listening comprehension research due to absence of genuine models specifically proposed to conceptualize oral comprehension. Bonk (2000) pinpoints this important drawback in L2 listening research as "Listening research has unfortunately depended to a great degree on findings borrowed from reading research, presumably because of the complexity in testing the oral modality" (pp.14-15). The difficulty of testing listening comprehension along with the convenience of explaining L2 listening by drawing on the already existing L2 reading literature have led to a scarcity of studies in the area. However, when the two so-called "both receptive" skills are examined in detail, it is revealed that there are great differences making each skill unique in terms of the processes involved and making L2 listening worth special scholarly attention. That listening comprehension is a more difficult task to achieve for L2 learners than reading comprehension due to inherent properties e.g., shorter processing time and absence of control over the stimuli (Lund, 1991; Kim, 2000; Vandergrift & Baker, 2018), and that there is a scarcity of studies investigating the components involved in listening comprehension underline the need for further studies.

Another point that needs to be addressed in L2 listening literature lies within the fact that quite similar to reading comprehension, listening comprehension is a skill that should be investigated within a componential approach since several different factors determine learners' success or failure in the process. Due to the constant interplay of many components such as emotion, metacognitive awareness, and language competency, L2 listening comprehension is an elusive and hard process to examine. A meta-analysis by Karalik and Merç (2019) sought to investigate the components of listening comprehension in L1 and L2 settings. The meta-analysis addressed studies with a

correlational design reporting strengths of association between component skills and oral comprehension. The results of the meta-analysis underlined two important points: a) listening comprehension should be researched through componential approach since many components are at play as is the case in reading comprehension, and b) both L1 and L2 listening can be explained by variance in linguistic components, affective variables metacognition, and working memory. Similar conclusions were put forward in a more recent meta-analysis on the correlates of L2 listening comprehension by In'nami, Koizumi et al. (2022). The detailed analysis of existing correlational studies underscored the componential nature of L2 listening comprehension by documenting that L2 listening comprehension is highly susceptible to both core (vocabulary, grammar) and peripheral variables (metacognition, working memory, aptitude) as the authors classified them. The fact that several factors are at play in L2 listening comprehension makes it an intriguing field to investigate yet the majority of the previous studies focused on discrete student-level correlates rather than the multidimensional context in which they are embedded. Consequently, the field of L2 listening comprehension has witnessed an abundance of studies focusing on isolated learner-related factors thus creating a body of literature in which independent studies repeat one another and prove the importance of similar constructs once again over and over. Both Karalik and Merç (2019), and In'nami, Koizumi, et al. (2022) raised concerns on this issue by highlighting the need to take a more holistic approach to L2 listening and address multiple component skills all at the same time so that the underlying dynamics could better be understood. Both meta-analyses on the contributors of L2 listening comprehension conclude that primary studies included in the meta-analysis addressed different components involved in listening comprehension separately, which provides an incomplete picture of oral comprehension for two reasons: 1) the relative significance of one component over the other cannot be explored without addressing them together, and b) handling the component skills in isolation deprives the scholars of the insight into how component skills interact with each other in determining success or failure in L2 listening. Although proposed in the area of L2 reading comprehension, the compensatory model by Bernhardt (2005) highlights the need to handle multiple skills besides grammar and vocabulary knowledge simultaneously in order to see whether additional skills take over where a certain skill lacks. Similarly, Tafaghodtari and Vandergrift (2008) pinpoint the merit of handling multiple component skills at a time by stating "In other words without acknowledging the

interaction among factors, it is impossible to have a complete picture of the contribution of all the factors" (p.110). When these concerns are taken into consideration, it is evident that there is need for studies addressing multiple components at a time to gain more insight into the process of comprehension by uncovering their contribution to the process relative to each other and how the addressed variables interact with one another in forming a dynamic underlying structure.

Another area where the literature of L2 listening comprehension needs further scientific evidence is the differential effects of a given set of variables on comprehension across different tasks addressing different subskills of listening. Oftentimes, the studies reported the contribution of certain variables to overall L2 listening comprehension while neglecting the moderator effects of the subskills of listening, i.e. listening for main ideas and details, and inferencing. As Vandergrift and Baker (2018) put it, authentic listening entails listening for main ideas and details as well as making inferences beyond the oral text. Listeners constantly focus their attention to different parts of the text depending on what they are interested in grasping from it. During these focus shifts, listeners change the way they pay attention to the oral stimulus based on their purposes for listening (Anderson & Lynch, 1988). It follows then that listeners might change the way they employ their existing resources to make meaning of the text by shifting between bottom-up and top-down processes, which might in turn have an effect on the degree of association between a given set of variables and L2 listening comprehension. Bian, Cai, and Cai (2019) point out this issue as follows:

> Furthermore, contributions of listening and reading vocabularies to specific listening tasks vary. Although various listening tasks including multiple choices, matching, sentence completion, and dictation were deployed to measure EFL learners' listening comprehension, previous studies did not delve into the relationship between vocabulary knowledge and each unique listening task (p.10).

A similar finding was also reported by Li (2019) who concluded the relative effect of vocabulary knowledge on L2 listening comprehension varied across different tasks. It is evident from the scarcity of studies scrutinizing into listening subskills that adopting a subskill-based approach in L2 listening investigations is a must for researchers to better explore the place of component skills in the process. In doing so, further studies can avoid hasty generalizations about the contributions of a set of variables.

To sum up the areas where the existing body of L2 listening literature lacks, a list of three important drawbacks can be made: a) low empirical accumulation due to relative complexity of measuring oral comprehension, b) studies focusing on individual variables rather than addressing the relative contribution of multiple variables and the interaction among them, and c) absence of a subskill-based approach to L2 listening comprehension.

1.2. Aims and Research Questions

Given the gaps in the L2 listening literature, in an attempt to troubleshoot each and every one of them, the present study aims to fulfill three important objectives: 1) to find out the effect of linguistic components (vocabulary and grammar knowledge), working memory, metacognitive awareness, and affective factors (L2 listening anxiety and willingness to listen in L2) on L2 listening comprehension, 2) to investigate whether the effect of so-called component skills vary across listening subskills i.e. listening for main ideas and details, and inferencing, and 3) come up with a comprehensive model of L2 listening comprehension depicting the interaction among the component skills and their relative contribution to L2 listening comprehension. The study, therefore, tries to answer the following research questions:

1. What is the relationship between linguistic components (vocabulary and grammar knowledge), working memory, metacognitive awareness, affective components (listening anxiety, willingness to listen) and L2 listening comprehension?
2. Does the relationship between the component skills and L2 listening vary across subskills of listening i.e. listening for main ideas, listening for details, and inferencing?
3. How do linguistic components, cognition, metacognitive awareness and affective components interact with each other to explain L2 listening comprehension?

1.3. Significance of the Study

The results of this study will benefit the field of L2 listening both practically and theoretically. First of all, as parallel to the inherent practicalities of componential approach, the study will provide insight into the effect of several component skills on listening comprehension that the practitioners can make use of in their classes for

diagnostic purposes. Drawing on the findings, language teachers will be able to locate the areas to improve for promoting higher levels of L2 comprehension among their students. Not only the individual contributions to but also the relative effect of each component skill on L2 listening comprehension and how each component interacts with one another have been addressed in the current study, which will provide practitioners with increased knowledge of the exact influence of components. This will enable language teachers to decide which component skills to prioritize over others. More insight into which component skills affect the L2 listening comprehension process and how each component interacts with one another will in turn prove to be valuable for designing the necessary intervention programs to develop L2 learners' competence in the related components thus in L2 listening comprehension.

Another issue that has been addressed in the present study is whether the strength of association between the component skills and L2 listening varies across listening subskills, i.e. listening for main ideas/details and inferencing. A subskill-based explanation of the relationship between component skills and L2 listening will provide language teachers with answers for how susceptible learners are to individual differences in component skills across different subskills. Answers to this intriguing question will inform practitioners about the relevance of each component skill to a certain subskill at hand so that they can vary their component skills instruction depending on which listening subskill they desire to promote among their students. Language teachers can also use the findings for designing listening instruction from less susceptible to more susceptible subskills so that students can get accustomed to the difficult task of L2 listening in the safer subskill first and then proceed to more complex ones.

As regards the theoretical contribution, the current study will hopefully add to our understanding of the underlying structure of L2 listening comprehension in two ways. First and foremost, the existing literature falls short in explaining how different components interact with each other and L2 listening comprehension due to lack of studies addressing multiple components at the same time. In an attempt to fill this gap, unlike most of the previous studies, the present inquiry covers linguistic, affective and cognitive components all at the same time, which leaves no loose ends regarding the factors effective in the process of L2 listening comprehension. Addressing different components from distinct domains, the present study has set out to propose a both theoretically and statistically sound model of L2 listening depicting the complex web of

interactions among the components and L2 listening comprehension. Scholars in the field might use the model as a basis in their investigations and verify whether the model can be generalized to other contexts. The comprehensive model put forward in this study, if validated in further studies as well, might serve as a gateway to a theoretical explanation of the underlying structure of L2 listening comprehension.

The other contribution of the current study to the literature is that a subskill-based explanation of the relationship between components and L2 listening comprehension has been provided. The existing literature lacks scientific evidence on this matter as scholars tend to come up with generalizations about the effect of certain variables on L2 listening comprehension without taking into consideration the differential moderator effects of different subskills on this relationship. In this regard, the current study might add to the literature in that raw generalizations might be avoided and a more subskill-specific approach would be adopted by future researchers.

In conclusion, the present study will hopefully contribute a great deal to practice by addressing multiple component skills at a time, and discovering the strengths of associations of these skills with each other and listening comprehension; and to L2 listening literature by introducing a comprehensive model to be verified and suggesting a subskill-based approach to be adopted.

2. LITERATURE REVIEW

This section provides an account of what listening comprehension means first and then proceeds to cover the definitions of and prior studies on the effect of component skills: i.e., vocabulary knowledge, grammar knowledge, working memory, metacognitive awareness, L2 listening anxiety and willingness to listen in L2 on listening comprehension.

2.1. Listening Comprehension

Listening is an important skill for learning and communicating in a second or foreign language (L2). Listening comprehension is an integral part of language teaching contexts and plays a pivotal role in improving the other language skills (Rost, 2002). It has been defined differently by many researchers and there is no consensus on a single definition. It has been frequently compared with the other receptive skill, reading due to their assumed resemblance. Kim (2000) provides a neat account of the distinctions between listening and reading while at the same acknowledging the similarities between the two. While the two skills share some common characteristics as the dependence on lexical and grammatical processing of the incoming stimuli, they have their distinctions. First and foremost, the two skills entail different modes of delivery: reading involves written stimuli whereas listening is delivered orally. This distinction has an important effect in terms of task demands exerted on the receiver. The listening skill requires the receiver to employ more cognitive resources to make meaning as the text cannot be viewed again unlike in reading. Second, listening involves some features specific to spoken language such as the use fillers, colloquial language and phonological shifts which are not present in reading. Another point where the two skills differ from each other is the existence of nonverbal stimuli. While listening requires the listener to attend to facial expressions, intonations, gestures, and the tone of voice, readers do not face these contextual features.

All these inherent characteristics grant listening a unique language skill that scholars need to handle listening on its own as a complex language skill rather than with reference to any other skill. Therefore, most scholars put forward definitions specifically addressing the inherent characteristics of listening. Vandergrift (1999) describes listening comprehension as an active process in which listeners have to pay attention to several variables such as linguistic structures and broader social contexts. Buck (2001) defines

listening comprehension as “the ability to process extended samples of realistic spoken language, automatically and in real time, to understand the linguistic information that is unequivocally included in the text, and to make whatever inferences are unambiguously implicated by the content of the passage” (pp.114). What is common in the definitions is the fact that the listener is active in the process of listening comprehension and makes use of certain information to construct the meaning. Here it is important to underline that listening comprehension incorporates bottom-up and top-down processes (Field, 2004). If, for example, the listeners try to assign meaning to what is heard by drawing on their linguistic knowledge, e.g., grammar and vocabulary knowledge, then they make use of bottom-up processes. On the other hand, if the listener utilizes contextual clues and prior knowledge to comprehend what is spoken, top-down processes come into play. In comprehending the message, listeners make us of both types of processes, which makes it difficult to determine what factors explain variance in listening comprehension success. It is also vital to draw a distinction between literal and inferential listening (Kim, 2016; Ulu, 2016). The former means constructing meaning of what is explicitly present in the passage while the latter requires listeners to make use of the information in the text for trying to figure out what is implicitly conveyed by the speaker. Successful listening comprehension requires both skills working hand in hand, which means that successful listening comprehension tests should tap both skills. Therefore, throughout the paper, listening comprehension will be used to refer to a process in which listeners might use both top-down and bottom-up processes to carry out literal and inferential listening.

2.2. Components of Listening Comprehension

In this study, listening comprehension has been investigated in terms of the components involved in the process i.e., vocabulary knowledge, grammar knowledge, working memory, metacognitive awareness, listening anxiety, and willingness to listen in L2. The following sections provide an account of former studies investigating the effect of these variables on listening comprehension as well as definitions of each variable. As the current study attempts to explain the listening comprehension process through a correlational design, most of the studies included in the review are those reporting correlations between listening comprehension and component skills. Appendix 1 presents a comprehensive list of studies with brief summaries of the participants, component skills addressed, measurement tools used, and findings.

2.2.1. Vocabulary knowledge

Defined as knowledge of forms and meanings of words (Nation, 2001) in its simplest sense, vocabulary knowledge is one of the most important components of all language skills. The role of vocabulary knowledge in linguistic development is nearly taken for granted and one of the main goals of language teaching programs is to build as large a vocabulary repertoire among language learners as possible. Several attempts have been made to investigate how to teach vocabulary through vocabulary tasks in short periods of language teaching programs (Beal, 2007; Keating, 2008, Laufer & Hulstijn, 2001). The main motive behind such studies has always been the idea that vocabulary knowledge is at the heart of language learning and it is essential to have a sufficient amount of vocabulary knowledge either to express oneself or decode the incoming stimuli. Several studies addressed the importance of vocabulary knowledge in writing (Al Seyabi & Tuzlukova, 2014; Huy, 2015; Sawaki, Quinlan & Lee, 2013) underlining that deficiencies in vocabulary knowledge result in learners having difficulties in arranging and conveying ideas to the readers. Similar difficulties are reported to emerge during spoken communication due to lack of vocabulary knowledge (Khotimah, 2014; Perez Manzanilla & Diaz Cabrera, 2014; Tahir, 2015). The important role of vocabulary knowledge in predicting success in a language skill has not only been documented in productive skills, but also receptive skills as well. Reading comprehension, the receptive written counterpart of listening comprehension, has been studied extensively in this regard. A comprehensive meta-analysis by Jeon and Yamashita (2014) investigating the correlates of L2 reading comprehension included 29 studies on the relationship between vocabulary knowledge and text comprehension. The results clearly underscore the important contribution of word knowledge to L2 literacy with a considerably strong overall correlation obtained (r=.79). Taken together with studies underlining the strong relationship with vocabulary knowledge and reading comprehension, the results of these studies highlight the importance of vocabulary knowledge in comprehending the incoming stimuli as well as production. The effect of vocabulary knowledge on listening comprehension has been documented through correlational and experimental studies. While the former studies include measuring learners' vocabulary knowledge and finding out if there is association between the variables, the latter line of studies consists of a special training on vocabulary items either before listening or in a long period and then finding out if the training has any effect on listening comprehension.

As for correlational studies there is an abundance of studies in both L1 and L2 contexts devoted to exploring the predictive value of vocabulary knowledge in listening comprehension. The meta-analysis by Karalık and Merç (2019) suggests that while L1 listening comprehension enjoys moderate overall association with vocabulary knowledge, L2 listening comprehension is strongly connected to word knowledge. Similarly, vocabulary knowledge shares nearly equal predictive value with some other components like working memory and grammar knowledge in L1 settings whereas L2 research has documented significantly stronger associations between listening comprehension and vocabulary knowledge.

The role vocabulary knowledge plays in bringing about variance in comprehension of oral texts in L1 has been addressed in a few studies with inconclusive findings. Adams, Bourke and Willis (1999) looked into the relative effect of vocabulary knowledge and working memory on listening comprehension among a group of children who were native speakers of English. The findings yielded that there was significant moderate correlation between vocabulary knowledge and listening comprehension, which indicates that vocabulary knowledge is a way more predictive component than working memory. Similarly, Florit et al. (2009) delved into the relative contribution of vocabulary knowledge and working memory to L1 listening comprehension by recruiting a group of Italian children. The findings revealed that vocabulary knowledge was not a much better predictor than working memory with both yielding moderate correlations. In another study by Kim and Phillips (2014) which was conducted with 156 children at different grades from several schools in Florida, the relationship between vocabulary knowledge and text comprehension was measured through two different listening tasks. It was reported that vocabulary yielded moderate and strong correlation with comprehension on the two tasks. In a recent study by Asadi (2020), the relationship between vocabulary and listening comprehension was scrutinized among a group of Arabic speaking children. The obtained correlations showed that vocabulary knowledge moderately correlated with listening comprehension indicating a weaker correlation than the other components addressed in the study. Another study by Bourdeaud'hui, Aesaert, and van Braak (2020) recruited 974 elementary students composed of native and nonnative speakers of Dutch, and scrutinized the factors effective in listening comprehension. The results underlined that vocabulary knowledge was less effective in causing variance in listening than working memory. In two consecutive studies Kim (2015, 2016) tried to investigate the

predictive value of vocabulary knowledge in explaining variance in L1 listening comprehension among Korean children. The results suggested that the strength of association between vocabulary knowledge and listening comprehension varied from weak to strong across different tasks administered in the studies. In a longitudinal study, Lepola et al. (2012) investigated the developmental nature of listening comprehension and how vocabulary knowledge and some other components interacted with comprehension over time among a group of Finnish children. The participants' listening comprehension was measured at three different time points to reflect development over time. The findings indicated that vocabulary knowledge demonstrated moderate and strong correlations with listening at different time points yielding similar correlations to those belonging to the other components addressed in the study. In a similar vein, Tighe, Spencer, and Schatschneider (2015) conducted a cross-sectional study with participants at different grades, which also reflected development over time. As in Lepola et al. (2012), vocabulary knowledge was found to be moderately and strongly correlated with listening comprehension at different grades. However, this time, vocabulary knowledge yielded larger correlations than the other components addressed. In sum, L1 listening research is far from conclusive regarding the individual or relative contribution of vocabulary knowledge to listening comprehension.

In L2 listening research, on the other hand, it can be seen from the studies that the effect of vocabulary knowledge was nearly taken for granted and integrated into most of the studies and that vocabulary knowledge played a pivotal role in explaining individual differences in terms of listening comprehension. It would be feasible to divide the correlational L2 listening comprehension studies into two broad categories in terms of how they handled vocabulary knowledge as a contributor. The first line of research addressed vocabulary knowledge individually, that is, vocabulary knowledge was the only variable to be correlated with L2 listening comprehension. The second vein of research addressed vocabulary knowledge along with some other components such as grammar knowledge, working memory, and metacognitive awareness. As such, the latter line of research is potentially more informative on the role of vocabulary knowledge both individually and relative to other components.

However, the studies in the first line of research are not trivial since the potential relationship between vocabulary knowledge and L2 listening comprehension was brought up first by these studies. One of the earliest attempts to establish the links between

vocabulary knowledge and L2 listening comprehension was made by Bonk (2000). Recruiting a group of 59 Japanese university students who were majoring in English, the author studied the association between lexical familiarity and L2 listening comprehension. Lexical familiarity of the participants was measured through a dictation task, unlike a standard vocabulary test which requires to match the right definition with the right word. Notwithstanding, the study made a significant contribution to our understanding of the connection between lexical knowledge and text comprehension. Later, the introduction of conventional vocabulary tests boosted the scientific endeavors to unravel the role of vocabulary knowledge in L2 listening comprehension. Several other scholars further looked into the relationship between vocabulary knowledge and L2 listening comprehension adopting a correlational design. Well-known in the field, Stæhr (2008, 2009) tried to shed light on the contribution of vocabulary knowledge to L2 listening comprehension among a group of Danish EFL learners. The two studies differed from each other in terms of the participant group and instruments used. While Stæhr (2008) recruited high school students, Stæhr (2009) culled participants from a university. Similarly, while the former made use of a researcher-made listening test, the latter administered a standardized listening comprehension test. Another difference, which was highly influential in later studies that followed, was that Stæhr (2009) also compared the relative contribution of vocabulary size and depth of vocabulary knowledge to L2 listening comprehension. Despite the methodological differences, both studies highlighted that vocabulary knowledge was an important variable strongly correlating with L2 listening comprehension thus meriting further attention. Staehr's (2009) study was important in that another dimension of vocabulary knowledge, depth of vocabulary knowledge, was introduced as a possible contributor over vocabulary size.

Though the author suggested that the two aspects of vocabulary knowledge were closely related to one another and their contribution to variance in L2 listening comprehension overlapped to a great extent, several other scholars integrated into their studies the depth of vocabulary knowledge as well. In two consecutive studies, Teng (2014, 2016) explored the relative contribution of vocabulary size and depth of vocabulary knowledge to L2 listening comprehension among Chinese EFL learners. Both studies indicated that vocabulary size and depth of vocabulary knowledge correlated strongly with each other and L2 listening comprehension. A more recent study by Migdadi, Yunus, and Daradkeh (2019) which aimed at investigating the relative

explanatory power of vocabulary size and depth of vocabulary knowledge in determining L2 listening success, also provides support for the strong connection between the two dimensions of vocabulary knowledge and L2 listening comprehension. However, the strength of association was slightly weaker for depth of vocabulary knowledge.

Most studies on the other hand followed the caveat put forward by Staehr (2009) that the two dimensions of vocabulary knowledge overlap to a great extent, and abandoned depth of vocabulary knowledge due to multicollinearity issues. Among scholars who focused on one dimension of vocabulary knowledge only, Li (2019) conducted a study with 146 Taiwanese learners of English to find out how much variance in L2 listening is explained by vocabulary size. The findings of the study indicated a strong association between vocabulary knowledge and listening comprehension meaning that vocabulary knowledge alone could explain most of the variance in listening. Similarly, Matthews and Cheng (2015) recruited 167 Chinese learners of English as participants and investigated the role of vocabulary knowledge in bringing about individual differences in listening success. The results clearly favored vocabulary knowledge as a strong predictor of listening success with nearly 50 percent of variance explained. In a later study Matthews (2018) delved into the effect of auditory vocabulary knowledge on L2 listening comprehension with a similar group of participants. This time, the participants' scores on different levels of the vocabulary test were correlated separately with their scores on the listening test. The large contribution of vocabulary knowledge was underlined with all the three levels of the vocabulary test correlating strongly with L2 listening comprehension. Another study by Ataş (2018) also investigated how vocabulary knowledge performed in explaining variance among a group of Turkish EFL learners. The findings underscored the strong connection between word knowledge and L2 listening comprehension with a strong correlation obtained between the two variables. Similar findings were also reported by Chiang (2018) who recruited 973 university students in an attempt to find out the role of vocabulary size in L2 listening comprehension. The findings highlighted that vocabulary size strongly correlated with the participants' scores on the listening section of a standardized proficiency test. Potentially one of the most intriguing studies in this line of research addressing vocabulary knowledge alone as a contributor to L2 listening comprehension, Noreillie et al. (2018) recruited two different participant groups representing two different second languages: one group learned English and the other group learned French as a second

language. The researchers measured each group on listening comprehension through standardized proficiency tests and on vocabulary knowledge through a researcher-made vocabulary tests. The correlation analysis showed that vocabulary knowledge correlated significantly and strongly with the participants' scores on the proficiency tests. The study findings in this sense unequivocally indicate that, regardless of which language is being learned, vocabulary knowledge is a strong predictor of success in L2 listening comprehension.

The second line of research within the correlational trend addressed vocabulary knowledge besides other components as one of the contributors of L2 listening comprehension. Studies in this vein proved to be more promising in that they delved into the relative importance of vocabulary knowledge by taking into consideration some other potentially effective components at the same time. While L2 listening research was still in its infancy trying to find out the potential sources of individual differences determining listening success, Mecartty (1994) conducted an intriguing comparative study into the effect of grammar and vocabulary knowledge on L2 reading and listening comprehension. The researcher recruited 154 international students learning Spanish as a foreign language and divided them into two groups. One group was tested on L2 reading and the other was measured on L2 listening. The results of the study underlined that vocabulary knowledge significantly moderately correlated with L2 listening and that the correlation was strong between L2 reading and vocabulary knowledge. The study was important in showing the similarities and differences between L2 reading and L2 listening. In another study addressing multiple components at a time, Aotani (2011) studied how vocabulary and grammar knowledge, and metacognition were related to L2 listening comprehension by recruiting 179 university students. The author used two different listening texts varying in length and the points comprehension questions tapped. The results on both listening tests showed that vocabulary knowledge was a strong predictor of listening success along with grammar knowledge. The study merits attention in that more than one variable were addressed simultaneously which had been handled in isolation in previous studies. In doing so, the author managed to provide a more accurate and complete image of L2 listening comprehension. In a similar study, Ghapanchi and Taheryan (2012) investigated the contribution of vocabulary and grammar knowledge, and metacognition to L2 listening success among a group of university students. The researchers did not measure the participants' actual current listening comprehension levels but rather obtained their

listening course grades from their course teachers. Notwithstanding, as in Aotani (2011), the study is one of the earlier attempts to capture the relative role of different components in leading to variance in L2 listening comprehension. Vocabulary knowledge was found to strongly correlate with L2 listening comprehension and the rest of the variables demonstrated significant moderate correlations, which validate the assumption that L2 listening is a multi-layered process in which many factors are involved. Following the two studies, other researchers examined different combinations of component skills along with vocabulary knowledge. Vulchanova et al. (2014) studied the role of vocabulary knowledge besides working memory in determining L2 listening success. Underlining that vocabulary knowledge and working memory yielded significant strong and moderate correlations respectively with listening comprehension, the results of this investigation not only confirmed the strong correlation between L2 listening comprehension and vocabulary knowledge but it was also discovered that differences among listeners in other variables could also prove valuable in explaining individual differences in listening success. Similarly, Masrai (2019) looked into the strengths of associations between vocabulary knowledge, working memory and L2 listening comprehension among a group of international EFL learners. The findings of the study underscored that both vocabulary knowledge and working memory were strong predictors of individual differences on the listening test administered. Sağlam (2014) addressed vocabulary knowledge besides grammar knowledge and listening strategy use. The participants of the study were a group of university students receiving language preparatory education. It was concluded from the findings that two linguistic variables were equally important in their contribution to L2 listening comprehension as both correlated strongly with listening test scores. Oh (2016) alike investigated the relative explanatory power of vocabulary and grammar knowledge in L2 listening comprehension by recruiting a group of university students taking English courses compulsory for graduation. The participants' scores on auditory vocabulary tests and a researcher-made grammar test strongly correlated with their scores on the listening test devised by the researcher. Vandergrift and Baker (2015, 2018) studied the relative contribution of vocabulary knowledge, working memory, and metacognitive awareness among 7^{th} and 4^{th} grade French immersion students respectively. Although the groups were not directly related with each other, similar findings were observed regarding the contribution of vocabulary knowledge to L2 listening comprehension. Surpassing the other variables, vocabulary knowledge yielded a significant strong correlation with

listening scores while the other components produced weak correlations in both studies. The most comprehensive study in this line of research, Vafaee (2016) scrutinized the relative strengths of association between the two dimensions of vocabulary knowledge, i.e. vocabulary size and depth of vocabulary, L2 listening anxiety, metacognitive awareness, working memory, and L2 listening comprehension. The findings of the study quite resembled those obtained by previous studies. Both dimensions of vocabulary knowledge along with grammar knowledge correlated significantly and strongly with L2 listening comprehension. This specific study is another valuable attempt to establish the links between several components and L2 listening comprehension. Both linguistic, cognitive, metacognitive and affective components were handled simultaneously, the relevance of which to the current study and the literature of L2 listening research are discussed further in the discussion section.

Though too few, there are also studies demonstrating weaker associations between vocabulary knowledge and listening comprehension in L2. One such study by Bian, Cai, and Cai (2019) recruited 191 Chinese learners of English and reported moderate associations between vocabulary knowledge and listening comprehension. In addition, Fatikhah, Martono, and Asrori (2019) investigated the relationship between vocabulary mastery and listening success among a group of 73 Indonesian learners and obtained similar results with vocabulary knowledge yielding moderate correlations with L2 listening comprehension. Wang (2015) also investigated how strongly vocabulary knowledge was related to L2 listening. Both vocabulary size and depth of vocabulary knowledge correlated only moderately with L2 listening comprehension. Another study by Wang and Treffers-Daller (2017) set out to investigate the relationship between vocabulary size and listening comprehension by recruiting a group of Similarly, Nejad and Farvardin (2019) reported a moderate correlation between vocabulary knowledge and comprehension scores. These low correlations obtained can be attributed to the proficiency level of participants in that with increasing proficiency, the effect of vocabulary knowledge diminishes as a result of the closing gap in individual differences. It is also evident in studies comparing the relative effect of vocabulary knowledge among native and non-native participants on their listening success. Andringa, Olsthoorn, and van Beuningen (2012) specifically compared the effect of vocabulary in explaining listening comprehension among both native and non-native speakers of Dutch. Similarly, Babayiğit and Shapiro (2020) delved into the relationship between vocabulary knowledge

and listening comprehension among native and non-native speakers of English. The results of both studies were quite similar: while vocabulary knowledge was not that much effective in explaining listening comprehension variance among native speakers, it demonstrated strong links with listening success among non-native speakers. The participants in Bian et al. (2019) were English major students, assumedly with higher levels of proficiency, and differences in vocabulary knowledge were only moderately linked to differences in L2 listening comprehension. The proficiency level of the participants might be acting in the reverse direction as well. It might be that listeners below a certain level of vocabulary mastery cannot benefit from their vocabulary knowledge thus decreasing the explanatory power of this component.

In addition to studies with a correlational design, there are also quasi-experimental or experimental studies involving a pre-teaching of or special training on vocabulary, though low in number. One such study by Pan et al. (2018) investigated the effect of an eighteen-week expanded vocabulary instruction on listening comprehension performance of 61 Taiwanese university students. The participants were divided into two groups with one group receiving the instruction and the other not. The results indicated that vocabulary instruction significantly benefited listening comprehension. In a similar study by Purba (2020) a total of 34 Indonesian EFL learners' listening comprehension was observed for a two-month period during which they received vocabulary instruction. The results of pre- and post-test scores indicated that vocabulary instruction was effective in bringing about change in students' listening comprehension scores. Shabani, Malmir, and Arjmand (2018) adopted a quasi-experimental design and compared the relative effectiveness of providing students with instruction on vocabulary, topic and grammar structures prior to listening comprehension. The results showed that vocabulary instruction along with instruction about the topic had a significant effect on improving listening comprehension.

In sum both L1 and L2 speakers have been found to be vulnerable to vocabulary knowledge differences while they are involved in the task of listening comprehension with the latter group facing a much stronger effect. Higher levels of vocabulary knowledge have been associated with higher levels of listening comprehension and similarly deficiencies in lexical knowledge resulted in lack of comprehension. To this end, in a componential study on L2 listening, the effect of vocabulary knowledge is an indispensable concern to address.

2.2.2. Grammar knowledge

Another important foundational component of language skills is grammar knowledge. Grammar knowledge can be defined as knowledge about some morphosyntactic features such as tense, subject-verb agreement, aspect and articles (Jeon & Yamashita, 2014). As in the case of vocabulary knowledge, the role of grammar knowledge in linguistic development in all skills has been highlighted. Teaching of grammar has been found effective in promoting writing skills among L2 learners by helping them organize their ideas and express themselves more clearly (Jones, Myhill & Bailey, 2013). However, there is lack of evidence to advocate that grammar knowledge is vital for speaking fluency as general tendency in speaking skill is to favor fluency over accuracy. The research up to date has usually acknowledged the important role grammar knowledge plays in comprehension of the written stimuli rather than orally delivered texts. A meta-analysis by Jeon and Yamashita (2014) reported that 16 studies addressing the role of grammar knowledge in L2 reading comprehension had been conducted by the time of the review, while L2 listening research had just started to integrate grammar knowledge as a variable then. The findings of the meta-analysis showed that grammar was a recurring component frequently addressed in L2 reading studies and that it correlated strongly with L2 reading comprehension. A recent meta-analysis on the correlates of L2 listening comprehension by In'nami, Koizumi, et al. (2022) included reports from studies conducted to establish the links between grammar and L2 listening comprehension. Despite the eight-year advantage, L2 listening research has not witnessed a significantly greater amount of empirical accumulation on this matter with only 25 studies reporting correlations between L2 grammar knowledge and L2 listening comprehension. It is therefore justifiable to argue that there is great demand in the literature of L2 listening comprehension for studies delving into the contribution of grammar knowledge to listening comprehension. Despite the fact there are only a handful of studies in the area, resulting in low empirical accumulation, the relevance of grammar knowledge or so called as syntactic knowledge is well acknowledged in both L1 and L2 listening comprehension.

In an attempt to capture the relevance of grammar knowledge to listening comprehension, Andringa et al. (2012) investigated the relationship between listening comprehension and some component skills, i.e., working memory, vocabulary knowledge, and grammatical processing among native and non-native speakers of Dutch.

The results highlighted that grammatical processing yielded a moderate strength of association with listening comprehension in L1 similar to that of vocabulary knowledge. As for the nonnative participant group in the same study, grammar knowledge was strongly correlated with listening comprehension as in the case of vocabulary knowledge. Another study recruiting both native nonnative participants to find out the effect of grammar knowledge on listening comprehension was conducted by Babayiğit and Shapiro (2020). The study aimed at discovering the contribution of vocabulary and grammar knowledge to listening comprehension in L1 and L2. Two different participant groups were recruited for the study. Participants in one group spoke English as their native tongue and had no knowledge of any other language. The other group of participants were learning English as a second language besides the language they spoke at home. The correlation analysis showed that grammar knowledge correlated significantly and moderately with listening comprehension in the native participant group while it demonstrated significant strong correlations with listening comprehension in the non-native group. The two studies, taken together, indicate that grammar knowledge is a stronger contributor of individual differences in listening comprehension in L2 settings than in L1 contexts. A few other studies conducted in L1 contexts also underline a moderate link between grammar knowledge and listening comprehension. In a similar vein, Asadi (2020) compared the relative significance of vocabulary knowledge, syntactic knowledge, and working memory in explaining variance in L1 listening comprehension among a group of Arabic speaking children. The results obtained from the study underlined the importance of grammar knowledge with a significant moderate correlation observed, even stronger than that of vocabulary knowledge addressed in the same study. In two consecutive studies, Kim (2015, 2016) recruited two different groups of Korean children in an attempt to explore the connection between a series of variables including vocabulary knowledge, grammar knowledge, comprehension monitoring, inference skills, and working memory and listening comprehension. The researcher administered three different listening tasks in the former study, and two different tasks in the latter and the scores on each one of the tasks were correlated with the variables addressed. Kim (2015) reported correlations between listening comprehension and grammar knowledge ranging from moderate to strong whereas Kim (2016) obtained moderate correlations. As for the relative value of the variables addressed, both studies provided evidence that grammar knowledge can be as effective as and even more effective than other

components. On four listening tests out of five, syntactic knowledge demonstrated slightly stronger correlations with listening comprehension than vocabulary knowledge and working memory in the two studies.

As for L2 listening literature, although empirical accumulation on the predictive value of grammar knowledge is relatively low when compared to reading comprehension, the written counterpart of listening comprehension, the existing studies highlight the valuable contribution of grammar knowledge to listening comprehension. Two different meta-analyses by Karalık and Merç (2019) and In'nami, Koizumi, et al. (2022) on the correlates of L2 listening comprehension concluded that grammar knowledge enjoyed a strong overall mean correlation with L2 listening comprehension, not much different from the unanimously acknowledged variable, vocabulary knowledge. When we inspect the findings obtained from these handful of studies closely, it can be clearly seen that grammar knowledge deserves much more attention than it has managed to receive up to date. One of the earlier investigations addressing how grammar knowledge was related to L2 listening comprehension was conducted by Mecartty (1994) who compared the relative contribution of grammar and vocabulary knowledge to L2 reading and L2 listening. The results showed that grammar knowledge did not produce a significant correlation with L2 listening but it was an important variable in determining success in L2 reading. Later, Aotani (2011) conducted a multi-component study to determine the role of individual differences regarding several variables in determining listening success. Grammar knowledge was one of the variables addressed in the study along with vocabulary knowledge and metacognitive awareness. Two different listening tests were administered to measure the participants' listening comprehension. the scores obtained from both tests were then correlated with the independent variable measures. All the variables yielded varying strengths of association with L2 listening comprehension on the two different listening test scores. Grammar knowledge yielded significant moderate correlations with L2 listening on both tests while vocabulary knowledge produced a strong correlation with L2 listening on long listening and a moderate correlation on short listening test. The significant relationship between grammar and L2 listening comprehension was also underlined by Sağlam (2014) who studied grammar knowledge along with vocabulary knowledge and metacognition. The correlation analysis between the independent variables and L2 listening comprehension established that both vocabulary and grammar knowledge were strong predictors of individual differences in

listening comprehension scores but not metacognition, as was the case in Aotani (2011). In another study adopting a correlational design, Oh (2016) looked into how vocabulary and grammar knowledge related to L2 listening comprehension among a group of university students. The results of the study provide support for the prominent role the two linguistic variables play in determining listening success as both vocabulary and grammar knowledge correlated significantly and strongly with listening comprehension. Finally, Vafaee (2016) tried to shed light on the complex structure of L2 listening comprehension by addressing several component skills at the same time. For this purpose, the author measured the participants on their vocabulary and grammar knowledge, metacognitive awareness, listening anxiety, and working memory. Integrating each variable into this complex group of variables and finding out its relative contribution would prove a valuable contribution to our understanding of its real explanatory power in listening comprehension. The findings underscored that even in this complex structure of multi-component model, both grammar and vocabulary knowledge strongly correlated with L2 listening comprehension.

To the best of our knowledge, there is only one study in which grammar knowledge was found to moderately correlate with L2 listening comprehension. Ghapanchi and Taheryan (2012) delved into the relative contribution of vocabulary and grammar knowledge, and metacognition to L2 listening comprehension. The results contradicted those obtained in Aotani (2011) since grammar knowledge, though only slightly below strong, was moderately correlated with L2 listening comprehension while vocabulary knowledge yielded a strong correlation.

All in all, a closer look into previous literature on the relationship between grammar and listening comprehension in both L1 and L2 underlines that this component is as predictive as, if not more predictive than, vocabulary knowledge in listening comprehension. However, it has not been extensively investigated in spite of its predictive value, which indicates that there is great need for further research into the role of grammar knowledge in L2 listening comprehension. Therefore, taking into consideration the lack of studies and strong correlations found between grammar and L2 listening comprehension, it can be suggested that a componential study should address grammar knowledge along with the other linguistic component, vocabulary knowledge.

2.2.3. Working memory

Working memory, according to Baddeley (1992) "refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning" and it requires "the simultaneous storage and processing of information" (pp. 556). Similarly, working memory can be defined as the ability to store specific information in mind while at the same time trying to process this piece of information (Just & Carpenter, 1992). Baddeley (1992) put forward a multi-component model to conceptualize working memory. According to Vandergrift and Baker (2018) this model "proposes a central executive component for planning, coordinating the flow of information, and retrieving knowledge from long-term memory" (p.84). The model also underlines the existence of two sub-systems responsible for carrying out different tasks: a phonological loop for storing information about sounds and a visual sketchpad responsible for keeping non-verbal information. The existence of a phonological loop and a central executive component makes working memory important for listening comprehension research according to Vandergrift and Baker (2018). They assert that phonological loop is weak in capacity and information about speech disappears easily, and that it is the duty of central executive function "to control the flow of information, maintain focus, and reduce distracting information, which is necessary for listening success" (pp. 84).

Another important work regarding the place of working memory in language processing by Just and Carpenter (1992) suggests a more dynamic and context-specific structure of the construct. In their examination of working memory for text comprehension, the authors underline that there is a single capacity that includes all aspects of processing a language, such as lexical access, syntactic analysis, and referential processing. The construct of capacity is defined as the maximum amount of activation in the working memory to aid storage and processing functions. It is this concept of activation that grants working memory a flexible and dynamic structure in that activation of certain elements (words, propositions, grammatical structures, an object, and so on) is realized at different levels. More specifically, if the activation of an element occurs above a certain threshold level, then that element will fall within the working memory and be available for further processes. On the other hand, if a certain element is activated at a level below the minimum threshold for language comprehension, some of the activation

for earlier elements in the discourse will be used up in compensating for this deficiency, which may result in forgetting of the representations formed earlier.

There are two important assumptions of the model proposed by Just and Carpenter (1992). The first one foresees that performance is affected by capacity constraints only if the demands of a specific task exceed the supply. Activation of a specific element, according to the authors, is contingent upon the task requirements. This assumption holds that individual differences will be more noticeable during times of strong demand. If individuals demonstrate variance in terms of activation levels, comprehension discrepancies should be more evident when lower-ability subjects' activation levels are strained by the task requirements. It follows then that when faced with high demand tasks, individuals with lower working memory capacity will be more likely to suffer in comprehension. The second assumption suggests that changes in overall capacity have an impact on how many different processes and tasks are successfully carried out. Specifically, it is underlined that changes in total capacity might be observed in certain situations such as fatigue, extreme age, or lack of concentration. In the case of these scenarios, the total capacity of the working memory is assumed to decrease, thus leading to decrease in overall comprehension as well. These two assumptions attribute a context-specific role to working memory rather than accepting it to be a trait-like and a context independent construct. Although the latter view of working memory is not specifically developed for explaining listening comprehension, it might prove valuable for the scientific endeavor to conceptualize the place of working memory in oral comprehension.

Since listening comprehension takes place in short periods of time and the listeners do not have any chance to return to the text they have just heard, unlike in reading comprehension where readers can reinvestigate the text if they wish, working memory can be an important contributor to listening comprehension. Therefore, we need to look into a long-standing debate on the effect of cognition on reading comprehension and carry it to listening comprehension literature. An oft-discussed question in L2 reading literature has been whether reading comprehension is a language or a reading problem since Alderson (1984) asked it. His concern was to determine if language learners differed from each other in terms of L2 reading comprehension due to language-neutral cognitive differences i.e., working memory capacity or language-specific linguistic factors such as vocabulary and grammar knowledge. The existing literature on L2 reading comprehension seems to have resolved the question in favor of linguistic factors.

However, when we turn our attention to L2 listening comprehension studies, due to low empirical accumulation, we are far from a conclusive answer to the question whether L2 listening comprehension is a language or a listening problem. In listening comprehension literature, working memory has been studied both in L1 and L2 contexts through correlational studies mostly. The procedure followed in all these studies is first to measure listening comprehension and working memory through certain measurement tools and investigating whether there is an association between the two. The results revealed mostly moderate to weak correlations between working memory and listening comprehension in L1 contexts and weak to strong correlations in L2 settings.

For example, Adams et al. (1999) conducted a study to investigate the relative effect of working memory and vocabulary knowledge on listening comprehension with 66 young children who were native speakers of English. The working memory capacity of the children was measured through digit and word-span tasks. The results of the study yielded a weak correlation between listening comprehension and working memory as measured through the word span task, and a weak correlation for working memory as measured through the digit-span task, while vocabulary knowledge correlated strongly with L1 listening comprehension. Another study addressing the relevance of working memory to listening comprehension in L1 was carried out by Florit et al. (2009). The participants were a group of Italian children and they were measured on their working memory through forward and backward digit-span tasks. The results indicated no statistically significant correlation between working memory and listening comprehension, yet the correlation was moderate. In two successive studies, Kim (2015, 2016) investigated the relative contribution of working memory, vocabulary and grammar knowledge, and comprehension monitoring to listening success. The participants were 148 and 201 Korean children respectively. The researcher administered five different listening tests in order to find out if the variables under investigation persisted their strengths of associations with listening comprehension across different tasks. In the former study it was found that working memory demonstrated weak correlations with listening comprehension across different tasks. Kim (2016) on the other hand reported moderate correlation between working memory and listening comprehension on two different tasks. Similarly, Wolfgramm, Suter, and Göksel (2016) investigated the relative effect of working memory on listening comprehension along with vocabulary knowledge, self-concept, and concentration. The subjects of the study were 354 children speaking

German as either their second language or native language. The participants were measured on their listening comprehension through two different listening tests. The results showed that working memory yielded moderate correlation on one of the listening tests and weak correlation on the other. A recent study by Asadi (2020) delved into the connection between working memory listening comprehension among a group of Arabic speaking children. The other components of interest were vocabulary and grammar knowledge, and morphological and phonological awareness. The results suggested that working memory was a strong predictor of listening comprehension. Another recent study by Bourdeaud'hui et al. (2020) set out to investigate the relevance of working memory, vocabulary knowledge, listening strategy use, and listening motivation to listening comprehension among a group of 974 Dutch speaking children either as their native tongue or as a second language. A weak correlation was obtained between working memory and listening comprehension, though slightly larger than all the other components addressed in the study. There is also evidence on the developmental relationship between working memory and listening comprehension. To the best of our knowledge, there are two studies one of which adopting a longitudinal and the other a cross-sectional design in an attempt to document the effect of working memory at different time points. Lepola et al. (2012) culled 130 Finnish children and measured their phonological awareness, vocabulary knowledge, sentence memory, inference skill, and listening comprehension at three time points in over a 2-year period. The results indicated that the strength of association between working memory and listening comprehension decreased from strong to moderate over the course of time. On the other hand, the correlation between inference skills and listening comprehension increased from moderate to strong, indicating that proficiency might be an important moderator on the effect of each component in listening comprehension. Similarly, Tighe et al. (2015) conducted a pseudo-longitudinal study to document the developmental effect of working memory along with vocabulary knowledge and reasoning skills. The subjects of the study were recruited from 3rd, 7th, and 10th graders from different ethnic backgrounds. All the subjects were assumed to be proficient in English, which led us to address this study in the L1 listening research. The authors recruited the participants from several graders in order to capture the developmental relationship between the independent variables and listening comprehension. the findings of the correlation analyses on the scores of the three groups demonstrated a decrease from moderate to weak correlations between working

memory and listening. Taken together with the findings of Lepola et al. (2012), the findings suggest that working memory ceases to be an important contributor of listening comprehension over time as the linguistic repertoire of the participants develop.

In L2 listening literature, the contribution of working memory to listening comprehension is controversial with correlations ranging from nearly zero to very strong. Unlike L1 listening research, there are more studies reporting a strong and a moderate correlation between working memory and listening comprehension than those suggesting a weak correlation. One of the earliest attempts to explore the predictive value of working memory in L2 listening comprehension was a study by Call (1985). The study recruited 41 Arabic and Spanish university students learning English as a second language. The subjects' memory spans were measured through a series of random word, random digits and sentence repetition tasks. The scores obtained from different memory tests were turned into a composite score that was correlated with the participants' scores on a standardized listening test. The findings of the study suggested that memory capacity was an important factor in determining listening success with a significant moderate correlation obtained. Tsuchihira (2007) investigated the relationship between working memory and L2 listening comprehension by recruiting a group of Japanese university students. The author used a researcher-devised listening span task to measure the participants' working memory capacity. The scores on the test were correlated with those obtained on a standardized English proficiency test. The findings underlined that working memory capacity was strongly linked to L2 listening comprehension. Although the number of the participants was low, with only 22 students taking part in the study, the results indicate a large impact of working memory on listening success. In another study with a similar design, Onaha (2010) investigated the relationship between working memory and L2 listening and reading comprehension among 103 Japanese high school students. The participants were measured on their working memory capacity through forward and backward digit span tasks rather than listening span tasks. Both L2 reading and listening comprehension were found to be strongly correlated with forward digit span task scores, which highlights that comprehension of texts, either written or spoken, is dependent on working memory capacity. In another study in a different context, Fay (2012) investigated the role of working memory in explaining individual differences in L2 listening comprehension. The participants were 24 adults recruited from a language course in Brazil. The researcher administered a working memory test comprising three

different sections and the scores on each one of the three measures were correlated with L2 listening comprehension. The results strongly suggest that working memory strongly correlated with L2 listening comprehension as two of the three subtests of working memory yielded strong correlations and the other demonstrated a moderate correlation. A similar study recruiting a group of 60 adult EFL learners from a language course was conducted by Namaziandost, Hafezian, and Shafiee (2018). The researchers aimed to investigate the relative effect of working memory and listening anxiety on listening comprehension scores on a researcher-devised listening test. Both working memory and listening anxiety were found to be strongly connected to L2 listening success, with the latter being reversely linked to listening success. Another study underlining the large contribution of working memory to L2 listening comprehension was by Masrai (2019). The study addressed vocabulary knowledge and working memory together with regard to their relative significance in L2 listening success. The participants of the study were 130 EFL learners from several linguistic backgrounds registered at a language course. The researcher used a listening span task to test the participants on their working memory capacity and correlated the scores obtained from this measure with the participants' scores on standardized listening test. The findings pinpoint that working memory was strongly correlated with L2 listening comprehension, nearly as strong as vocabulary knowledge.

Besides studies reporting strong correlations between working memory and L2 listening comprehension, some other studies reported moderate or weak correlations between the two variables. Vulchanova et al. (2014) researched working memory along with vocabulary knowledge by recruiting 84 Norwegian children learning English as a second language. The researchers measured the participants' working memory capacity through a working memory test specifically designed for children. The results of the investigation signaled that working memory moderately correlated with listening comprehension, explaining a considerably large variance in listening success along with vocabulary knowledge. Andersson (2010) conducted a study specifically devoted to measuring the strength of association between working memory and listening comprehension among 95 Swedish children learning English. Working memory of the participants was measured through several tasks and the scores obtained from the tasks correlated weakly with listening comprehension. However, the author emphasized that when taken together, the working memory measures explained an important proportion of variance in listening comprehension scores. Another study by Brunfaut and Révész

(2015) addressed some learner characteristics including working memory, and listening anxiety as well as task characteristics in explaining individual differences in L2 listening comprehension among a group of international EFL learners. The authors made use of forward and backward digit span tasks in measuring the participants' working memory capacities. The results showed that working memory significantly but weakly correlated with L2 listening comprehension, slightly below moderate strength of association. Two consecutive studies by Vandergrift and Baker (2015, 2018) recruited two different groups of French immersion students from 7th and 4th graders respectively. The variables addressed in the studies were working memory, vocabulary knowledge and metacognitive awareness. The results of both studies underlined that working memory was a far less important variable than vocabulary knowledge with weak correlations obtained. An interesting and rather insightful developmental pattern was observed though regarding the place of working memory in listening comprehension across different groups. The correlation obtained between working memory and listening comprehension was slightly weaker in the 7th graders than in the 4th graders, which might indicate a decreasing effect of working memory in parallel with increasing proficiency. Another study on the relationship between working memory and L2 listening comprehension that deserves attention was conducted by Vafaee (2016). The author looked into a series of components including working memory in terms of their explanatory power in determining individual differences observed in L2 listening comprehension. For the investigation, 263 EFL learners were recruited and they were measured on vocabulary and grammar knowledge, metacognitive awareness, listening anxiety, and working memory. The study handled working memory along with an elaborate set of other components, carrying a potential to provide a more accurate picture of the relevance of the construct in L2 listening comprehension. The findings indicated that working memory significantly and moderately correlated with L2 listening comprehension as measured through a standardized proficiency test. Finally, Satori (2021) studied the role of working memory besides vocabulary and grammar knowledge in L2 listening comprehension among 150 English major university students. The participants were divided into higher and lower proficiency groups and correlation analyses were conducted separately for both groups. The participants' scores on L2 listening span tasks were correlated with their scores on a standardized proficiency test. The study pinpointed that while weak correlation between working memory and L2 listening comprehension was observed in the high-proficiency

group, the strength of association between the two variables was significant and moderate in the low-proficiency group.

In summary, working memory has been frequently addressed in both L1 and L2 listening literature as the listening comprehension process lends itself susceptible to the effects of working memory due to its inherent characteristics, e.g. rapid flow of stimuli, time-constrained processing demands, and impossibility to adjust the rate of delivery. While L1 listening literature has repeatedly shown that the effect of working memory on listening comprehension is relatively limited when taken together with other variables, it is not the case in L2 studies which have frequently demonstrated that L2 learners are to a great extent susceptible to constraints imposed by working memory capacity in the process of oral comprehension. Considering the strong correlations between working memory and L2 listening comprehension reported by most of the studies in the literature, it would be reasonable to argue that a componential study should address this variable besides other constructs to capture a more accurate picture of the relative contribution of the factors involved in L2 listening comprehension.

2.2.4. Metacognitive awareness

According to Flavell (1979), metacognitive awareness encompasses three different kinds of knowledge which are distinct but related: person knowledge (how individuals see themselves and others), task knowledge (the source of knowledge individuals employ while carrying out a task), and strategy knowledge (knowledge of strategies to be employed for a specific task). The functions of metacognition have been summarized by Vandergrift et al. (2006, pp. 435):

> It enables learners to participate actively in regulating and managing their own learning, provides a personal perspective on individual learning styles and abilities, and is amenable to classroom instruction. Learners with high degrees of metacognitive awareness are better at processing and storing new information, finding the best ways to practice and reinforce what they have learned.

What can be inferred from the summary is that metacognition is the learners' taking responsibility of managing, monitoring and evaluating their own learning experiences based on their own capabilities. It has a facilitating role in processing and storing new information. More importantly, it can be increased through instruction. Later, adopting a more skill-specific approach, Vandergrift and Goh (2012) described metacognition or metacognitive awareness in listening as listeners' awareness of what processes are present

in comprehension, and their ability to monitor, manage and regulate these processes. Taken together with the summary Vandergrift et al. (2006) provided, the context-specific definition of metacognitive awareness in listening emphasizes the importance of this construct in L2 listening comprehension. Knowledge about the inherent characteristics of and the capabilities of oneself regarding listening comprehension, which can be improved through instruction, has been thought to have merit in explaining differences in L2 listening comprehension studies. The literature on the relationship between metacognition and listening comprehension addresses this point, i.e., the amenability of metacognitive awareness to instruction, through experimental studies which basically involved providing learners with metacognitive instruction and testing whether the instruction benefited listening comprehension. One such study by Al-Jahwari et al. (2019) set out to investigate the effect of metacognitive strategy instruction on listening comprehension among 112 Omani students. The instruction was based on the Metacognitive Pedagogical Sequence for Listening created by Vandergrift (2004). The participants were divided into experimental and control groups; and while the former group received listening training with additional reflection activities, the control group took traditional listening courses without any reflection activities. The intervention lasted for eight listening lessons. Both before and after the intervention, two instruments were administered: a listening comprehension test and Metacognitive Awareness Listening Questionnaire (MALQ) which was developed by Vandergrift et al. (2006). The results obtained from the post-tests indicated that although both groups were similar to each other in terms of metacognition and listening comprehension levels at the beginning, they differed from each other significantly after the implementation of strategy instruction with the experimental group outperforming the control group on both listening comprehension and metacognitive awareness. This underlines the significant effect of strategy instruction on listening comprehension and metacognition. In the same vein, Bozorgian and Alamdari (2017) investigated the effect of metacognitive instruction on listening comprehension and metacognitive awareness of 180 Iranian learners of English. The participants were divided into experimental and control groups. The experimental group took metacognitive instruction for 10 sessions, two sessions a week, while the control group received traditional listening courses without any training on metacognition. A similar procedure was followed to verify the effect of instruction: the participants in the two groups were compared prior to and after the instruction. Comparison of the participants'

post-test scores showed that those in the experimental group benefited significantly from the instruction and outperformed their counterparts in the control group on both listening comprehension test and MALQ. A similar study by Fathi and Hamidizadeh (2019) looked into the effect of metacognitive strategy instruction on listening comprehension of 52 Iranian learners of English using a similar design. The participants receiving the strategy instruction significantly outperformed those in the control group. Several other scholars provided support for the effect of strategy training on developing listening comprehension following similar procedures, i.e., dividing the participants into experimental and control groups and providing one group with instruction and testing the effects of training on post-test scores (Fiani, Suherdi, & Musthofa, 2019; Mahdavi & Miri, 2019; Taheri & Hedayat Zade, 2018; Tham, 2018; Whitehead, 2020). The line of experimental research into metacognition has provided considerable support for the important contribution of equipping L2 learners with the necessary knowledge of the nature of listening to facilitating the process itself.

In addition to experimental studies, there are also correlational studies investigating the contribution of metacognition to listening comprehension. These studies basically employ a listening metacognitive awareness questionnaire or more specifically a strategy use questionnaire, and correlate the scores obtained from those instruments with listening comprehension test scores. The roots of most of such studies can be traced back to Vandergrift et al. (2006) which was an instrument development and validation study. The authors recruited two different groups, 115 Iranian university students learning English, and 226 Canadian university students learning French as a second language with proficiency levels ranging from beginner to intermediate-advanced. In the confirmatory factor analysis phase of the then newly proposed well-known MALQ (metacognitive awareness listening questionnaire), the participants completed the questionnaire besides a standardized listening test and the scores were correlated. The results suggested that there was a significant moderate correlation between metacognitive awareness and L2 listening comprehension.

The introduction of this specific instrument was influential in the L2 listening literature with several other studies delving into the relationship between L2 listening comprehension and the skill-specific notion of metacognitive awareness employing MALQ or a similar instrument derived from MALQ in a correlational design. Among those studies, a few scholars reported strong correlations between metacognition and L2

listening comprehension. Tafaghodtari and Vandergrift (2008) for example scrutinized the relationship between metacognitive awareness and motivation, and L2 listening comprehension among a group of English major university students. The participants were required to complete MALQ along with a listening section of a standardized proficiency test. The findings of the study highlighted the importance of metacognitive awareness as the participants' scores on MALQ correlated significantly and strongly with their scores on the listening comprehension test. Another similar study by Amin, Aly, and Amin (2011) investigated the relationship between strategic listening skills, a term used interchangeably with metacognitive strategy, and listening comprehension among 80 Egyptian learners of English. The researchers administered three different types of instruments to measure the participants' strategy use and correlated the scores obtained from these instruments with their listening comprehension scores. The findings indicated a very strong association between listening comprehension and strategic listening on all the three instruments. Another study conducted by Kassem (2015) sought to find out the contribution of listening strategy use to variance in L2 listening comprehension. The participants of the study were 84 Egyptian university students who were English majors. The researcher employed a researcher-made strategy use questionnaire and correlated the results obtained from this questionnaire with those obtained from the listening sub-section of TOEFL. The results suggested that a considerable proportion of variance could be attributable to variance in listening strategy use. Kök (2018) also tried to uncover the role of metacognition in explaining variance in L2 listening comprehension. The participants recruited for the study were 44 Turkish university students enrolled in the department of English language teaching. The participants' metacognition regarding strategy use was measured through a researcher-made questionnaire and these scores were correlated with those obtained from the listening sub-section of IELTS. The results showed a significant and strong correlation between the two measures indicating that much of the variance in listening comprehension can be explained by listening strategy use. Ummah and Arifani (2017) as well studied the connection between metacognitive awareness and L2 listening comprehension among a group of high school students and investigated whether metacognitive awareness changed across proficiency levels. The overall results of the study suggested that there was a strong correlation between metacognition and listening comprehension. Further metacognition changed across proficiency levels with more proficient students demonstrating higher metacognitive awareness scores than their less

proficient counterparts. A more recent study by Yulisa (2018) set out to investigate the relationship between L2 listening comprehension and listening strategy use among a group of Indonesian high school EFL learners. The researcher administered a listening strategy questionnaire and a standardized listening test to measure the participants' listening strategy use and listening comprehension respectively. The correlations obtained between the measures were significant and strong, indicating that success in applying listening strategies affect success in L2 listening comprehension to a large extent.

In addition to studies which reported strong connections between metacognition and listening comprehension, there are some other studies documenting a moderate correlation between the two variables. Ghapanchi and Taheryan (2012) studied the relationship between metacognition and L2 listening comprehension along with vocabulary and grammar knowledge as the other components addressed. A group of Iranian university students were recruited for the study and they were measured on their metacognition through two different measures separately. Both strategy use and metacognition were moderately correlated with L2 listening comprehension. In the same vein, Goh and Hu (2014) culled 111 Chinese university students taking preparatory language education and measured the participants' metacognition by administering MALQ. The scores on the questionnaire were then correlated with the participants' scores on a standardized listening test. The findings suggested that metacognition significantly and moderately correlated with L2 listening comprehension. Vafaee (2016) also delved into the role of metacognition in explaining individual differences in terms of L2 listening comprehension by adding metacognition as one of the variables addressed. Among other component skills including grammar and vocabulary knowledge which yielded strong correlations, metacognition correlated moderately with L2 listening comprehension. In another correlational study by Salehawati, Hayati, and Jaya (2018), the relationship between metacognition and L2 listening comprehension among English major EFL learners was addressed. The results indicated a moderate association between the two variables, further supporting the role of metacognition in L2 listening comprehension.

Unlike the abovementioned studies, some scholars pinpointed that there was weak or nearly zero correlation between metacognition and L2 listening comprehension. One such study by Aotani (2011) tried to shed light on the relationship between some independent variables including vocabulary and grammar knowledge, and metacognitive awareness, and L2 listening comprehension. The participants of the study were assumed

to have low proficiency levels in terms of listening due to their previous English learning experience which comprised reading and writing mostly. The researcher administered two different listening tests to measure L2 listening comprehension of the participants and MALQ to measure their metacognitive awareness. The results demonstrated nearly zero correlation between metacognition and both measures of L2 listening comprehension. Sağlam (2014) also addressed the issue by recruiting 73 university students taking English preparatory education as participants. The participants came from different proficiency levels ranging from elementary to upper-intermediate. The participants completed a listening strategy use questionnaire and the scores obtained on this measure were correlated with those obtained from a listening sub-section of TOEFL and the results demonstrated a weak correlation, meaning that nearly no variance in L2 listening comprehension could be explained by listening strategy use. Similarly, Nejad and Farvardin (2019) investigated whether there was a relationship between metacognition and listening comprehension with 100 lower intermediate Iranian EFL learners as participants. The participants' scores on MALQ were correlated with their listening comprehension scores and it was indicated that not much variance in listening comprehension could be explained by metacognitive awareness. In two different studies recruiting 157 7^{th} and 84 4^{th} grade French immersion students respectively, Vandergrift and Baker (2015, 2018) looked into the relative effect of metacognition on L2 listening comprehension along with working memory and vocabulary knowledge. The authors reported weak correlations between listening comprehension and metacognition across both groups with a slightly stronger correlation obtained among the 7^{th} graders. Another study by Wang and Treffers Daller (2017) on the association between metacognition and L2 listening comprehension recruited non-English majors as participants. The findings suggested that there existed a weak overall correlation between metacognition and L2 listening comprehension. A more recent study by Wang and MacIntyre (2021) scrutinized the role of metacognition, anxiety and enjoyment in L2 listening comprehension among international EFL learners with varying proficiency levels and years of experience in learning English. The results suggested that metacognition had nearly zero correlation with L2 listening comprehension. These weak to zero correlations underline that metacognition can be a component highly dependent on the learners themselves. As Vandergrift and Baker (2018) advocate, learners with low proficiency levels may not benefit from such sophisticated processes but rather hold onto lower level components

such as vocabulary and grammar knowledge. Similarly, In'nami, Cheung et al. (2022) suggested that the relationship between metacognition and L2 listening comprehension might be moderated by the inherent characteristics of the participant group in their comprehensive review of studies into the relationship between metacognition and L2 listening comprehension. Therefore, before designing a strategy training instruction in order to improve listening comprehension among a group of learners, it can be advised to conduct a correlational study. This will help to see if individual differences in metacognition really explains variance in listening comprehension. Otherwise, all the strategy instruction might be no more than a waste of time as in the study by Roussel, Gruson, and Galan (2019) who found out that, contrary to expectations, the learners who received metacognitive strategy training did not benefit on listening comprehension test after the intervention.

To summarize, metacognition is an important component of listening comprehension but there is still a huge gap in the literature as to how metacognition interacts with other components and learner characteristics in explaining variance in listening comprehension (In'nami, Cheung, et al., 2022). Besides, as is shown by Roussel et al. (2019), before starting an intervention program for developing metacognitive among a group of learners, it is vital to conduct a correlational study to see if the specific group really needs this instruction. In other words, it is important to find out whether metacognition can really explain a large proportion of variance in listening comprehension of the target group at hand. Otherwise there is always the risk of all the effort invested in designing the intervention being wasted. As a result, componential studies should address metacognitive awareness along with other component skills to find out its relative contribution to L2 listening comprehension as well how this notion interacts with other components of L2 listening.

2.2.5. L2 listening anxiety

In educational settings, specifically L2 learning contexts, students don't come to the class as human beings with only cognitive and linguistic differences affecting the process of language learning but they also bring to the classroom affective differences. Krashen (1985) for example suggests that in order for comprehensible input to be received by the learner, affective barriers should be overcome which he names affective filter. In line with this suggestion, scholars have often looked into the effects of affective factors,

e.g., motivation and anxiety, on language learning. Defined by psychologists as a state of apprehension and a fear that is indirectly associated with an object (Scovel, 1978), anxiety has been shown to have debilitating effects on language learners in speaking (Woodrow, 2006; Zhiping & Paramasiyam, 2013), in writing (Cheng, 2002; Cheng, Horwitz & Schallert, 1999); and in reading (Saito, Garza & Horwitz, 1999; Sellers, 2000; Zin & Rafik-Galea, 2010).

Listening is a challenging skill because of its inherent characteristics (Vandergrift & Baker, 2018). First of all, it is a real-time process and the information presented decays quickly, which deprives the listener of the opportunity to control the source of the message. Second, listening is a context-dependent skill, meaning that the listener must take into account several factors such as stress and intonation. These inherent characteristics make listening a demanding task and put listeners under pressure, making listening an anxiety exerting skill.

The debilitating effect of listening anxiety on listening comprehension has been documented by several studies. One of the most influential of the studies on this issue was by Kim (2000) who, for the first time in the literature of L2 listening, attempted to underline the existence of a skill-specific anxiety affecting the process of oral comprehension in L2. In this regard, the researcher set out to introduce to the literature an L2 listening anxiety scale drawing on the existing literature on both general and language classroom anxiety as well as interviewing L2 learners about their L2 listening experiences. As a result of rigorous item creation and validation processes, an L2 listening anxiety scale which tapped skill-specific characteristics arousing anxiety was created and then applied to a group of university EFL learners. Besides the newly devised instrument, another instrument measuring a more general concept, foreign language classroom anxiety, was also administered for the purposes of the study. The results suggested that both L2 listening anxiety and foreign language classroom anxiety yielded significant moderate negative correlation with L2 listening comprehension. Moreover, L2 listening anxiety was found to explain additional variance in L2 listening comprehension when foreign language classroom anxiety was controlled, suggesting that inherent characteristics specific to L2 listening exert additional anxiety responsible for decreased listening comprehension. These results marked the introduction of a brand new concept, L2 listening anxiety, to the literature.

Following this study which can be accepted as a milestone in the literature of listening anxiety, a few other scholars looked into how anxiety was related with listening comprehension and underlined a strong negative correlation between the two variables. Elkhafaifi (2005) for example investigated the relationship between L2 listening anxiety and L2 listening proficiency. The participants of the study were 233 university students who were learning Arabic as a foreign language in the US. The participants' listening comprehension scores as reported by their instructors were used as the dependent measure. As for listening anxiety scores, the author used an adapted version of an existing reading foreign language reading scale. The items in the scale were adjusted by changing the word *reading* to *listening* and the words *French, Russian, Japanese* specified in the original scale into *Arabic*. The correlation between the listening course grades obtained from the participants' instructors and those obtained from the scale showed that listening anxiety yielded a strong negative correlation with L2 listening, which means that higher levels of anxiety were associated with lower levels of listening comprehension. The study also showed that third year students reported significantly lower levels of anxiety than second and first year students, which might indicate that experience in the target language decreases listening anxiety. In another correlational study, Golchi (2012) set out to investigate the effect of listening anxiety on L2 listening comprehension by recruiting 63 adult EFL learners. The participants' listening anxiety was measured through a listening anxiety scale and their listening comprehension was measured via a standardized proficiency test. The correlation analysis showed that there existed a strong negative correlation between the scores with higher anxiety levels bringing about lower listening comprehension scores. In the same vein, Valizadeh and Alavinia (2013) looked into how L2 listening anxiety and emotional intelligence were related to L2 listening comprehension by recruiting 160 English major university students. The authors made use of a listening anxiety scale and a standardized listening test to measure the participants' L2 listening anxiety and listening comprehension. The results unequivocally not only signaled to a strong negative correlation between listening comprehension and L2 listening anxiety but also highlighted a strong negative correlation between emotional intelligence and listening anxiety which means that emotion is an important construct which can exist in different forms in L2 listening. Brunfaut and Révész (2015) as well looked into the effect of task features and learner characteristics including L2 listening anxiety on L2 listening comprehension among a group of international EFL learners with

varying proficiency levels. The findings demonstrated that L2 listening anxiety correlated strongly and negatively with L2 listening comprehension. A comprehensive study by Vafaee (2016) also looked into the relationship between L2 listening anxiety and L2 listening comprehension besides other potentially effective variables including grammar and vocabulary knowledge, metacognition, and working memory. The study is important as it represents the very first example of the line of research addressing listening anxiety in an overarching model with linguistic as well as cognitive variables included. The results suggested that L2 listening anxiety, though handled along with potentially more effective variables, proved to be a strong determiner of L2 listening success. The participants with higher levels of anxiety were found to obtain lower scores on the listening measure. A more recent study by Namaziandost et al. (2018) scrutinized the relationship between listening anxiety and working memory, and L2 listening comprehension among pre-intermediate EFL learners. The findings clearly showed that listening anxiety strongly correlated with L2 listening comprehension in the reverse direction, indicating that listening anxiety has a debilitating effect on oral comprehension. In a recent investigation, Wang and MacIntyre (2021) studied the role of L2 listening anxiety in determining L2 listening success along with another affective variable, listening enjoyment. A group of 410 international EFL learners with varying proficiency levels completed listening anxiety and listening enjoyment scales, and submitted their IELTS listening scores which were then correlated. The analysis revealed that there was a strong negative correlation between L2 listening anxiety and L2 listening comprehension.

Besides studies reporting strong negative correlations between L2 listening anxiety and listening comprehension, a few other investigations noted moderate links between the two variables. Atasheneh and Izadi (2012) for instance looked into the issue by recruiting 60 Iranian English major university students. This time it was not listening anxiety specifically but rather language learning anxiety under investigation. The results highlighted that language learning anxiety was also a debilitating factor involved in the process as it yielded a moderate negative correlation with listening success. In another study, Serraj and Noordin (2013) explored the effect of foreign language classroom anxiety and L2 listening anxiety on L2 listening comprehension by culling 210 upper-intermediate and advanced EFL learners. The findings pinpointed that while the broader construct of L2 learning anxiety yielded a weak correlation with L2 listening

comprehension, L2 listening anxiety demonstrated a moderate negative strength of association, highlighting the relevance of the existence of a skill-specific anxiety in the process. Similarly, Tayşi (2019) addressed L2 listening anxiety along with another affective variable, listening attitude, denoting positive feelings towards L2 listening. One hundred eighty-one Turkish EFL learners completed two researcher-devised scales as measures of listening anxiety and listening attitude. The scores obtained from the instruments were then correlated with the scores obtained from a researcher-made listening test. It was found that there existed a moderate negative correlation between L2 listening anxiety and L2 listening comprehension scores. Although these studies reported moderate correlations, they were not much below strong, which indicated that anxiety is an important factor to take into consideration while attempting to explain the contributors to the listening comprehension process.

Moreover, most of the aforementioned studies handled listening anxiety on its own without taking into consideration its effect on L2 listening comprehension relative to other components e.g., linguistic components and metacognition at the same time. Only Vafaee (2016), and Wang and MacIntyre (2021) studied L2 listening anxiety in an inclusive set of components and found that the effect of listening anxiety on L2 listening might be more complicated than just a linear relationship as this component might exert influence over some other components as well. As Bernhardt (2005) advocates, addressing one factor at a time leads to false impressions of what contributes to a certain skill. Therefore, the relative predictive value of listening anxiety can best be seen only when it is handled at the same time with other variables. Considering the large effect of anxiety on listening comprehension along with the relatively low number of studies conducted so far, it is a must for further studies to address this factor along with other components.

2.2.6. Willingness to listen in L2

Willingness to listen is a relatively new comer to the field of language learning put forward by Akdemir (2016). The term stems from *Willingness to Communicate in L2*, which is a recent addition to language learning literature as an affective construct referring to individuals' communicative preferences (Yashima, 2002). Originally put forward for L1 contexts, *Willingness to Communicate* was applied to L2 communication by MacIntyre and Charos (1996). The term has been defined as "readiness to enter into

discourse at a particular time with a specific person or persons, using a L2" (MacIntyre et al., 1998, p. 547). Akdemir (2016), advocating that willingness to listen is a fundamental part of communication, should be integrated into willingness to communicate research. Wıth this aim in mind, he prepared a pool of items for developing a scale to measure L2 learners' willingness to listen by reviewing the relevant literature and existing L2 willingness to communicate scales as well as WTL scales developed for L1. The items were investigated by co-raters who were L2 listening experts and experienced in conducting research. The final version of the instrument includes items related to different conditions (rhythm, intonation, accent, and speech rate) under which students are to rate how willing they are to listen. The author made sure that all the items reflected the inherent properties of listening comprehension skill such as the lack of control over the speaker, and importance of background knowledge about the topic handled. In this study, the concept of willingness to listen is investigated to complete the ying-yang of affective components along with foreign language listening anxiety. In doing so, the L2 listening comprehension process can be explained better through a more complete model addressing both negative and positive feelings towards the process.

On close inspection into the literature of L2 listening comprehension, it is evident that introducing another affective variable which works in the reverse direction with listening anxiety is a must-include variable for componential studies. Rahimi and Abedini (2009) studied the relationship between listening self-efficacy beliefs and L2 listening comprehension among a group of university students and reported a strong correlation between self-efficacy beliefs and L2 listening comprehension. Similarly, Tabrizi and Saeidi (2015) addressed the link between listening self-efficacy beliefs and L2 listening comprehension in a correlational study. The results highlighted that a moderate correlation existed between L2 listening comprehension and students' reported self-efficacy beliefs. Another study by Wolfgramm et al. (2016) addressed a series of variables in relation to listening comprehension among a mixed group of participants who were either native speakers of German or spoke the language as a second language. Among the variables addressed was self-concept which is assumed to affect listening comprehension through anxiety with negative self-concept leading to anxiety thus affecting listening performance. The results indicated a moderate correlation between self-concept and listening comprehension. However, the strength of association was way weaker than the studies reported in L2 contexts. Since the participants of the study represented different

language backgrounds, i.e. bilinguals and natives, the results might not reflect the real value that could have been obtained in L2 settings.

There is also evidence suggesting that broader concepts such as L2 learning motivation are also important in explaining L2 listening comprehension. In a correlational study, Tafaghodtari and Vandergrift (2008) studied L2 listening comprehension by investigating multiple factors i.e., L2 proficiency, L1 listening, metacognition, and motivation for language learning all at the same time. The hierarchical multiple regressions showed that the proportion of unique variance in L2 listening explained by motivation was significant with a 4% of the variance attributable to this construct. Though the relative contribution of motivation was smaller than L2 proficiency, it was still a significant predictor of L2 listening comprehension. In a more recent investigation, Fatikhah et al. (2019) studied the relationship between learning motivation and L2 listening comprehension among a group of high school EFL learners. The results underlined a moderate correlation between learning motivation and L2 listening comprehension. Although the authors did not elaborately conceptualize learning motivation and describe the instrument used for collecting data, the study is valuable in signaling a link between a concept denoting positive feelings and L2 listening comprehension.

The results obtained from both lines of research on self-concept/self-efficacy and motivation underline that affect is realized through both positive and negative feelings coexisting at the same time in the listening comprehension process. Put differently, self-concept/self-efficacy, and motivation, regardless of they are conceptualized and named, and anxiety are two emotions functioning in reverse directions with each other (Kassem, 2015). In this regard, there is another line of research which proved even more valuable in underlining the role of positive feelings in L2 listening comprehension. Though very few in number, studies in this vein addressed concepts denoting positive and negative feelings simultaneously and investigated the two sides of affect relative to each other. Among the very first attempts to document the relative contribution of concepts denoting positive and negative feelings to L2 listening comprehension, Valizadeh and Alavinia (2013) addressed emotional intelligence and listening anxiety among a group of English major EFL learners. They found out that the two variables correlated moderately and in reverse directions with L2 listening comprehension. Emotional intelligence, which the authors define as the ability to control feelings as well as awareness of one's needs,

purposes, and emotions, yielded a significant moderate positive correlation with L2 listening comprehension. On the other hand, listening anxiety had a similar but negative strength of association with L2 listening comprehension. Supporting further the fact that affect has two sides, the two concepts demonstrated significant negative correlations with each other. A more recent study with a similar motive behind by Tayşi (2019) delved into how strongly listening attitude and listening anxiety were associated with listening comprehension in L1. Regardless of language status, similar findings to those obtained in Valizadeh and Alavinia (2013) were observed with listening attitude and listening anxiety correlating with listening comprehension in reverse directions, once more highlighting the coexistence of both positive and negative feelings in the process. While anxiety correlated negatively and moderately, listening attitude yielded positive moderate correlations with listening comprehension. Finally, a more intriguing study by Wang and MacIntyre (2021) addressed a more context-specific affective variable, namely enjoyment in foreign language listening and its relative contribution to L2 listening comprehension among a more comprehensive set of variables, i.e. metacognitive awareness, listening anxiety, and L2 listening enjoyment. The study is groundbreaking in that the effect of emotional well-being on metacognitive awareness and L2 listening comprehension was measured at the same time. In doing so, the authors implied that emotional well-being does not only affect L2 listening comprehension directly but it also indirectly contributes to it over its effect on metacognition which is another contributor of L2 listening comprehension. As expected based on the findings of previous studies, the results of the study emphasized a significant negative moderate correlation between L2 listening enjoyment and L2 listening anxiety suggesting that both dimensions of affect are present at the same time. Similarly, both variables correlated with L2 listening comprehension moderately, but in reverse directions. While higher anxiety brought about lower scores on L2 comprehension, higher enjoyment was associated with higher scores on the comprehension test.

Taking into consideration the existing body of literature on the relationship between the positive side of affect and L2 listening comprehension, it can be argued that the existence of an emotional concept denoting positive feelings towards L2 listening has considerable merit. To this end, a componential study setting out to come up with a comprehensive picture of the underlying structure of L2 listening comprehension must also address the bright side of the coin, which has L2 listening anxiety on the dark side.

As a result, just as Kim (2000) and Elkhafaifi (2005) proceeded from a broader concept, foreign language classroom anxiety, to a skill-specific construct, L2 listening anxiety, a similar move for the other affective variables is a must. This could enable the study findings to reflect the dynamics of L2 listening better. Rather than administering an instrument measuring a broader term denoting positive feelings towards language learning, the skill-specific emotional concept of *willingness to listen in L2* tapping speaker, task, listener, and topic characteristics would be a wise step to take in our endeavor to unravel the construct of L2 listening comprehension.

2.3. Summary of the review of existing studies on L2 listening comprehension

A close inspection of the literature into the correlational studies on L2 listening comprehension reveals some important concerns for future studies to address. First of all, as also can be seen in appendix 1, L2 listening comprehension is a complex process in which several component variables including vocabulary and grammar knowledge, L2 listening anxiety, metacognition, working memory and positive attitudes towards listening play an important role. However, most of the studies handled the relevance of learner-level variables to L2 listening comprehension separately. This line of research has led to an abundance of studies replicating one another and highlighting the individual contribution of discrete learner-level variables over and over. In her influential work in which she proposed a compensatory model of L2 reading comprehension, Bernhardt (2005) emphasizes the need for further studies to address whether multiple factors apart from grammar and vocabulary knowledge interact with each other besides their individual contribution to L2 reading. A similar suggestion applies in L2 listening literature as well: there is need for further studies exploring elaborately how linguistic, affective, and cognitive factors interact with each other and L2 listening comprehension. Only a handful of studies delved into the factors influencing L2 listening comprehension by addressing multiple components all at once yet they did not cover all three domains simultaneously. Therefore, it is necessary to include all these variables in a modelling study for increasing the diagnostic benefits of the model in L2 settings.

Another important point to take into consideration is the moderating role of the proficiency levels of the participant group in determining the strength of association between L2 listening and component variables. For example, the strength of association between working memory and L2 listening comprehension has been reported to decrease

with the increasing level of L2 overall proficiency. Similarly, anxiety has been found to have significantly larger effects on L2 listening comprehension among less proficient learners than it does in settings with advanced participants. Moreover, skilled language learners have been found to benefit from metacognition significantly more than their less-skilled peers. Therefore, it is important to keep in mind that the strengths of associations between the component skills and L2 listening comprehension may vary depending on the participant group and that the results may only apply to populations with similar proficiency levels only.

The last point worth further attention is the lack of studies on how much variance in listening comprehension a certain set of variables can explain across different listening subskills i.e. listening for main ideas/details, and inferencing. Overlooking the varying effect of component variables on comprehension across different subskills results in misjudgments of the exact relationship between comprehension and component variables. Previous studies mostly focused on overall listening comprehension measured through a standardized proficiency test and put forward generalizations about the role the variables they addressed play in L2 listening comprehension. Only two studies, Bian et al. (2019) and Li (2019), provided additional results for different listening tasks besides overall correlations between components and L2 oral comprehension. Both studies reported a somewhat weaker strength of association between vocabulary knowledge and comprehension scores in tasks tapping gist comprehension than those addressing details. It was underlined that different task requirements bring about varying strengths of association between certain variables and L2 listening comprehension. Therefore, integrating a subskill-based approach in further studies has great merit in providing a more accurate picture of the relationship between the addressed components and oral comprehension.

3. METHODOLOGY

Adopting a correlational design, the present study aimed to investigate the relationship between a series of component variables i.e. vocabulary knowledge, grammar knowledge, working memory, metacognitive awareness, listening anxiety, and willingness to listen in L2; and L2 listening comprehension. This section provides a detailed account of the research setting including the participants, instruments, procedures, and data analysis as well as the piloting of the instruments used for data collection.

3.1. Participants

Universities in Turkey provide and in most cases oblige English preparatory education for their students from different departments before they are admitted to their original fields of study. Consequently, this group of students represent a large population of EFL learners in Turkey. For this reason, in order to increase the representative power of the current study, a purposeful and convenience sampling method was adopted to recruit participants for the study. In this regard, the participants of the study were 212 intermediate to upper-intermediate students from twelve intact classes taking English preparatory education at the School of Foreign Languages of Anadolu University and Manisa Celal Bayar University in the Spring term of 2020-2021 academic year. Hundred and seventeen of the participants were females and 95 of them were males aged between 18 and 21 and they shared the same L1, Turkish. Both institutions provide preparatory education in English for students coming from different faculties including engineering, medicine, humanities and art, business, law, and pedagogy among others. The schools aim to provide the students with language education necessary for their departmental needs. Each year, approximately 4000 students receive preparatory education or elective language courses at these preparatory schools. Prior to the start of an academic year, the institutions hold placement and proficiency exams to classify the students according to their proficiency scores and determine those who will be exempt from preparatory education. The two institutions use different frameworks to categorize language learners in terms of their proficiency scores: Anadolu University follows and designs the courses based on the Global scale of English (GSE) specifications; Manisa Celal Bayar University uses Common European Framework of Reference for Languages (CEFR) specifications

to design the curriculum. However, the students who participated in the current study are equal in terms of what is expected of them at the time of the study. According to the Global Scale of English (GSE), students are categorized into certain proficiency levels which are equal to A1, A2, B1, B2, C1 and C2 in Common European Framework of Reference for Languages (CEFR), which determines the language education they will receive in reading, listening, speaking and writing as well as grammar and vocabulary knowledge. The students who are between the range of 51 and 58 according to GSE (B1 and B2 proficiency levels according to CEFR) were recruited for the study. The reason why this particular group of students were chosen as the subjects of the study is that, as foreseen by GSE and CEFR, this group of students can understand and carry out several listening tasks with ease ranging from following daily conversations to formal discussions on familiar topics. That the students in this proficiency level can attend to several tasks enables the researcher to tap and measure different subskills of listening such as grasping the main ideas and details, making inferences, and understanding speakers' attitudes. Participation in the study was on a voluntary basis.

3.2. Instruments

The current study adopted a correlational design as the purpose of the study was to investigate how linguistic and affective variables, metacognition, and cognition are related to L2 listening comprehension. Therefore, a series of instruments including a researcher-devised listening comprehension test, the *Vocabulary Levels Test (VLT)*, a researcher-devised grammar test, a digit-span task, the *Metacognitive Awareness Listening Questionnaire (MALQ)*, the *Foreign Language Listening Anxiety Scale* (FLLAS), and the WTL (*Willingness to Listen in L2 Scale)* were administered to collect data. The following subsections explain the details about each instrument used in the study.

3.2.1. L2 listening comprehension test

The listening comprehension test was prepared in a format in which multiple listening skills were tested, and varied text genres were included so that the listening comprehension tasks might serve as a general indicator of advanced listening comprehension. As Anderson and Lynch (1988) point out, successful listening requires the listener to change the way they pay attention to the stimulus based on their purpose

for listening. Similarly, as Vandergrift and Baker (2018) underline, listening comprehension can best be measured through authentic passages tapping the listeners' ability to grasp the main ideas and details as well as make inferences. Put differently, successful listeners can focus on details if their purpose is finding out specific information in a given text while at the same time they can also omit unnecessary details if they are interested in grasping the main idea of a text. Therefore, listening comprehension tasks brought to classes should tap different skills to measure listening comprehension appropriately. With this and the proficiency constraints of the participants in mind, the options of IELTS and TOEFL listening tests were ruled out in favor of listening texts from course books, i.e. *Northstar* and *Listening Power*, designed specifically for teaching and developing L2 listening skills among L2 learners with proficiency levels ranging from beginner to advanced.

To this end, in order to measure the participants' listening comprehension, four listening texts with varying lengths and themes were used. The listening texts were chosen from a pool of twelve passages including documentaries, short stories, telephone calls, news broadcasts, live sports events, announcements, radio shows, and TV programs retrieved from the abovementioned course books specifically prepared for use in the teaching of L2 listening skills. The passages were first evaluated in terms of; a) rate of speech, b) topic, c) accent familiarity, d) background noise, and d) quality of recording by two experts who have been delivering listening courses in ELT department for more than five years. After the first expert opinion phase, the number of potential listening texts were reduced to seven. These texts were then evaluated by another two experts who, at the time, were working in the testing unit of the School of Foreign Languages of Anadolu University which is responsible for preparing and developing appropriate testing materials for different proficiency levels. The experts were consulted to evaluate the listening texts in terms of lexical density, grammar structures, length and quality of the recording, accent familiarity, rate of speech, and topic familiarity. Finally, four listening texts were chosen based on the mean scores obtained from the experts' ratings of the expert opinion surveys. The chosen texts represented authentic speech in the form of a telephone call, a story, a radio call-in show, and a brief documentary. Several comprehension questions in different formats (true-false, matching, multiple-choice) accompanied the listening texts and tapped different subskills, i.e. finding out the main ideas and details, making inferences about the text, and figuring out the speakers' attitudes

towards the topics dealt with in the listening texts. Each correct answer was rewarded *1* point while the incorrect replies received *0* points (see Appendix 2a and 2b for listening texts and accompanying comprehension questions).

3.2.2. Vocabulary levels test

In order to measure the participants' vocabulary knowledge, the commonly known and widely used *Vocabulary Levels Test* (Schmitt, Schmitt, & Clapham, 2001) was administered (Appendix 3). The test contained vocabulary knowledge from 2000, 3000, 5000 and 10000 frequency levels. Taking into consideration the proficiency level of the participants and upon expert opinion, only words within 2000 and 3000 levels were addressed and the other word levels were omitted. In the test, each item asked the participants to match the three definitions on the right column with the correct three words out of six words appearing on the left column. Each vocabulary knowledge level consisted of 10 items addressing 30 words in total. The participants were granted *1* point for every correct match and *0* points for the incorrect answers.

3.2.3. Grammar test

In order to test the participants' grammar knowledge, a grammar test consisting of 40 multiple-choice questions was constructed by the researcher in cooperation with two experts working in the testing unit of the School of Foreign Languages of Anadolu University. As the institution follows the guidelines of the GSE framework for placement, assessment and curriculum development purposes, the same framework was used for developing the grammar test. GSE provides a teacher toolkit which presents a detailed list of specifications for each language skill, including grammar, across different proficiency ranges. The researcher prepared a pool of grammatical structures from 20-42, 43-50, 51-58, and 59-65 proficiency intervals and asked the experts which ones to include in the grammar test. Upon deciding on the list of grammar structures, Contemporary Corpus of American English (COCA) was utilized to find sentences involving the target grammar structures and create grammar test items accordingly. Care had been taken to ensure that the chosen sentences reflected the grammar structure successfully and did not exceed the level of the participants. After writing the questions and the distractors, two other experts who had been delivering Testing in English Language Teaching courses for a long time were asked whether the distractors had been written appropriately. Upon the

feedback of the experts, necessary changes were made, e.g. replacing the distractor with a different one, rewording, changing the root of the question etc. Each correct response from the participants received *1* point and incorrect answers were scored *0* points (see Appendix 4 for grammar test).

3.2.4. Digit span task

In order to measure the participants' working memory capacity, a digit span task was employed rather than a conventional listening span task in which participants are required to recall words or other items from a sentence they hear on a recording. These kinds of tasks do not tap working memory capacity but rather listening comprehension itself according to Andringa et al. (2012). Therefore, linguistic elements from such tasks should be isolated to capture working memory capacity better. In addition, the digit span task was presented visually to isolate the construct of working memory from language-specific issues such as word recognition ability as suggested by Brunfaut and Révész (2015).

The digit span task consists of different series of numbers and is a practical yet effective tool for measuring working memory considering the high correlations it yielded with more complex measures in a study by Unsworth and Engle (2006). The level of the series of numbers increases in length and the initial level of the series starts with 4 digits and the maximum level includes 8-digit-long strings of numbers. Each level includes two different series of digits equal in length. The digits in each series were presented one by one by means of a PowerPoint presentation in which each digit was displayed for one second. Since the data were collected online due to Covid-19 pandemic restrictions, the presentation was uploaded on YouTube for generating a link to be used in Google forms. Once the series of digits was complete, the course instructors paused the video and asked the participants to write down the series in the order the digits had been presented. Participants' digit span was determined as the number of correctly reproduced series of digits they had been shown.

3.2.5. Metacognitive awareness listening questionnaire

In order to measure metacognitive awareness of the participants, the Metacognitive Awareness Listening Questionnaire (MALQ) by Vandergrift, Goh and Mareschal (2006) was used. The instrument consists of 21 6-point Likert-type items related to

planning/evaluation, directed attention, personal knowledge, mental translation and problem solving. The participants are required to rate the items from *1* (*strongly disagree*) to *6* (*strongly agree*). The draft version of the original instrument was piloted through a study which recruited 966 participants from Canada, Singapore and the Netherlands. After necessary item analyses, the final version of the instrument was validated through another group of participants: university students learning French as a second language in Canada and university students learning English as a foreign language in Iran. The results underlined that the internal reliability of the subsections of the instrument was acceptable ranging from .68 for directed attention to .78 for mental translation. In order to ensure that proficiency constraints do not interfere with the comprehension of the items, the original instrument was translated to Turkish employing translation and back-translation procedure, in which the instrument was translated into Turkish by an expert who has considerable experience in listening research and testing. Then another expert translated the Turkish version back into the original language and these experts resolved disagreements after rigorous discussions. Final version of the instrument was then checked by an expert in ELT who is proficient in English and has a considerably high level of expertise in preparing instruments (see Appendix 5a and 5b for the Turkish and the original version of MALQ).

3.2.6. Foreign language listening anxiety scale

The subjects' foreign language listening anxiety was measured through Foreign Language Listening Anxiety Scale developed by Polat and Erişti (2016). The instrument was specifically constructed to measure foreign language listening anxiety experienced by Turkish EFL learners at the school of foreign languages of state universities. The validity of the instrument was ensured through exploratory and confirmatory factor analyses. There are 18 Likert type items addressing individual and environmental factors, control over the listening source, and beliefs about listening tasks. The participants are required to rate each item from *1* (*Totally disagree*) to *5* (*Totally agree*). In the instrument, lower scores indicate lower anxiety, and higher scores indicate higher anxiety (see Appendix 6 for FLLAS).

3.2.7. Willingness to listen in L2 scale

In order to measure the participants' willingness to listen, the Willingness to Listen in L2 Scale developed by Akdemir (2016) was used. The instrument was specially developed to measure situational and task-specific willingness to listen in L2. The instrument consists of 19 Likert-type statements addressing context-specific characteristics of listening comprehension, i.e., factors related to speaker, listener, task, and topic that might affect L2 learners' willingness in L2 listening. The original instrument was developed after rigorous exploratory and confirmatory factor analyses among university students enrolled in English language teaching department and the internal consistency of the scale was found to be satisfactory (α =.79) Participants are required to rate the items from 1 (*Never*) to 5 (*Always*). The original instrument was constructed in English. Therefore, as in MALQ, a similar procedure of translation and back translation was followed for WTL as well in order to ensure that the participants could better understand the scale items in their native language. One expert who has expertise in research methodologies as well as L2 listening translated the instrument into Turkish. Then, another expert from English language teaching department translated the Turkish version into English. Finally, the two experts resolved the mismatches after negotiations. Higher scores obtained from the instrument mean higher levels of willingness to listen in L2 and vice versa (see Appendix 7a and 7b for the Turkish and the original version of WTL scale).

3.3. Procedure

Prior to the pilot and actual study, since the study involved human participants, official permission to carry out the pilot and actual study was obtained from the ethics committee of Anadolu University in June, 2020 just as the previous academic year ended (Appendix 8). Then, on behalf of the researcher, the committee got in touch with and obtained the official research permission from Muş Alparslan University and foreign language schools of Anadolu University and Manisa Celal Bayar University, where the pilot and actual study were to be carried out. Once the study approval was obtained, informed consent of the course teachers and the participants was obtained and they were informed about the purpose and the content of the study.

Following the obtainment of the official research permission and the informed consent of the course instructors and participants, the instruments were piloted with a

group of 30 university students at intermediate to upper-intermediate proficiency levels taking English preparatory education at Muş Alparslan University in the fall term of 2020-2021 academic year. The pilot study served three main purposes. First, it would provide insight into approximately how much time each instrument requires for completion. Second, it would reveal certain points about the difficulties that might be encountered by the participants or by the researcher during the implementation process. Depending on the results of the pilot study, the necessary adjustments could be made on the instruments and the steps of the implementation. Third, it would provide valuable insight about the reliability of the instruments to be administered in the actual study. The Cronbach alpha values obtained from the pilot and the actual study, and the interpretation of the values are presented in Table 3.1.

Table 3.1. *Reliability values of the instruments and suggested labels according to Taber (2018)*

Instrument	**N of Items**	**Cronbach's Alpha**		**Label**
		Pilot	Actual	
MALQ	21	.64	.65	Acceptable
FLLAS	18	.91	.94	Excellent
WTL	19	.88	.87	Fairly high
Listening comprehension test	45	.73	.75	Good
Grammar test	40	.75	.74	Good
VLT	60	.81	.80	Good
Digit span task	10	.83	.85	Fairly high

The internal consistency of the instruments utilized in the current study ranged from acceptable to excellent as suggested in a review by Taber (2018). The study reports on a systematic review of studies reporting Cronbach's values for instruments employed in these studies and suggests that a minimum threshold for acceptability is .60. To this end, the instruments used in the current study seem to demonstrate an acceptable level of internal consistency.

Originally, the study was planned to last over a four-week period with the listening comprehension test; Vocabulary Levels Test and grammar test; FLLAS, WTL and MALQ; and digit span task implemented in four consecutive weeks. However, as the pilot study underlined the difficulty of maintaining the similar participants throughout the four-week implementation, the order of implementation was adjusted. In the actual study, the listening comprehension test was administered first along with FLLAS, WTL, and MALQ so that the length of the implementation was reduced to three weeks. Another

reason why the questionnaires and scales were implemented immediately after the listening test was that the participants could better reflect on their listening processes while answering the items in the instruments. In the following two weeks after the implementation of the listening comprehension test, VLT and grammar test, and digit span task were implemented respectively. Due to Covid-19 restrictions, the instruments were prepared online in the form of Google Forms. The course teachers were asked to share the links of the instruments during their regular online class hours and supervise the participants while they completed each instrument.

3.4. Data analysis procedure

For the purposes of the study, all the data were collected quantitatively. In order to explore the relationships between the dependent variables and L2 listening comprehension, *Pearson Product-Moment Correlation coefficients* among all the variables were measured. In interpreting the correlation coefficient values, the framework emerging from a detailed review on L2 research by Plonsky and Oswald (2014) was followed. The authors provide a context-specific manual to interpret *r* values stating "for correlation coefficients, we suggest that *r*s close to .25 be considered small, .40 medium, and .60 large." (p. 12). Afterwards, in order to find out how much variance in overall L2 listening comprehension as well as listening for main ideas and details, and inferencing scores can be explained by the variance in components skills, a set of multiple regression analyses were conducted on the data. Finally, a set of *structural equation modelling (SEM)* analyses were conducted to explore how the independent variables interact with each other and the dependent variable, L2 listening comprehension. This would provide a more complete picture of how the variables under study are related to each other. One advantage of employing SEM is that SEM provides a better basis for comparing the relative significance of independent factors because they all can be entered into the model simultaneously, and unlike multiple regression, the arbitrary order of entering independent factors into the model does not influence the results.

4. RESULTS and DISCUSSION

4.1. Results

The current study aimed to shed light on the relationship between some component variables and listening comprehension in L2, and come up with a comprehensive model of L2 listening. The study also set out to dig further into the situation in subskills of listening comprehension i.e. listening for main ideas, listening for details and inferencing. In order to fulfill the research purposes correlation, regression and SEM analyses were conducted on the data. This section first provides the results of a series of analyses conducted to determine whether the data met certain criteria for carrying out the relevant data analyses. Then, it proceeds with the results of correlation analysis, regression analyses for overall L2 listening and subskills, and SEM analyses.

4.1.1. Results of the preliminary analyses for normality of data

Prior to the correlation, regression and SEM analyses, a set of analyses were conducted on the dataset to find out if the data met the assumptions of a regression analysis and to be able to intervene where necessary. First, an analysis of standard residuals was carried out to identify and remove the outliers if there were any. The results of the standard residuals analysis showed that there were no outliers in the data set (*Std. Residual Min*= -2.975, *Std. Residual Max*= 2.939), thus there was no need to remove any of the participants.

Second, collinearity analysis was conducted to find out if there were multicollinearity problems in the data set. Multicollinearity occurs when the independent variables correlate with each other too strongly. The independent variables should be isolated from each other for the regression model to successfully explain variance in the dependent variables. The results of the collinearity analysis showed that there was no multicollinearity issue across the data set (grammar, *Tolerance*=.510, *VIF*=1.960; vocabulary, *Tolerance*=.580, *VIF*= 1.723; listening anxiety, *Tolerance*=.513, *VIF*= 1.951; metacognitive awareness, *Tolerance*= .680, *VIF*= 1.471; willingness to listen *Tolerance*= .511, *VIF*= 1.956; and working memory, *Tolerance*= .630, *VIF*= 1.587).

Third, an analysis of independence of errors was conducted to find out if the data met the assumption of independent errors. The results for the analysis demonstrated that the errors observed in residual values were randomly distributed, in other words did not affect each other (*Durbin Watson Value*=1.768).

Fourth, the data were checked to discover whether the assumption of normally distributed errors was met. Figure 4.1 demonstrates the distribution of errors in the dataset.

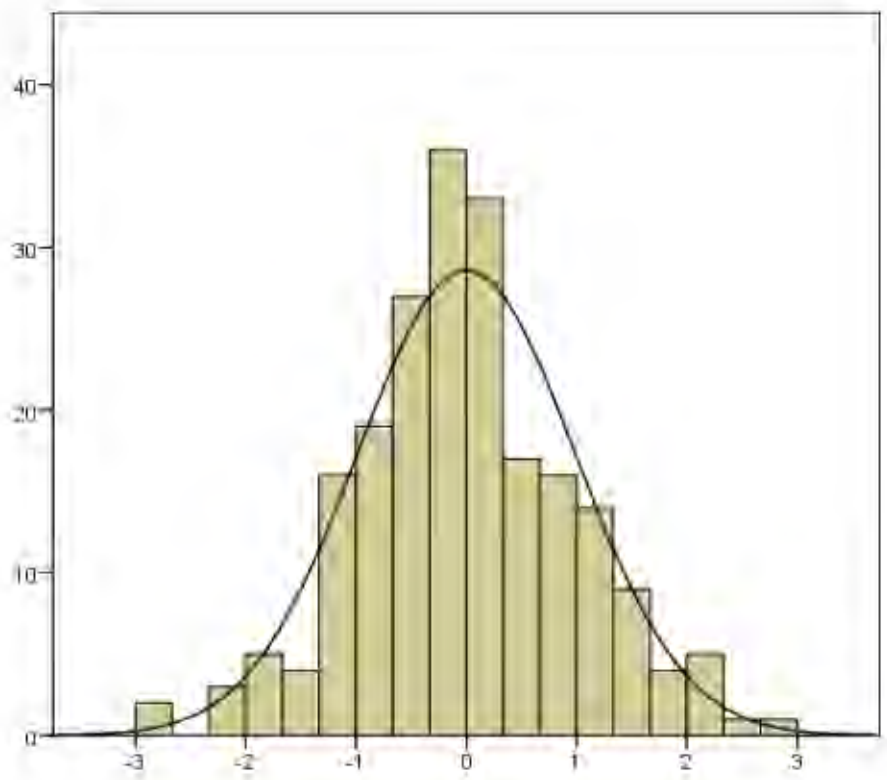


Figure 4.1 *Regression standardized residual*

As it can be clearly seen in Figure 4.1, the errors observed in the dataset yielded a normal distribution curve, which means the data met the assumption of normality of error distribution. This can also be seen in Figure 4.2, which shows the normal P-P plot of standardized residuals. In order for the data to meet the assumption of normally distributed errors, the points on the P-P plot should be distributed close to the line. As can be seen in Figure 4.2, the points are approximately evenly distributed above, below and on the line and close to each other.

This takes us to check whether our data met the assumption of non-zero variances. The results of variance check showed the data successfully met the assumption of non-zero variances (Listening comprehension, *Variance*= 39.221; grammar, *Variance*= 49.650; vocabulary, *Variance*= 147.887; listening anxiety, *Variance*= 246.559; metacognitive awareness, *Variance*= 145.620; willingness to listen, *Variance*= 169.363; and working memory, *Variance*= 3.887).

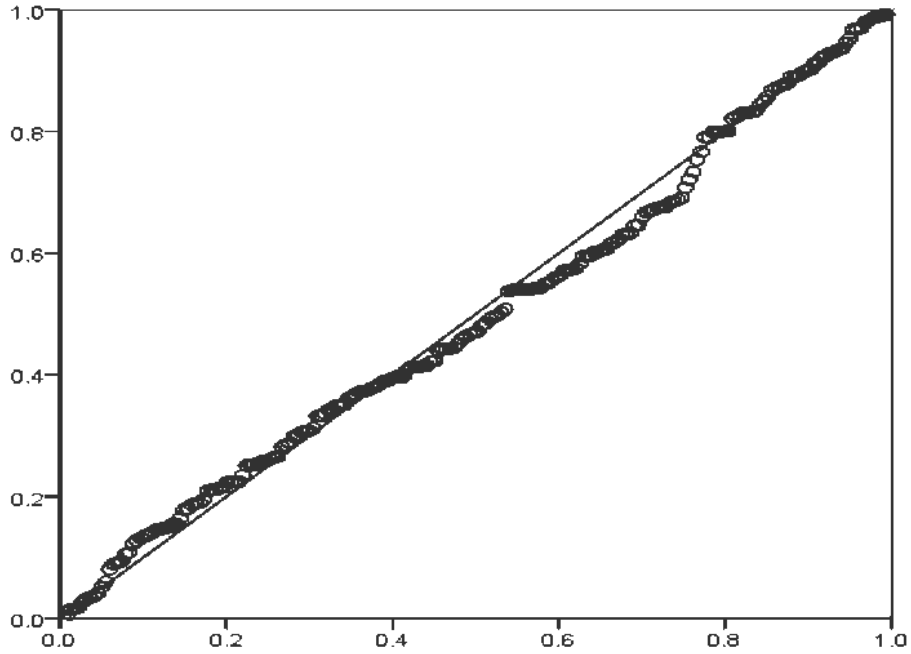


Figure 4.2. *Normal P-P Plot of regression standardized residual*

Finally, the assumptions of homoscedasticity and linearity were also checked before conducting a regression analysis on the data. Figure 4.3 presents the scatterplot of standardized predicted values. When the scatterplot for standardized residuals in Figure 4.3 is investigated, it can be seen that the dots are approximately symmetrically and evenly distributed above and below zero. In other words, the regression model with the independent variables, i.e. grammar, vocabulary, listening anxiety, willingness to listen, metacognitive awareness, and working memory can successfully predict variance in the dependent variable at all score levels.

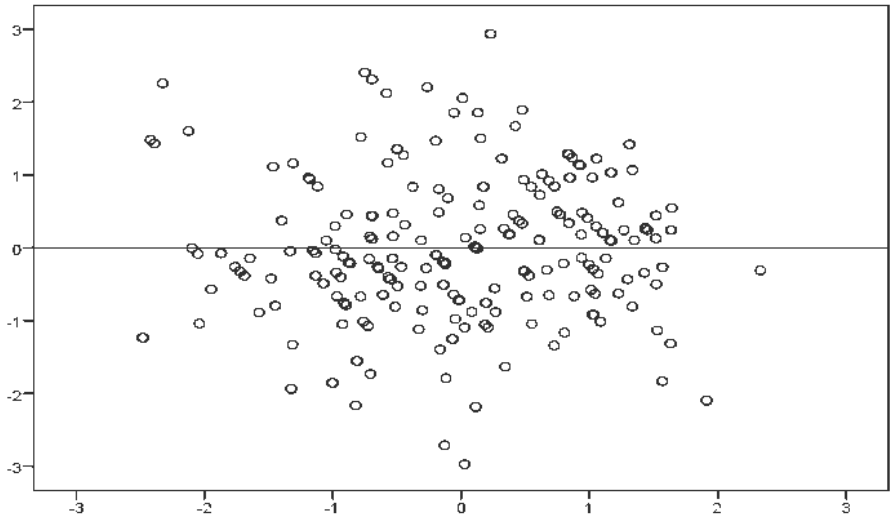


Figure 4.3. *Scatterplot of Standardized Residuals*

The dataset for the study meet all the assumptions of regression analysis, which means that the regression model can be generalized to larger populations with similar backgrounds beyond the target sample, and that the model is successful at predicting variance in the dependent variables, i.e. listening comprehension and the subskills.

4.1.2. Regression results for overall listening comprehension

As the study adopts a correlational design, correlation and regression analyses were conducted on the scores obtained at the end of the implementation process. The means, standard deviations, and minimum/ maximum scores for each variable measured in this study are presented in Table 4.1.

Table 4.1. *Means, standard deviations, and minimum/maximum scores for the variables*

	N	Mean	Std. Deviation	Min	Max
Listening Comprehension Overall	212	32.37	6.26	15	44
Main ideas		4.38	.865	1	5
Details		24.08	4.94	11	32
Inferencing		3.91	1.43	1	7
Grammar		23.76	7.04	7	38
Vocabulary		44.73	12.16	7	60
FLLAS		56.17	15.7	18	90
MALQ		83.25	12.06	40	113
WTL		55.92	13.01	33	90
Digit Span		7.09	1.97	3	10

In order to find out the relationship among the variables under investigation, a Pearson correlation analysis was conducted on the scores obtained from the instruments. The results of the correlation analysis are demonstrated in Table 4.2.

Table 4.2. *Correlations among the variables under investigation*

	1	2	3	4	5	6	7	8	9	10
1. Listening Overall										
2. Main Ideas	.65*									
3. Details	.96*	.56*								
4. Inferencing	.63*	.33*	.45*							
5. Grammar	.62*	.43*	.60*	.40*						
6. Vocabulary	.57*	.43*	.56*	.28*	.58*					
7. FLLAS	-.52*	-.37*	-.48*	-.40*	-.42*	-.32*				
8. MALQ	.44*	.31*	.42*	.31*	.21*	.37*	-.46*			
9. WTL	.40*	.27*	.36*	.35*	.45*	.39*	-.64*	.44*		
10. WM	.79*	.52*	.76*	.48*	.54*	.45*	-.41*	.33*	.41*	

*. Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis results clearly demonstrate that all variables entered into the model yielded significant correlations ranging from weak to strong with overall listening comprehension and the subskills under investigation. Noteworthy among the correlations is between linguistic variables, i.e. vocabulary knowledge, and grammar knowledge and listening comprehension. It was found that there is a significant strong correlation between vocabulary knowledge (M= 44.73, SD= 12.16) and listening comprehension (M= 32.37, SD= *6.26*) with (r= .57, p< .01). Grammar knowledge yielded an even larger strength of association with overall listening comprehension (r= .63) with p< .01.

However, the strength of association between vocabulary and grammar knowledge, and listening comprehension across different subskills was observed to weaken, especially for vocabulary knowledge. For example, there was a significant but weak correlation between vocabulary knowledge and inferencing scores (r= .28). In this regard, grammar knowledge seems to persist in its relation to listening across subskills as it yielded a moderate strength of association where vocabulary couldn't surpass weak effect size (r= .40). Although both vocabulary and grammar knowledge yielded similar strengths of association with listening for main ideas and details, this relationship diminished for vocabulary knowledge in inferencing. This is an important sign of task effect on the relationship between linguistic variables and listening comprehension.

The most striking finding of the analysis was the strong tie between working memory capacity and listening comprehension. Contrary to expectations, digit span scores (M= 7.09, SD= 1.97) yielded a far greater correlation with L2 listening comprehension, even outperforming vocabulary and grammar knowledge (r= .79). In this regard, the participants can be argued to be vulnerable to working memory deficiencies during listening comprehension and subskills as well. Similar to that observed in grammar and vocabulary scores, the strength of association between working memory and listening comprehension varied across different subskills. The strong overall correlation decreased to a large extent in listening for main ideas and inferencing (r= .52) and (r= .48) respectively.

Another important result was the correlation among listening anxiety, willingness to listen; and listening comprehension and its subskills. First, these two variables demonstrated a significant negative strong correlation with each other (r= -.64). In line with this finding, while there was a negative significant strong correlation between

listening comprehension and listening anxiety (r= -.52), a positive significant moderate correlation was observed between willingness to listen and listening comprehension (r= .40). As for the subskills, the strength of association between the two effective variables and listening for main ideas, and inferencing decreased to a small extent with (r= -.37) and (r= -.40) for listening anxiety, and (r= .27) and (r= .35) for willingness to listen respectively. The two competing effective variables were found to produce nearly similar strengths of associations with listening comprehension and subskills in reverse directions and with a small advantage of listening anxiety.

As for the association between metalinguistic awareness and listening comprehension, it was found that, for both listening comprehension overall and the subskills, metalinguistic awareness yielded significant moderate correlations. However, the strength of association was slightly larger for overall listening comprehension (r= .44) than both inferencing and listening for main ideas with (r= .31).

In addition to significant links between component variables and listening comprehension and its subskills, important correlations among the variables were also observed. One of the most noteworthy of these correlations was the one between linguistic variables and working memory. Vocabulary and grammar knowledge were associated with working memory scores significantly with a moderate (r= .45) and strong correlations (r= .54) observed respectively. This is important since higher vocabulary and grammar scores have been found to be associated with higher working memory spans which in turn correlate strongly with listening comprehension.

Another fundamental finding is the reverse correlation between listening anxiety and willingness to listen (r= -.64), something one can expect. But what needs to be highlighted here is the fact that while listening anxiety correlates negatively with all the other variables, willingness to listen produces significant positive moderate correlations to linguistic variables, metalinguistic awareness and working memory. In other words, where there is less anxiety, there is higher willingness to listen, thus leading to higher listening comprehension scores.

In summary, the results showed that the variables under investigation yielded significant moderate to strong correlations with listening comprehension and that the strength of association between component variables and comprehension varied across the subskills. It can be concluded from the varying correlation scores that the effect of component variables on listening comprehension is far from being constant but instead

can change depending on the subskill involved. This brings about the necessity to investigate how each subskill benefits from individual differences in component variables. Therefore, in order to find out how much variance in L2 listening comprehension and its subskills can be explained by the variables, a series of multiple linear regression analyses had to be conducted on the data.

First of all, a multiple linear regression analysis was conducted to answer the first research question and predict overall listening comprehension based on the component variables i.e. grammar, vocabulary, listening anxiety, metacognitive awareness, willingness to listen, and working memory:

R.Q: What is the relationship between linguistic components (vocabulary and grammar knowledge), working memory, metacognitive awareness, affective components (listening anxiety, willingness to listen) and L2 listening comprehension?

Table 4.3 shows the regression analysis results for overall listening comprehension predicted by vocabulary and grammar knowledge, metacognitive awareness, listening anxiety, willingness to listen in L2 and working memory variables.

Table 4.3. *Multiple linear regression analysis (dependent variable: listening overall*)

Model	R	R Square	Adjusted R Square	df	*F*	*p*
	.86	.747	.74	6 205	100.849	.000

Predictors: Grammar, Vocabulary, Listening Anxiety, Metacognitive Awareness, Willingness to Listen, Working memory

The results of the multiple linear regression analysis showed that the model between variables and the dependent variable of overall listening comprehension was significant $F(6,205)= 100.849$, $p< .001$ with $R^2= .74$. This means that the variance observed in the component variables under investigation can significantly account for nearly 75 percent of the variability in overall listening comprehension.

The regression results were also checked further to determine which component skills contributed significantly to the model. Table 4.4 presents coefficient values for the independent variables.

Table 4.4. *Regression coefficients of independent variables (dependent variable: listening overall)*

Variables	B	SE	β	*p*
Grammar	.178	.044	.201	.000
Vocabulary	.077	.024	.150	.001
Listening anxiety	-.077	.020	-.192	.000
Metacognitive awareness	.078	.022	.150	.001
Willingness to listen	.078	.024	.162	.001
Working memory	1.750	.141	.551	.000

When we investigate the coefficient results for the predictor variables, it can be seen that all of the variables contribute significantly to the model (grammar, B= .178, t(205)= 4.080; vocabulary, B= .077, t(205)= 3.246; listening anxiety, B= -.077, t(205)= -3.916; metacognitive awareness, B= .078, t(205)= 3.509; willingness to listen, B= .078, t(205)= 3.290; and working memory, B= 1.750, t(205)= 12.449) with p< .01. The highest contribution comes from working memory with listening comprehension scores increasing 1.750 points for each *1*-point increase in digit span task. The second most important predictor is grammar knowledge with 0.17 points increase in listening comprehension upon *1*-point increase in grammar test. Vocabulary knowledge is another important predictor of listening comprehension as 0.077 points increase was observed in listening scores per *1*-point increase in vocabulary scores. Metacognitive awareness and willingness to listen also contributed significantly to listening comprehension with 0.078 increase in listening comprehension scores for 1-point increase in these two measures. An important finding was observed in listening anxiety with 0.077 decrease in listening comprehension scores with each 1-point increase in anxiety scores. It means that, as also indicated in correlation results, listening anxiety has a reverse relationship with listening comprehension and as students' anxiety increases their overall comprehension decreases.

The model for overall listening comprehension with the current component variables can successfully predict ¾ of success in listening comprehension. Furthermore, it is highlighted that, for this participant group at least, affective variables i.e. L2 listening anxiety and willingness to listen in L2, and metacognitive awareness were as effective as the other variables in explaining variance in listening comprehension.

4.1.3. Regression results for subskills of listening

A secondary aim of the study was to find out the extent to which component variables are effective in predicting success in different subskills of listening, i.e. listening for details, listening for main ideas and inferencing. Therefore, further regression analyses were run on each one of these subskills to answer the second research question:

R.Q: Does the relationship between the component skills and L2 listening vary across subskills of listening i.e. listening for main ideas, listening for details, and inferencing?

The following sections present the regression analyses conducted on the scores obtained from the subsections of the listening comprehension test addressing each one of the subskills.

4.1.3.1. Regression results for listening for details

One of the subskills of listening addressed in the current study was listening for details. Table 4.5 demonstrates the statistical analysis results obtained from regressing the listening for details scores on the scores obtained from the component variables.

Table 4.5. *Multiple linear regression analysis (dependent variable: listening for details)*

Model	R	R Square	Adjusted R Square	df	*F*	*p*
	.84	.70	.69	6 205	81.568	.000

Predictors: Grammar, Vocabulary, Listening Anxiety, Metacognitive Awareness, Willingness to Listen, Working memory

The regression equation for listening for details was found to be significant $F(6,205)= 81.568$, $p< .001$ with an R^2 of 70. The results demonstrate that even if there is a slight decrease in the predictive nature of component variables compared to that in overall listening, the variables in the model can still significantly explain a substantial amount of success in listening for details as high as 70 percent. The results were also checked to measure individual contributions of the independent variables. Table 4.6 presents regression coefficients of the component variables.

Table 4.6. *Regression coefficients of independent variables (dependent variable: listening for details)*

Variables	B	SE	β	*p*
Grammar	.131	.037	.187	.001
Vocabulary	.071	.020	.174	.001
Listening anxiety	-.055	.017	-.174	.001
Metacognitive awareness	.057	.019	.139	.003
Willingness to listen	.072	.020	.191	.000
Working memory	1.376	.120	.549	.000

The coefficient results highlight that, similar to that observed in overall listening scores, all the variables entered into the model contribute significantly to listening for details scores (grammar, B= .131, t(205)= 3.528; vocabulary, B= .071, t(205)= 3.487; listening anxiety, B= -.055, t(205)= -3.276; metacognitive awareness, B= .057, t(205)= 3.020; willingness to listen, B= .072, t(205)= 3.592; and working memory, B= 1.376, t(205)= 11.484) with p< .01. As also observed in overall listening scores, the strongest predictor of the model seems to be working memory as 1-point increase in digit span task brought about 1.376 points increase in listening for details scores. Grammar and vocabulary knowledge, despite a slight decrease in terms of explained variability in listening for details scores, proved to be important contributors with 0.131 and 0.071 increases per 1 point respectively. Slight decreases were also observed in metacognitive awareness and willingness to listen in terms of how many points are associated with 1-point increase in these two measures 0.057 and 0.072 respectively. In line with expectations, listening anxiety is associated with decreasing listening for details scores with 0.055 points decrease per 1-point increase in anxiety scale scores.

Although there was a slight decrease in total variability explained compared to the model for listening overall, the model for listening for details can successfully account for 70 percent of the variability. All the components entered into the model contribute significantly to differences among the participants' scores.

4.1.3.2. Regression results for listening for main ideas

Another subskill of interest in this study was listening for main ideas. In order to find out how much variance in listening for main ideas can be attributed to differences in component skills, the scores obtained from the relevant subsection of the listening comprehension test were regressed on the independent variables. The multiple linear regression results are presented in Table 4.7.

Table 4.7. *Multiple linear regression analysis (dependent variable: listening for main ideas)*

Model	R	R Square	Adjusted R Square	df	*F*	*p*
	.59	.35	.33	6 205	18.860	.000

Predictors: Grammar, Vocabulary, Listening Anxiety, Metacognitive Awareness, Willingness to Listen, Working memory

When we investigate the regression results we can clearly see that the model is still a successful predictor of variability in listening for mains ideas $F(6,205)= 18.860$ with $p< .001$. However, there is a dramatic decrease in terms of the explained variability with $R^2= .35$ meaning that 35 percent of variability can be predicted by the model. In order to detect the reason behind this decrease, regression coefficients were checked further. Table 4.8 presents regression coefficients for the independent variables.

Table 4.8. *Regression coefficients of independent variables (dependent variable: listening for main ideas)*

Variables	B	SE	β	*p*
Grammar	.014	.010	.110	.161
Vocabulary	.013	.005	.183	.014
Listening anxiety	-.009	.004	-.170	.031
Metacognitive awareness	.007	.005	.099	.147
Willingness to listen	.009	.005	.138	.080
Working memory	.146	.031	.332	.000

Regression coefficients for the component variables show that vocabulary knowledge, $B= .014$, $t(205)= 2.482$; listening anxiety, $B= -.009$, $t(205)= -2.166$; and working memory $B= .146$, $t(205)= 4.701$ contributed significantly to the predictive power of the regression model with $p< .05$. However, the rest of the component variables, as opposed to the case in listening overall and listening for details, lost their predictive value (grammar knowledge, $B= .014$, $t(205)= 1.406$; metacognitive awareness $B= .007$, $t(205)= 1.457$; and willingness to listen $B= .009$, $t(205)= 1.759$) with $p> .05$. Both predictive value and the significance of the model decreased substantially with nearly 50 percent decrease in explanation power and only half of the variables significantly contributing to variability among participants' listening for main ideas scores. It is highlighted from the current findings that the role of component variables can change across different subskills.

4.1.3.3. Regression results for inferencing

The final subskill addressed in the present study was inferencing and the results of multiple linear regression conducted to determine how much variance in this skill is associated with the component skills are displayed in table 4.9.

A similar case to that observed in listening for main ideas was observed for inferencing as the model is still significant in predicting inferencing scores $F(6,205)= 14.900$, $p< .001$ but with a large decrease in predictive value $R^2= .305$.

Table 4.9. *Multiple linear regression analysis (dependent variable: inferencing)*

Model	R	R Square	Adjusted R Square	df	*F*	*p*
	.55	.30	.28	6 205	14.990	.000

Predictors: Grammar, Vocabulary, Listening Anxiety, Metacognitive Awareness, Willingness to Listen, Working memory

The regression model suggested for predicting listening comprehension yielded the weakest explanation power in inferencing with only 30 percent of variability explained. Individual contributions of the independent variables are presented in table 4.10.

Table 4.10. *Regression coefficients of independent variables (dependent variable: inferencing)*

Variables	B	SE	β	*p*
Grammar	.033	.017	.164	.046
Vocabulary	.006	.009	.055	.473
Listening anxiety	-.013	.007	-.138	.090
Metacognitive awareness	.014	.008	.114	.108
Willingness to listen	.004	.009	.034	.677
Working memory	.229	.053	.314	.000

When the regression coefficients of the independent variables are investigated further, it can be seen that only grammar knowledge $B= .033$, $t(205)= 2.009$ and working memory $B= .229$, $t(205)= 4.278$ can significantly predict variability in inferencing scores with $p< .05$. The other independent variables seem to be far from reaching significance (vocabulary $B= .006$, $t(205)= .718$; listening anxiety, $B= -.013$, $t(205)= -1.702$; metacognitive awareness, $B= .014$, $t(205)= 1.613$; willingness to listen, $B= .004$, $t(205)= 4.278$) with $p> .05$. As in listening for main ideas, we observe a dramatic decrease in the predictive power of component variables with only two of them contributing significantly

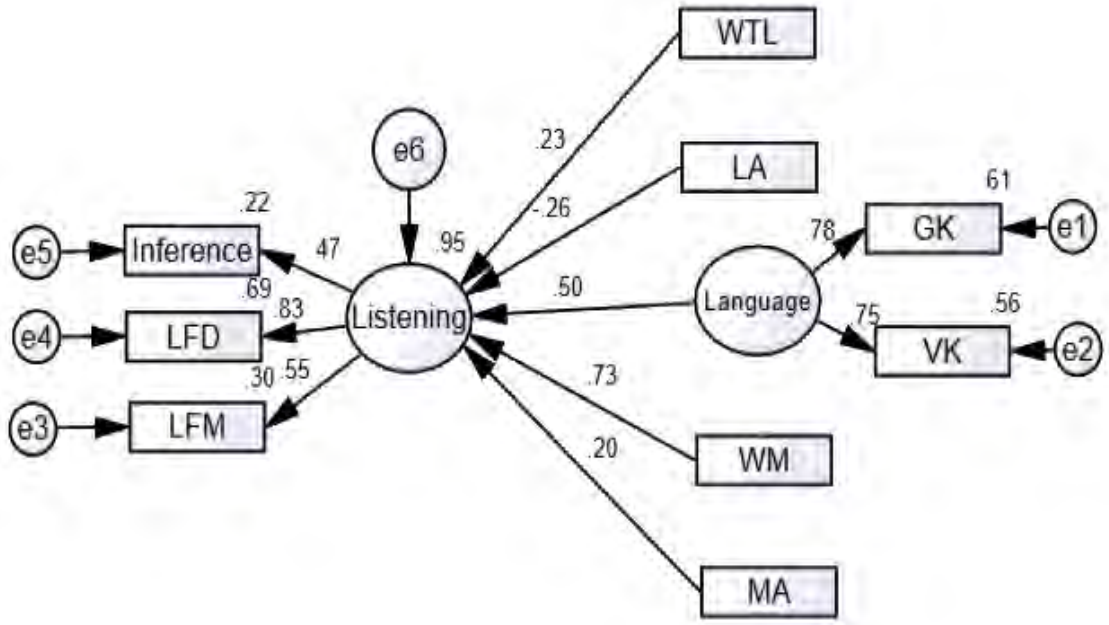
to the model. An interesting observation is that while vocabulary knowledge maintained its importance in the other subskills and listening overall, it wasn't the case for inferencing as grammar knowledge prevailed instead. Another important finding is the significant contribution of working memory in all subskills and listening overall. The results in this sense underline that different component variables yield varying levels of contribution to listening comprehension and that the same model may produce varying levels of predictive power depending on the subskill involved thus necessitating a detailed look into how independent variables interact with listening comprehension across different subskills.

4.1.4. SEM Results for the models tested

Another purpose of the study was to come up with a comprehensive model of listening comprehension which previous studies have fallen short of doing as affective variables have often been disregarded. Therefore, a series of Structural equation modelling (SEM, hereafter) analyses were conducted on the dataset in order to answer the 3rd research question:

R.Q: How do linguistic components, cognition, metacognitive awareness and affective components interact with each other to explain L2 listening comprehension?

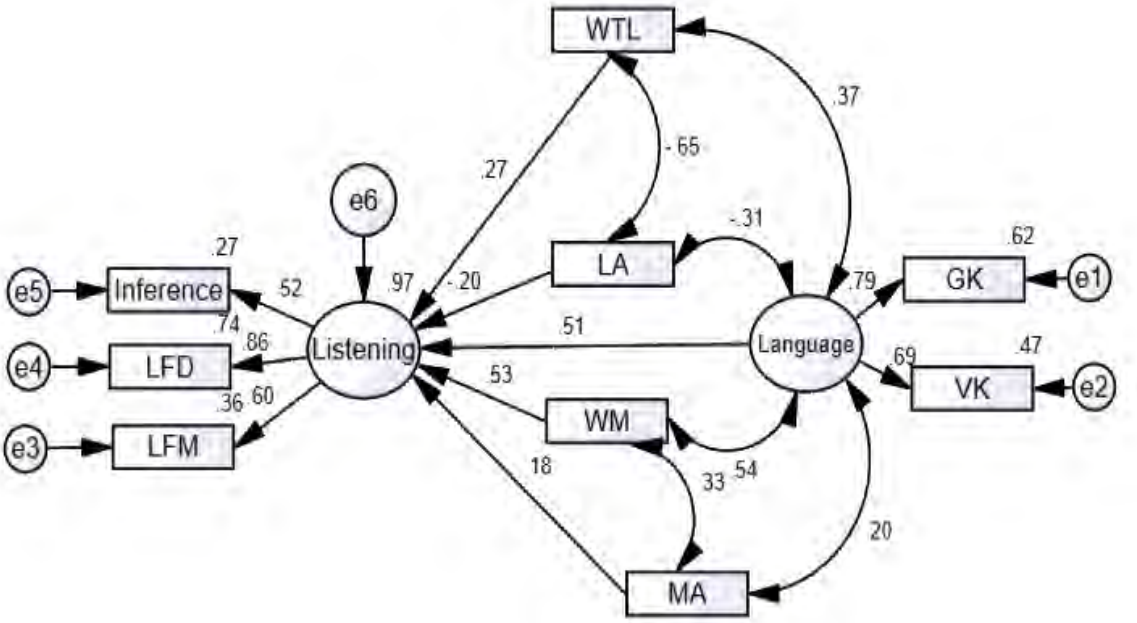
In order to measure how well the model fits the data in explaining variability in listening comprehension, we used the maximum likelihood method as the data successfully meet the assumption of normal distribution. We first hypothesized a componential model of listening comprehension which foresees that linguistic components along with affective components and metacognition and working memory contribute to variability in listening comprehension individually and isolated from each other. The model is depicted in Figure 4.4.



Note: *LFD=listening for details LFM=Listening for main ideas WTL=Willingness to listen LA=Listening anxiety WM=Working memory MA=Metacognitive awareness GK=Grammar knowledge VK=Vocabulary knowledge*

Figure 4.4. *SEM Model 1*

In order to come up with a model for listening comprehension, we depicted a multiple indicators multiple causes model (MIMIC model) and the structural equation modelling results indicated that all of the independent variables in the model have significant predictive value in listening comprehension with standardized regression weights ranging from -.26 to .73, which read as when WM goes up by 1 standard deviation, listening goes up by 0.73 standard deviations for example. However, its current version fell short in depicting the actual underlying model present among independent and dependent variables (χ^2= 366.329, *df*= 26, *p*< .05). In addition, χ^2/df value of the current model is 14.090, much larger than 3.000 along with unsatisfactory comparative fit statistics (CFI= .594, NFI= .581, TLI= .437, RMSEA= .249). The model in this sense calls for other causal or correlational paths among the variables; that is, we need a non-recursive model to explain the underlying complex structure. Based on the regression and correlational findings which signaled strong links among the independent variables as well, we proposed another MIMIC model in which linguistic factors also correlate with affective factors and cognition and metacognition. The model is presented in Figure 4.5.

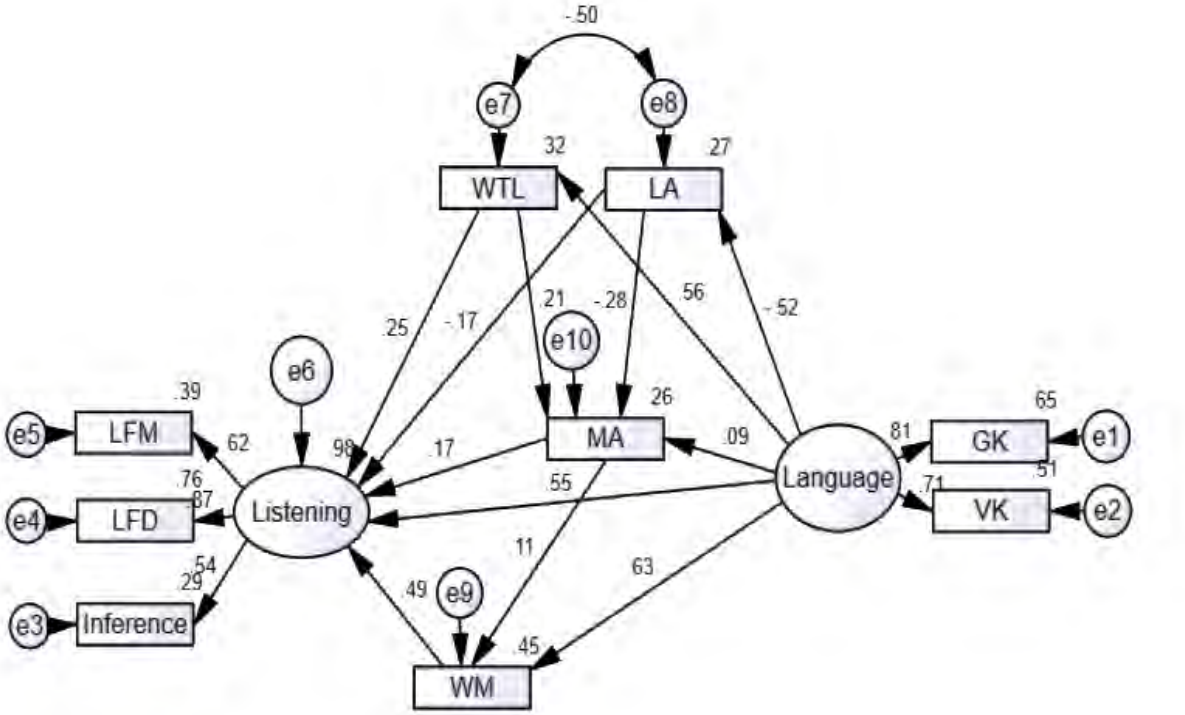


Note: *LFD=listening for details LFM=Listening for main ideas WTL=Willingness to listen LA=Listening anxiety WM=Working memory MA=Metacognitive awareness GK=Grammar knowledge VK=Vocabulary knowledge*

Figure 4.5. *SEM Model 2*

The new model did not only include direct relationship but also covariation among some independent variables, i.e. willingness to listen and listening anxiety, working memory and metacognitive awareness and the rest of independent variables and linguistic components. By adding the covariance estimations, we tried to reach a more precise model to explain how independent variables interact with each other in contributing to listening comprehension. As in the previous model, all of the regression weights yielded to be significant ranging from -.20 to .53. As an addition to the model, covariance values among independent variables were also significant ranging from -.65 to .54. Adding covariance patterns, that is correlations between variables in simpler terms, improved the model to some extent (χ^2= 121.107, *df*= 20, *p*< .05) with a χ^2/df value of 6.055. Similar improvements were also observed in terms of comparative fit indexes (CFI= .879, NFI= .861, TLI= .783, RMSEA= .155). However, the model is still far from reflecting the underlying structure. Therefore, we decided to insert more than one endogenous variables, depicting independent variables as being affected by another independent variable, to the model. The previous models we proposed had listening comprehension as the only endogenous variables. This time we proposed a model that treats listening anxiety, willingness to listen, working memory and metacognitive awareness as both endogenous and exogenous variables. In other words, these variables are assumed to be

affected by another exogenous variable, i.e. linguistic factors, and to affect listening comprehension as well. The model is demonstrated in Figure 4.6.

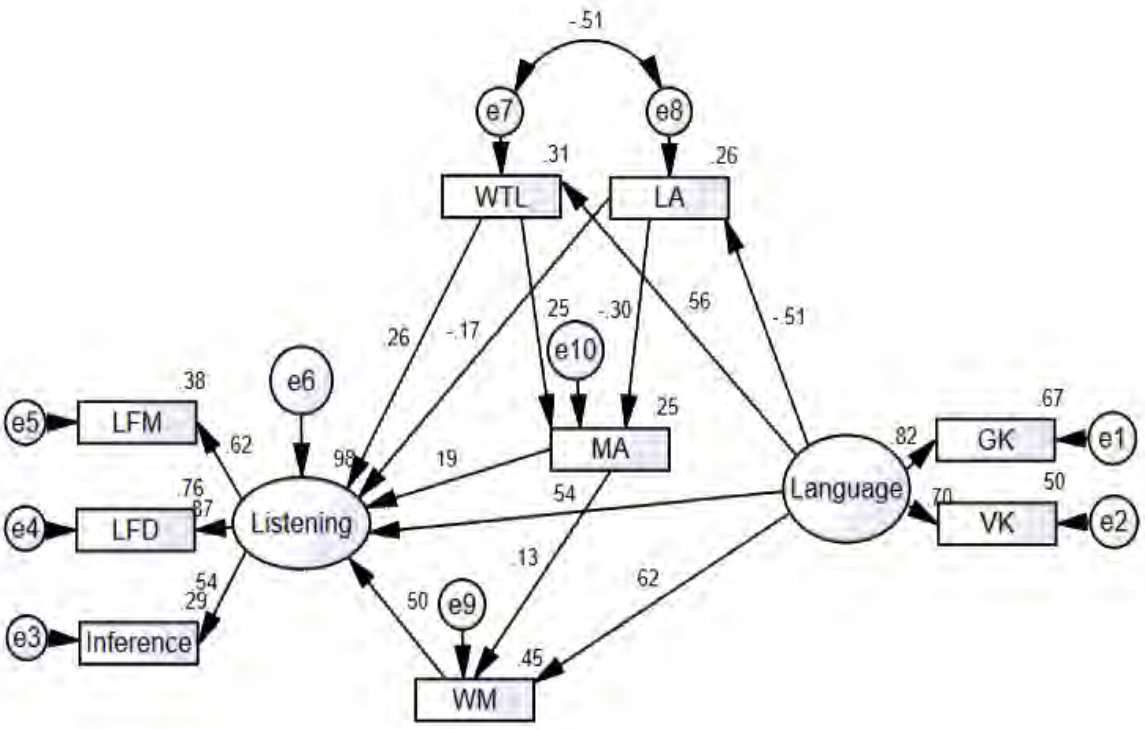


Note: *LFD=listening for details LFM=Listening for main ideas WTL=Willingness to listen LA=Listening anxiety WM=Working memory MA=Metacognitive awareness GK=Grammar knowledge VK=Vocabulary knowledge*

Figure 4.6. *SEM Model 3*

In the new model, we hypothesized that linguistic factors lead to differences in affective components which correlate negatively with each other, and that affective components bring about change in metacognitive awareness which contribute to changes in working memory. Direct and indirect effects of linguistic factors on listening comprehension depicted in this model are proved to be highly valid taking into consideration the SEM findings. In the new model, the only variable performing as a totally independent variable is linguistic components of vocabulary and grammar knowledge. The rest of the once-independent variables are all assumed to be affected by linguistic components both directly and indirectly. Compared to the previous models, the model fit values increased significantly and reached satisfactory levels (χ^2= 32.254, *df*= 18, $p< .05$) with a χ^2/df value of 1.792, which is way smaller than 3.000. A similar improvement was also observed in comparative fit indices as well (CFI= .983, NFI= .963, TLI= .966, RMSEA= .061). All regression and covariance values between the independent and dependent variables are significant apart from those between language

and metacognitive awareness, and metacognitive awareness and working memory. The insignificant relationship between linguistic components and metacognitive awareness, and metacognitive awareness and working memory led us to test a final model which did not foresee a direct cause-effect relationship among these variables. The model with no direct cause-effect relationship between linguistic components and metacognitive awareness seems to be better fitting the dataset compared to previous models. Figure 4.7 demonstrates our final model.



Note: *LFD=listening for details LFM=Listening for main ideas WTL=Willingness to listen LA=Listening anxiety WM=Working memory MA=Metacognitive awareness GK=Grammar knowledge VK=Vocabulary knowledge*

Figure 4.7. *SEM Model 4*

The final model that does not necessitate a direct causal relationship between linguistic components and metacognitive awareness demonstrates even better model fit statistics (χ^2= 33.140, *df*= 19, *p*< .05) with a smaller χ^2/df value of 1.744. Not only the chi square statistics but also the comparative fit indices changed for the better (CFI= .983, NFI= .962, TLI= .968, RMSEA= .059). The final model seems to be fitting the dataset the best among others. Table 4.11 presents the fit indices of all the hypothesized models.

Table 4.11. *Model fit indices of the hypothesized models*

Model	χ2	*p*	*df*	χ2/*df*	*CFI*	*NFI*	*TLI*	*AIC*	*RMSEA*
SEM Model 1	366.329	.00	26	14.090	.594	.581	.437	404.329	.249
SEM Model 2	121.107	.00	20	6.055	.879	.861	.783	171.107	.155
SEM Model 3	32.254	.021	18	1.792	.983	.963	.966	86.254	.061
SEM Model 4	33.140	.023	19	1.744	.983	.962	.968	85.140	.059

Optimal values for model fit indices
χ^2/df < 3.00; CFI >.95; NFI >.95; TLI>.95; RMSEA<.08; AIC= lower values signal better models

When we investigate the fit indices of all the hypothesized models, it can be clearly seen that the final model outperforms the rest of the models with substantial increases in all values which fall in satisfactory ranges for a good model-data fit (Schreiber, Stage & Nora, 2006). Moreover, as presented in table 4.12, unlike in the previous models, all the regression and covariance values are significant in the current model accompanied by high fit indices making it a successful model in explaining how the variables under investigation interact with each other in explaining success in L2 listening comprehension.

Taking into consideration the significant regression and covariance values along with good model fit indices, we hereby propose a model that places linguistic components at the center as they affect all the rest of the components directly and indirectly, and places on the other components mediator roles in explaining listening comprehension.

Table 4.12. *Standardized and unstandardized estimates of Model 4*

Direction			Standardized estimate	Unstandardized estimate	SE	C.R.	p
LA	←	Language	*-.514*	*-1.401*	*.208*	*-6.750*	***
WTL	←	Language	.560	1.265	.171	7.389	***
MA	←	WTL	.249	.231	.072	3.193	.001
MA	←	LA	-.305	-.234	.060	-3.907	***
WM	←	MA	.125	.020	.010	2.116	.034
WM	←	Language	.621	.212	.026	8.023	***
Listening	←	LA	-.169	-.008	.003	-2.807	.005
Listening	←	WM	.496	.194	.033	5.916	***
Listening	←	WTL	.256	.015	.004	3.869	***
Listening	←	MA	.191	.012	.003	3.795	***
Listening	←	Language	.543	.073	.015	4.773	***
e7	←	e8	-.505	-73.041	12.787	-5.712	***

***. $p<.001$

According to the model, improvements in linguistic components are associated with higher scores in WTL, and lower scores in LA. More specifically, 1 standard deviation increase in linguistic components brings about .560 standard deviations increase in WTL and .514 standard deviations decrease in LA. This means that participants' emotional state is largely dependent on their linguistic capabilities. Similarly, linguistic components have a significant impact on WM with 1 standard deviation increase in linguistic components linked to .621 standard deviations increase in WM. This fact indicates that participants who perform better in linguistic variables also perform higher in digit-span task designed to measure working memory and according to the model this is a cause-effect relationship. Linguistic components also have a substantial effect on listening comprehension as 1 standard deviation increase in linguistic variables brings about .543 standard deviations increase in listening comprehension. This finding clearly indicates that, as one can normally expect, making meaning of a listening text is highly contingent upon the level of grammar and vocabulary knowledge. Adding up the indirect effect of linguistic components on listening comprehension over affective components, metacognitive awareness, and working memory, there is nearly one-to-one correspondence between standard deviation increases in both variables. The results indicated that 1 standard deviation increase in language variables lead to .326 standard deviations increase in listening comprehension scores indirectly. Adding direct and

indirect effect together, we obtain a value of .869 standard deviations increase per 1 standard deviation increase in language variables.

Affective well-being of the participants has also proved important in determining listening comprehension scores as WTL and LA have substantial effects on listening comprehension both directly and indirectly. It is demonstrated by the findings that 1 standard deviation increase in WTL lead to .256 standard deviations increase in listening comprehension. Conversely, 1 standard deviation increase in LA results in .17 standard deviations decrease in listening comprehension. In addition to their direct effect, their effect on listening comprehension mediated by metacognitive awareness and working memory is also considerably large. The model final model demonstrates that affective well-being of the participants is strongly linked to their metacognitive awareness which in turn explains an important proportion of variance in working memory and L2 listening. When indirect effects of affective components over metacognitive awareness and working memory are added up, WTL reaches .31, and LA -.24 regression coefficient values. Considering the high negative correlation between the two affective variables, that is when one goes up the other goes down, the total effect of emotional well-being on listening comprehension is noteworthy.

Another important contributor of listening comprehension is working memory which we propose to have a direct effect on listening comprehension. Working memory also acts as a mediator between linguistic variables and listening comprehension, affective variables and listening comprehension, and metacognition and listening comprehension. We did not propose any indirect paths from working memory to listening comprehension yet the effect is still large as 1 standard deviation changes in digit span task ends up in .496 standard deviations change in listening comprehension in the same direction. However, considering the mediating role of WM, it turns out to be a far more important factor in explaining variance in listening comprehension.

Finally, metacognitive awareness plays a key role as it stands among affective variables, working memory and listening comprehension. Taking up a mediator role between affective components and listening comprehension, and affective components and working memory, metacognition has both direct and indirect contribution to explaining listening success. The findings suggest that 1 standard deviation increase in metacognition scores leads to .19 standard deviations increase in listening comprehension directly. When we take into account its indirect effect on listening comprehension via its

effect on working memory, we get a regression coefficient value of .25. This indicates that 1 standard deviation change in metacognition will eventually result in a quarter standard deviations change in listening comprehension.

In summary, the results of correlation, regression and structural equation model analyses highlight that the variables we hypothesized to be affecting listening comprehension are strong contributors of listening success in L2. Our overall findings suggest that not only linguistic variables but also cognition, metacognition and affective variables also need to be taken into consideration in trying to account for differences in listening comprehension. As a by-product of our main analyses, we also found out that the effect of these variables may vary across different subskills of listening addressed, which means that it is important to decide on the purpose of listening before moving on to hasty generalizations about the contributors. For the final purpose of the study, a componential model was proposed. After testing several models which could prove compatible with the data and the existing literature, we finally came up with a model that satisfies the necessary model fit values and successfully reflects what the existing literature speculates about the relationships among the components addressed. In this model, the relationship between component variables and listening comprehension is not unidirectional but instead there are several indirect paths from one variable to the other over another. The model underlines that listening comprehension is indeed a multi-faceted and a complex process in which different variables interact with each other and listening in complex ways and that even the seemingly weakest contributor has a significant impact on listening comprehension by mediating the effect of the other variables.

4.2. Discussion of the Findings

Despite the fact that listening is an important skill for language learning, it has received less scholarly attention than other L2 abilities. One reason for this could be that there are less measurements of listening comprehension, which could limit our understanding of aspects associated to this important skill. Therefore, the current study adopted a componential approach to listening comprehension and set out to investigate the multidimensional underlying structure by measuring the explanatory power of linguistic, cognitive, metacognitive and affective variables (the independent variables hereafter) in L2 listening comprehension. Unlike the previous literature on L2 listening

comprehension, this study also looked into how these variables affect listening comprehension subskill-wise. In other words, another purpose of the current study was to find out if the independent variables under investigation yield differentiated explanatory power across different subskills of listening, i.e. listening for main ideas, listening for details, and making inferences.

4.2.1. The contribution of the components to overall L2 listening comprehension

In order to answer the first and second research questions, the effect of independent variables on overall listening comprehension and the subskills respectively was measured separately. The results for overall listening comprehension show that all of the independent variables are strong predictors of success in overall L2 listening comprehension. Based on the findings, working memory, as measured through a digit-span task proved to be the strongest factor explaining listening comprehension variance among participants. Since working memory is the cognitive workspace where listeners concurrently store and process incoming information to establish consistency in text comprehension, it is no surprise that listening comprehension is affected by differences in this component (Kim, 2016). Listening to aurally provided information while at the same time extracting meaning from words and sentences, building and representing the full text, and continuing to listen for further incoming information is required for listening comprehension. The nature of working memory appears to be reflected in this process (Asadi, 2020). All the processes involved in oral comprehension occur on-line without giving the listeners the opportunity to revise the input. The fact that cognitive abilities are involved in listening comprehension demonstrates the complexity of these processes. Unlike L2 reading literature which demonstrated a very weak or no relationship between working memory and comprehension, L2 listening research underlines the importance of cognitive ability. The highest level of the construction-integration model (Kintsch, 1988), namely the situation model, is required for the integration of distinct elements of the text and the development of an integrated whole. This level of text representation focuses on a variety of cognitive components, processes, and resources in addition to simple awareness of the meanings of words and sentences (Adam et al., 1999; Florit et al., 2009; Florit, Roch, & Levorato, 2011). It might be the distinction between reading and listening comprehension that leads to the differentiated effect of working memory on comprehension. Unlike reading comprehension, listening comprehension does not allow

for text review. The material is delivered in a set amount of time, and the listener does not have control over how quickly the information is delivered.

Following working memory, grammar and vocabulary knowledge have been found to be significantly contributing to variance among participants in terms of listening comprehension. Taken independently from the other variables, the significant contribution of syntactic and lexical knowledge together to listening comprehension corroborates the findings of previous studies which also underline the important role of vocabulary knowledge (Adams et al., 1999; Bian et al., 2019; Bonk, 2000; Cheng & Matthews, 2018; Chiang, 2018; Dabbagh, 2016; Li, 2019; Li & Zhang, 2019; Masrai, 2019; Matthews, 2018; Migdadi et al., 2019; Nejad & Farvardin, 2019; Noreillie et al., 2018; Staehr, 2008, 2009; Teng, 2014, 2016; Vandergrift & Baker, 2015, 2018; Vulchanova et al., 2014; Wang & Treffers-Daller, 2017), and vocabulary and grammar knowledge together (Andringa et al., 2012; Aotani, 2011; Babayiğit & Shapiro, 2020; Ghapanchi & Taheryan, 2012;Oh, 2016; Sağlam, 2014; Satori, 2021; Vafaee, 2016) in explaining listening comprehension differences among L2 learners. Considering the findings obtained from the previous studies and the arguments put forward by the existing models of comprehension, though originally developed for L2 reading comprehension, the large contribution from grammar and vocabulary knowledge is an expected finding. For example, the lexical quality hypothesis by Perfetti (2007) places grammar and vocabulary knowledge at the center of text comprehension stating that one's knowledge about the lexical and grammatical features of words in a text is strongly associated with comprehension. Taking a more interactive approach, Bernhardt (2005) proposed that the linguistic repertoire of L2 readers is at the center of the comprehension process and is constantly in interaction with other contributors such as general literacy, interest, and motivation. Similarly, Construction Integration Model (Kintsch, 1988) foresees that linguistic knowledge is a foundational element in text comprehension drawing on which L2 readers construct meaning. The listener's capacity to develop an initial and literal proposition of the text is affected by the linguistic input, which is mostly related to the surface and text base levels. The arguments of the models put forward for L2 reading regarding the pivotal role of linguistic knowledge in comprehension also apply to L2 listening comprehension based on the findings of the study. It is not surprising that both linguistic components play a substantial role in L2 listening comprehension as learners

are expected to consult their lexical and syntactic repertoire first when confronted with a piece of stimuli which also comprises individual words and sentences to be processed.

When grammar and vocabulary knowledge are taken as a whole comprising the linguistic domain, there is not much conflict between the findings of the current study and the existing arguments put forward regarding the role of overall linguistic knowledge. However, if we are to closely inspect the slightly stronger association between syntactic knowledge and L2 listening comprehension than the relationship between vocabulary knowledge and comprehension in L2, the results seem to contradict the existing literature. Most of the time, the studies in L2 listening have taken the effect of vocabulary knowledge for granted and usually addressed this variable on its own without taking into consideration the other linguistic component, grammar knowledge. Matthews and Cheng (2015) for example, underlined the importance of recognizing high frequency words in a text for successful oral comprehension and suggested some threshold vocabulary levels for successful listening. In a similar vein, Matthews (2018) devoted a whole study just to investigate the effect of lexical familiarity in different frequency levels on L2 listening comprehension and, not surprisingly, suggested that recognition of words was a crucial step in building a meaningful representation of the text. Similarly, Perfetti, Landi, and Oakhill (2005) put vocabulary knowledge at the center of comprehension by stating "Knowledge of word meanings is central to comprehension. This knowledge derives from multiple sources, including written and spoken comprehension, and grows indefinitely" (p.247). Some scholars even devoted whole investigations to different dimensions of vocabulary knowledge i.e. breadth and depth of vocabulary knowledge with regard to their relationship with L2 listening (Dabbagh, 2016; Li & Zhang, 2019; Migdadi et al., 2019; Staehr, 2009) as if the only linguistic contributor was lexical knowledge. In this regard, the existing literature seems to have undermined the potential explanatory power of grammar knowledge relative to that of vocabulary knowledge. Nonetheless, the fact that vocabulary knowledge might not be the sole linguistic component effective in the process was well underlined by Bonk (2000). In the study, the participants' lexical familiarity was measured through their recognition of the words in the listening test they completed as a measure of listening comprehension. Some participants were observed to be familiar with all the individual words in the text yet they failed in comprehension. The researcher explains this situation as "Fourteen of the 59 participants never attained a rating of good comprehension, despite showing evidence of familiarity with up to 100%

of the lexical words in the text" (p.26). Knowing the meanings of individual words in a text might not be enough to build a representation of the text because listeners also need to figure out how these individual words relate to one another in building meaningful sentences, which is what grammar knowledge denotes. That grammar knowledge was slightly more effective in the current study might have stemmed from mismatches between grammar knowledge and vocabulary knowledge of the participants. Some participants with high scores on vocabulary levels test might have lacked in grammar knowledge, thus failing to reflect their lexical knowledge in listening comprehension scores. Only when high scores on vocabulary levels test are accompanied by high scores on grammar test can it be possible for vocabulary knowledge to be effective in comprehension. Especially in longer texts with many independent lexical units, it is of great importance to determine how these units are related to each other for successful comprehension. Aotani (2011) for example investigated the effect of grammar and vocabulary knowledge through two different texts varying in length: a short and a long listening text. While the short listening text included a short conversation accompanied by multiple choice questions, the long listening text presented the participants with lectures and conversation 2-6 minutes in length. While the former text measured sentence-level comprehension, the latter aimed at measuring text-level comprehension. Vocabulary knowledge was the stronger predictor in the short text whereas grammar knowledge predicted comprehension better in the longer text. The listeners might be drawing on their grammar knowledge to process longer texts as well as their lexical knowledge since linking separate lexical units in a longer text is a relatively more challenging task. The listening comprehension test used in the current study also included long texts with varying genres and topics. This might have led grammar knowledge to prevail over vocabulary knowledge.

Another explanation behind the conflicting results regarding the relative effect of vocabulary and grammar knowledge might lie in the grammar tests used in previous studies. Most previous studies administered grammar subsections of standardized proficiency tests, which might not quite reflect the participants' actual grammar proficiency. In the present study on the other hand, the grammar test was carefully designed specifically for the participant group taking into consideration the GSE specifications regarding their grammar mastery. It might be that the grammar test used in the current study reflected the individual differences in terms of grammar knowledge of

the participants better, thus leading to a larger correlation obtained. Oh (2016) also attributes obtaining larger correlations between grammar knowledge and L2 listening comprehension in her study than some previous studies to employing more context-sensitive instruments stating "A more prominent role of grammar knowledge found in the two comprehension measures of the present study is deemed to come from a finer representation of grammar knowledge" (pp. 279). Designing the grammar test based on the participants' proficiency levels might have enabled the measurement tool to give more accurate results regarding the effect of grammar knowledge on L2 listening comprehension.

When we evaluate our findings regarding the relative significance of working memory and linguistic components, things get even more complicated. The findings, to a large extent, contradict the L2 listening comprehension literature as previous studies nearly unanimously reported results favoring the effect of linguistic components on comprehension over that of working memory. In a meta-analysis on the correlates of L1 and L2 listening comprehension, Karalık and Merç (2019) investigated the strengths of associations between several constructs and comprehension. The authors underlined that while L1 listening comprehension studies reported mostly moderate correlations between working memory and comprehension (Adams et al., 1999; Florit et al., 2009; Kim, 2016), it was not the case for L2 listening comprehension since most studies reported no to weak correlations (Andersson, 2010; Brunfaut & Révész, 2015; Wolfgramm et al., 2016). A more recent meta-analysis by In'nami, Koizumi, et al. (2022) yielded a similar finding emphasizing the effect of linguistic components over that of working memory on L2 listening comprehension. Some L2 listening comprehension studies even investigated the relationship between working memory and listening comprehension along with linguistic variables and found that linguistic variables outperformed working memory with significantly larger correlations. In two consecutive studies, Vandergrift and Baker (2015, 2018) looked into the relationship between vocabulary knowledge, working memory, and metacognitive awareness and listening comprehension among French immersion students. The results clearly demonstrated that while vocabulary knowledge yielded moderate correlations with listening comprehension, working memory had weak strength of association with comprehension in both studies. In a similar vein, Wolfgramm et al. (2016) scrutinized the effect of a set of variables on listening comprehension among which were working memory and vocabulary knowledge. The study reported similar

results to those of Vandergrift and Baker (2015, 2018) as vocabulary knowledge moderately correlated with listening comprehension while working memory had a weak correlation. It was also the case for a few, though scarce, L1 studies that working memory was found less important than other variables, especially those belonging to the linguistic category (Adams et al., 1999; Kim, 2015; Lepola et al., 2012; Tighe et al., 2015). These weaker correlations could be attributable to the listening materials used to measure listening comprehension according to Wolfgramm et al., 2016:

> This could also be the reason for the lack of an observed effect in the present study. Working memory is generally required for processing longer and more complex texts. It is therefore expected that an effect for working memory would be found, if longer and more complex listening texts were used for the listening comprehension tests (p.39).

Considering that the current study administered a wide range of listening text types ranging from stories to phone calls representing varying listening lengths, our results are in line with this suggestion. Longer texts representing a wide range of genres with different topics may have resulted in listeners employing all their working memory resources in comprehending the text.

Another possible explanation might lie within the proficiency level of the participants. The participants of the current study were recruited from intermediate to upper intermediate proficiency levels. This certain group may have needed all available resources in comprehending listening texts due to a lack of linguistic knowledge. Though conducted in L1 settings, studies by Lepola et al. (2012) and Tighe et al. (2015) reported findings supporting the idea that the effect of working memory might diminish over time. Lepola et al. (2012) examined the developmental links between early narrative listening comprehension and language abilities (i.e., vocabulary knowledge, sentence memory, and phonological awareness) and their roles in predicting narrative listening comprehension in a longitudinal study with a group of Finnish participants through the age of 4 to 6. Measuring the participants' listening comprehension over a two-year period of time, the researchers tried to capture the developmental nature of text comprehension. The results underlined that the effect of working memory as measured through a sentence memory task was much larger at the earlier phases of the study and diminished drastically over time. On the contrary, vocabulary knowledge sustained moderate correlations with text comprehension over the two-year period. In a similar study, this time with a cross-sectional design rather than a true longitudinal study, Tighe et al. (2015) looked into the factors contributing to variance in listening comprehension among 3rd, 7th, and 10th grade

students from several backgrounds assumed to be proficient in English. The results of the study clearly underlined that the effect of working memory on listening comprehension decreased drastically from 3rd through 10th grade. It might be the result of listeners developing proficiency over time that the effect of working memory starts to diminish as linguistic variables prevail.

There is also some support for the large effect of working memory on L2 listening comprehension at the initial stages of L2 development. In a recent study, Satori (2021) clearly demonstrated that the extent to which working memory is related with L2 listening comprehension highly depends on the proficiency levels of the participant group. The study recruited English major students and divided the participants into two groups: lower proficiency and higher proficiency group. Measuring the relationship between working memory and L2 listening across different groups, the researcher showed that while there was a moderate correlation between working memory and L2 listening comprehension in the lower proficiency group, the relationship was observed to be weak in the higher proficiency group. The author asserts that inexperienced learners struggle with the demands of L2 listening comprehension due to lack of automaticity, which leads to heavy reliance on memorization. Tsuchihira (2007) for example recruited 22 beginner L2 learners of English in an attempt to investigate the relationship between working memory and L2 listening comprehension. The results demonstrated strong correlations between the two variables. Another study conducted by Fay (2012) looked into the effect of working memory on L2 listening comprehension among a group of elementary language learners reported even a larger contribution of working memory capacity (r= .87) to text comprehension than that observed in the current study. A more recent study by Namaziandost et al. (2018) highlighted the large contribution of working memory to L2 listening comprehension among a group of pre-intermediate EFL learners. The proficiency of the participant group in the three studies resemble each other in that they all recruited participants whose proficiency level was below that of the participant group in the current study. This indicates that proficiency might be effective in determining to what extent listeners will employ their memory for text comprehension: lower level EFL learners might tend to rely more heavily on their working memory. Andersson (2010) suggests that relatively inexperienced learners' processing of sentences and short stories in a foreign language uses greater amounts of working memory resources. The more frequent use of working memory resources are likely connected to the fact that learning

a foreign language takes longer, is less automatic, and requires more effort than learning a native language because of the unfamiliarity with the syntactic and phonological structure of the foreign language as well as the restricted vocabulary. As such, listeners might be relying on all the available resources at the initial stages of their English learning processes and depend less and less on working memory as they improve their linguistic inventory. Considering that our participants are also at initial stages of proficiency, the results make sense. To this end, it can be argued that the participants of the current study also are sensitive to working memory differences as their linguistic capacity continues to develop.

Affective factors were also of interest in the current investigation. The results obtained from correlation and regression analyses demonstrate that L2 listeners are also quite sensitive to differences in anxiety and willingness to listen in L2 variables. While anxiety was found to be a debilitating factor, willingness to listen proved to be a facilitator variable in listening comprehension. In a sense, the two affective variables can be argued to comprise the ying and yang. The previous studies on listening anxiety also underline the debilitating effect it exerts on the comprehension process. In one of the earliest works in the literature of L2 listening anxiety, converting a reading anxiety scale into a listening anxiety scale, Elkhafaifi (2005) investigated whether listening anxiety existed in language classes and how it was related to L2 listening comprehension among a group of learners of Arabic as a foreign language. The results clearly demonstrated that along with general language classroom anxiety, there was also a unique concept of listening anxiety with its own dynamics, and that listening anxiety was negatively correlated with listening comprehension. Following this groundbreaking study, a few other scholars also acknowledged the strong relationship between listening anxiety and L2 listening comprehension. One such study by Namaziandost et al. (2018) set out to investigate the effect of working memory and listening anxiety on L2 listening comprehension among a group of EFL learners. The results emphasized that listening anxiety strongly and negatively correlated with L2 listening comprehension. The frequently documented negative correlation between listening anxiety and L2 listening ability unequivocally shows that listening anxiety has the potential to impair efficient cognitive processing of the incoming aural input. In this sense, the current study corroborates the findings of Elkhafaifi (2005) to some extent. While Elkhafaifi (2005) and Namaziandost et al. (2018) reported a fairly large correlation between the two variables, the results of our study

indicated a weaker correlation. The difference may lie in the fact that the participants in Elkhafaifi (2005), as the author also underlines, learnt Arabic as a foreign language, a language with a totally different alphabet and a huge distance between the learners' culture and that of the target language population. The two factors may have resulted in a higher level of anxiety among the participants. Another possible explanation of the discrepancy between the results might be the proficiency level of the participants. As in the case of working memory, it might be that the strength of association between anxiety and listening comprehension weakens over time as participants add to their linguistic repertoire. For example, Atasheneh and Izadi (2012) reported a weaker correlation between listening anxiety and L2 listening comprehension than that in the present study. Their participants were English major students with an assumedly higher level of proficiency in English than the participants in the current study. In the study by Namaziandost et al. (2018) on the other hand, the participants were pre-intermediate learners of English while the current study recruited a group of students with intermediate to upper intermediate proficiency levels. Some other studies on the other hand reported results parallel to those obtained in the current study with listening anxiety yielding negative moderate correlations with listening comprehension (Brunfaut & Révész, 2015; Kim, 2000; Serraj & Noordin, 2013; Tayşi, 2019). The participants in these studies resemble the participants of the current study in terms of proficiency levels and purposes for learning English, i.e. studying at a university program. This can be taken as another indicator that proficiency may have an impact on the strength of association between listening comprehension and listening anxiety. In addition, the findings of the SEM analysis, which are discussed in detail in the remainder of this section, highlight that L2 listening anxiety has an indirect effect on L2 listening comprehension over metacognitive awareness. Such a complex relationship has been underlined through a few studies that anxiety not only affects L2 listening comprehension directly but it might have some indirect effect on the process via some other components involved in the process. For example, Golchi (2012), and Wang and MacIntyre (2021) reported a negative correlation between metacognition and L2 listening anxiety. Both studies pinpointed that with increasing anxiety levels, the listeners' metacognition decreased. Similarly, Vafaee (2016) underscored that L2 listening anxiety might be related to L2 listening comprehension over its negative effect on working memory capacity, which in turn correlates positively with L2 listening comprehension. As Wang and MacIntyre (2021)

argue, L2 listening anxiety might be draining L2 learners' cognitive and metacognitive resources that would otherwise be used in processing the incoming stimuli, which might in turn lead to comprehension problems.

The other affective variable we were interested in investigating was the willingness to listen in L2. Although there are not any studies on the relationship between this specific construct and L2 listening comprehension, our results underline that it might be as important as L2 listening anxiety. Operating in the reverse direction with listening anxiety, willingness to listen can be an important contributor of L2 listening comprehension by keeping the listeners on task. There are a few other studies on the relationship between similar concepts that might potentially push the learner towards listening (e.g. self-concept, enjoyment, listening self-efficacy, etc.) and listening comprehension. Tafaghodtari and Vandergrift (2008) for example, investigated the relationship between language learning motivation and listening comprehension. The results indicated a moderate correlation between learning motivation and listening comprehension. In a similar vein, Fatikhah et al. (2019) looked into the relationship between learning motivation and listening comprehension. The findings were similar to those obtained by Tafaghodtari and Vandergrift (2008) with moderate links between the two variables. Although both studies made use of scales to measure general motivation towards learning a language, the results are valuable in that the significant link between a driving factor and listening comprehension is underlined. Self-efficacy was another variable addressed with regard to the relationship between positive emotions and listening comprehension. In a similar vein, Rahimi and Abedini (2009) investigated whether there existed a relationship between self-efficacy beliefs and listening comprehension. The results suggested that, with a large correlation obtained, self-efficacy was a significant factor in explaining listening comprehension differences among listeners. Investigating the same construct using the same instrument as Rahimi and Abedini (2009), Tabrizi and Saeidi (2015) also underlined the important role of self-efficacy in listening comprehension. In a recent study by Wang and MacIntyre (2021) a more context-specific variable, i.e. enjoyment in listening, was investigated with regard to its relation to listening comprehension, listening anxiety and metacognitive awareness. This is an important research in that both sides of affect, metacognition and listening comprehension were studied together at the same time. Therefore, the results of the study are discussed in more detail in the remainder of this section. For the first research question, limiting our

discussion to the results regarding the relationship between enjoyment in listening and listening comprehension, the present study can be argued to corroborate the findings of Wang and MacIntyre (2021) to a large extent. As two similar context-specific concepts which might act as a driving force, both willingness to listen and enjoyment in listening have been found to yield moderate correlations with listening comprehension. These similar findings in both studies underline that listening comprehension is sensitive not only to listening anxiety but also to positive feelings at the same time. Another striking similarity between the current study and Wang and MacIntyre (2021) is that anxiety and enjoyment, equivalent of willingness to listen in the present investigation, yielded moderate negative correlations with each other. This finding is also noteworthy in showing that both anxiety and a driving force, however it is conceptualized or named, coexist in the process of listening comprehension. As Wang and MacIntyre (2021) also emphasize, the two constructs are not the extreme ends of a continuum but they are different emotions cooperating in the process of listening comprehension. They further elaborate the coexistence of the two variables as follows:

> Enjoyment and anxiety may even cooperate from time to time in L2 listening; enjoyment serves to broaden listeners' thoughts and encourage them to approach interesting listening materials, whereas anxiety serves to narrow their focus to specific information (p. 505).

As also evident from the results of the present investigation, the suggestion put forward by Wang and MacIntyre (2021) seems to be well justified. Interacting in different directions with listening comprehension and with each other, each variable has its own contribution to the listening comprehension process.

Metacognition was another construct addressed with regard to its links to listening comprehension. Our findings revealed that metacognitive awareness, in other words the listeners' knowledge about themselves and process of listening in L2, moderately correlates with listening comprehension. Although there is an inconclusive and a small body of literature regarding the contribution of metacognition to L2 listening comprehension, these results comply with most of the previous studies that reported moderate correlations between metacognition and L2 listening comprehension (Goh & Hu, 2014; Tafaghodtari & Vandergrift, 2008; Ummah & Arifani, 2017; Yulisa, 2018). The important role metacognition plays in the process is also highlighted by some intervention studies aiming to find out whether explicit training on how to listen strategically benefits listening comprehension The aforementioned studies followed the

common experimental procedures: dividing the participants into two groups as control and experimental, providing explicit strategy training for the experimental group, and measuring the participants' listening comprehension and metacognitive awareness both prior and after the intervention phase. Adopting such a design, several scholars reported findings indicating that the groups receiving explicit metacognitive instruction enjoy improvements in L2 listening comprehension and metacognition simultaneously (Al Jahwari et al., 2019; Bozorgian & Alamdari, 2017; Fathi & Hamidizaadeh, 2019; Fiani et al., 2019). The results of the current study, taken together with the results of the intervention studies, underline that metacognition has a considerable impact on L2 listening comprehension.

However, the L2 listening literature is not without controversies regarding the effect of metacognition. There are also studies reporting weaker (Bourdeaud'hui et al., 2020; Nejad & Farvardin, 2019; Sağlam, 2014; Salehawati et al., 2018; Vandergrift & Baker, 2015; 2018; Wang & Treffers-Daller, 2017; Wang & MacIntyre, 2021) and larger (Amin et al., 2011; Kassem, 2015; Kök, 2018) correlations between metacognition and L2 listening comprehension. When we take a closer look at some of these studies to reach an explanation for the difference in correlation sizes, it is revealed that the answer might be lying within the characteristics of participants recruited. In a meta-analysis on the relationship between metacognition and L2 listening comprehension, In'nami, Cheung, et al. (2022) indicated a moderator effect of participant group characteristics on determining the strength of this relationship by stating "[…] the relationship between metacognitive awareness and listening comprehension was moderated by publication type, the response format of listening comprehension tests, and participant type" (p. 31). To be more specific, Bourdeaud'hui et al., (2020) for example studied listening comprehension in an L1 setting and recruited young learners enrolled in an elementary school. It might be that the participants' reported use of listening strategies does not reflect the actual case or that they indeed use strategies but not efficiently. It is important to remember that the relationship between vocabulary knowledge and listening comprehension was also reported to be weak among the same group of participants. This indicates that age and proficiency might play an important role in determining how well the listener can make use of the available resources in the process of listening comprehension. In a similar vein, in two consecutive studies with young French immersion students, Vandergrift and Baker (2015, 2018) reported weak correlations

between metacognition and listening comprehension. To make things even more complicated, there are also studies reporting negative weak correlations between listening comprehension and metacognition. Studies by Nejad and Farvardin (2019) and Wang and MacIntyre (2021) investigated the links between two variables among relatively less proficient EFL learners and obtained reverse correlations. The authors of both studies underlined that stronger and positive correlations could have been obtained provided that the participants were from higher proficiency groups. In an attempt to justify the weak correlations obtained between the two variables, Vandergrift and Baker (2018) pinpointed the fact that the participants in their study are in the beginning stages of their language learning process:

> Specifically, unlike more skilled language learners, the less skilled learners in this study do not yet appear to possess the metacognitive awareness necessary to enhance their listening by using such tools as contextual clues, background knowledge, and L2 vocabulary knowledge for inferencing (p.95).

To this end, a closer look at the studies reporting larger correlations between metacognition and listening comprehension could prove useful in our efforts to determine whether proficiency contributes to strength of association between the two variables. Kök (2018) reported a very large correlation coefficient between comprehension and metacognitive strategy use. The participants of the study were a group of students enrolled in English Language Teaching department, which means that they had been learning English for more than ten years as well as were advanced language learners. Similarly, Kassem (2015) studied metacognition among a group of English major university students with a similar background of English learning to that of the participants in Kök (2018). That both studies reported large correlations and recruited advanced learners highlights the importance of proficiency in determining the strength of association between metacognition and listening comprehension. It can be argued then that how much benefit a certain group of listeners can get from employing metacognition in the process of oral comprehension is highly dependent on proficiency. As proficiency increases with new vocabulary and grammar structures introduced to the linguistic repertoire, listeners gain more and more control over their metacognition and exploit their knowledge about the process to facilitate the listening comprehension process itself. Larger contributions of metacognition to L2 listening comprehension might also be stemming from the inherent feature of susceptibility to changes through explicit instruction. Although neither of the studies explicitly state, participants of the two studies come from ELT students,

prospective language teachers, who may have been delivered some metacognitive instruction. This may have led metacognition to prevail in determining success in listening comprehension. Also Vandergrift and Baker (2018) argue that metacognition develops over time with instruction and emphasize the developmental nature of this component. Considering the results of the current study and those of the existing studies, it can be asserted that explanatory power of metacognition in L2 listening comprehension gradually increases as L2 learners proceed from beginner to advanced proficiency levels.

All in all, provided that a certain group of listeners has the necessary linguistic capacity and training in metacognition, it is evident from the findings that awareness about the processes involved in listening comprehension, the ways to handle unfavorable cases such as encounters with unknown vocabulary or difficult structures, and how to plan for listening has a considerable relationship with listening comprehension. At the very least, it is as important as the affective variables with close correlation values with listening comprehension.

4.2.2. The contribution of components to comprehension across the subskills of listening

Another purpose of the present investigation was to find out if the relationship between the independent variables and oral comprehension varies across different subskills of listening, i.e. listening for details, listening for main ideas, and inferencing. To the best of our knowledge, there are not any studies conducted on this specific matter up to date. There a few studies delving into task features but not specifically highlighting the inherent features of subskills of listening. Li (2019) as an example, looked into how vocabulary knowledge was related to GEPT scores, which is a criterion-referenced English proficiency test. In addition to overall listening comprehension, the author also took into consideration the scores obtained from different sub-sections of the listening test which consisted of a short talk, questions, and dialogs. The results underlined that vocabulary knowledge yielded stronger correlations with scores obtained in short talks than those obtained from questions and dialogs. The author asserts that short talks involve the listeners more than the other sub-parts since they take more time to listen and require the listeners to attend to many details about a particular subject.

Though not specifically adopting a subskill-wise approach, Aotani (2011) reported correlations between vocabulary and grammar knowledge, metacognitive awareness and

L2 listening comprehension across two different listening texts varying in length and requirements. One of the texts was shorter in duration and included a short conversation while the other text was longer and included short talks and conversations. The researcher did not reflect on the varying correlations obtained for the three components across the two texts, probably because there was no substantial difference. However, it was observed that grammar knowledge was more strongly connected to L2 listening comprehension in the longer listening test which tapped the participants' comprehension of the gist as well as their accuracy in finding out the specific information in the text. Similarly, while vocabulary knowledge better predicted success in L2 listening comprehension in the short text than grammar knowledge, in the longer text it was grammar knowledge that prevailed.

In another study by Bian et al. (2019), the relative effect of vocabulary knowledge on listening comprehension was measured across multiple-choice and gap filling sub-sections of the listening material. The listening material used in the study was composed of interviews and a lecture accompanied by multiple choice and gap filling questions respectively. The strength of association between vocabulary knowledge and multiple choice scores was weaker than that between vocabulary knowledge and gap filling scores. The authors underlined that interview questions measured understanding of the gist and partial details, which may have led the listeners to employ top-down instead of bottom-up processes. On the other hand, the comprehension questions accompanying the lecture required the participants to fill the gaps with certain words in the listening test, which might have resulted in their using more bottom-up processes e.g. drawing on their vocabulary knowledge more than they did in the multiple-choice task. In other words, the researchers speculate that listeners may have adjusted the way they benefit from the available resources based on the requirements of a specific task.

There is also support from L1 listening research for the moderator effect of different tasks on the association between components and comprehension. Kim and Phillips (2014) scrutinized the relationship between vocabulary knowledge and comprehension monitoring and listening comprehension by administering two different listening texts. One of the listening tasks demanded the participants to point to the correct picture that depicted the sentence they had just heard. The other task required the participants to answer a series of comprehension questions addressing details about the characters, and problems and resolutions in the narrative text. The results suggested that both vocabulary

and comprehension monitoring enjoyed significantly stronger correlations with listening comprehension on the latter task. In a similar vein, two consecutive studies by Kim (2015, 2016) addressed the relationship between several components e.g. vocabulary and grammar knowledge, working memory, and listening comprehension. Both studies highlighted that the overall contribution of individual components to listening comprehension was highly susceptible to task effects. For example, in Kim (2015) the correlation between vocabulary and grammar knowledge and comprehension varied from strong to moderate across different tasks. Similarly, Kim (2016) documented moderate and weak correlations between grammar and vocabulary knowledge and L2 listening comprehension across different listening tasks.

Both L1 and L2 listening studies, though too few in number and not specifically addressing different subskills, underline that different tasks might entail varying strengths of associations between a certain set of components and L2 listening comprehension. When taken together with previous studies, the findings of the present study might prove to be a valuable attempt to delve into differential requirements of different subskills of listening. As also is the case in the L2 and L1 listening studies mentioned, the strength of association between the variables and comprehension varied across listening for details, listening for main ideas, and inferencing. Whereas linguistic variables, i.e. grammar and vocabulary knowledge yielded large correlations with listening for details, the strength of association between these two variables and comprehension decreased to moderate in listening for main ideas and to moderate and weak respectively in inferencing. As Bian et al. (2019) also highlight, listeners may have switched between top-down and bottom-up processes to make meaning of the text based on the purpose of listening. Another possible explanation for the decreasing correlation between the components and listening for main ideas and inferencing might be attributed to ceiling and floor effects observed in the subskills respectively. Overall, the participants' mean scores in listening for main idea scores were closer to the maximum score possible whereas their scores on the inferencing subsection were closer to the minimum score obtained. The lack of distance in the ranges of the scores might have resulted in poor performance of component skills in explaining listening comprehension variance. That the participants obtained quite high scores in listening for main ideas and low scores in inferencing without being much affected by component skills might have some implications for practitioners, which is discussed in the next section.

It is also evident from the decreasing correlations between component skills and comprehension across different subskills that successful comprehension requires different components to prevail interchangeably. While listening for details requires listeners to pay more attention to specific words and grammar structures, it is not the case for listening for main ideas and inferencing, processes that involve a more holistic view of the topic and address information beyond words and sentences. It is also noteworthy that despite the decrease in the strengths of associations of linguistic components and working memory; metacognition, which can be taken as more of a top-down process than bottom-up, persists in its strength of association with comprehension across all subskills addressed in the current study. This is also an indicator of listeners' active decision making regarding the use of resources available in the process of text comprehension. As for the effect of emotions, as measured through listening anxiety and willingness to listen constructs, the moderate correlations mostly kept constant across the subskills. The only decrease was observed in the correlation between WTL and listening for main ideas. It can be argued, then, that emotional variables are persistent with regard to their effect on comprehension across different subskills compared to the other variables. It follows from our findings and those obtained from previous studies that text comprehension might require the listener to adjust their attention to certain features of the text depending on the requirements of the task at hand. As Vandergrift and Baker (2018) also suggest, authentic texts represent real-life spoken language which require listeners to switch back and forth between focusing on main ideas, details, and making inferences. Parallel to the changing focus, listeners may favor one specific resource over another, which results in differential correlations obtained for different subskills. To this end, it is strictly suggested that researchers and practitioners alike take into consideration the inherent nature of different subskills before trying to come up with generalizations about the relationship between certain variables and oral text comprehension.

4.2.3. The interaction among the components in the L2 listening process

Finally, the last purpose of the present study was to put forward a multi-dimensional componential model of L2 listening with linguistic and affective variables, metacognition, and working memory addressed all at the same time. Considering most of the previous studies which informed the field only partially by including these variables in isolation, our study, we reckon, will provide a better and a more comprehensive

panorama of the complex inner structure of L2 listening comprehension. Hopefully, it will also provide further researchers and practitioners with a robust model to test. Collecting the pieces of a puzzle together, we attempted to reach a model that brings together the motives of independent studies up to date. Put differently, the relationships we tested among the variables, be it causal or correlational, are rooted not only in our data but in the literature of oral comprehension itself as well. What we did was to dig into the details of arguments, discussions, and speculations the researchers in the field put forward previously. In a sense, the final model we have come up with should serve as a backup for what previous research has argued about oral comprehension as well as yielding statistical values which fall within acceptable and, if possible, plausible statistical ranges. This part of the paper is devoted to explaining the rationales behind testing different models and deciding on the final model.

We first started with a model in which all the variables addressed in this study are hypothesized to contribute to listening comprehension independently from each other. Most previous studies handled different variables i.e. vocabulary knowledge (Ataş, 2018; Bian et al., 2019; Bonk, 2000; Li, 2019; Matthews; 2017; Matthews & Cheng, 2015), grammar knowledge (Babayiğit & Shapiro, 2020; Oh, 2016; Sağlam, 2014), listening anxiety (Adnan, Marlina & Annisa, 2020; Atasheneh & Izadi, 2012; Elkhafaifi, 2005; Tayşi, 2019), metacognition (Amin et al., 2011; Kassem, 2015; Kök, 2018; Salehawati et al., 2018; Ummah & Arifani, 2017; Yulisa, 2018), and working memory (Andersson, 2010; Call, 1985; Fay, 2012; Onaha, 2010; Tsuchihira, 2007) as independent constructs bearing unique contributions to comprehension. Therefore, the first model we tested depicted the relationship between listening comprehension and the independent variables as a linear one where all variables contribute to comprehension without interacting with each other. In other words, the independent variables were assumed to be causing and explaining differences in listening comprehension but not in each other. The results of the structural equation modelling suggested that the model was significantly far from explaining the real underlying structure in the process of oral comprehension. This led us to try out new models in which the independent variables not only interacted with listening comprehension but also with each other.

In the second model, correlational links among the variables addressed were introduced in order to reach a better fitting pattern. The reason for introducing correlational rather than causal links is that most of the previous studies did not directly

suggest a cause-effect relationship among the independent variables we addressed. For example, Adams et al. (1999) examined the relationship between working memory and vocabulary knowledge in a correlational study, and found that there was a significant interaction between the two. Similarly, Andringa et al. (2012) reported a significant moderate correlation between working memory and the aggregate of some linguistic variables i.e. vocabulary, grammar, and segmentation. In a similar vein, Asadi (2020) looked into several factors including working memory, grammar knowledge, morphological knowledge, phonological awareness, and speed of processing with regard to their effect on listening comprehension. The reported correlation between both vocabulary and grammar knowledge, and working memory was moderate. Florit et al. (2009) also reported correlations between working memory and vocabulary knowledge, though with weaker effect sizes. In another study by Masrai (2019), working memory was reported to moderately correlate with both aural and written vocabulary knowledge. Vulchanova et al. (2014) reported moderate correlations between working memory and vocabulary knowledge while examining the effect of vocabulary knowledge, working memory and L1 competency on L2 listening comprehension. In addition to the moderate correlations obtained in the current study, the reported moderate correlations in several previous studies indicated shared variance between these variables. Therefore, we proposed a covariance link between vocabulary and grammar knowledge, and working memory.

Furthermore, based on our findings that there existed a significant relationship between metacognition, and grammar and vocabulary knowledge, a covariance link between linguistic variables and metacognition was proposed. In a study by Wang and Treffers-Daller (2017), a similar relationship was reported between vocabulary knowledge and metacognitive awareness. Informed by the current findings and those in Wang and MacIntyre (2021) we also proposed a correlational link between the two affective factors, i.e. listening anxiety and willingness to listen in L2. The fact that the two variables negatively and moderately correlated with each other signaled to a shared covariance between the two. In the literature, there are not any studies addressing a positive and a negative emotional factor together apart from Wang and MacIntyre (2021), who examined the relative effects of metacognition, listening anxiety, and enjoyment in listening on listening comprehension. The study highlighted the significant negative moderate correlation between enjoyment and listening anxiety. The other two covariance

links were between linguistic components and the two affective variables. As our results highlighted that linguistic variables correlated moderately with listening anxiety and willingness to listen in reverse directions, a necessity to investigate these relationships in a model arose. The final covariance relation we proposed was between metacognitive awareness and working memory as the two variables correlated significantly and moderately with each other.

Adding covariance relations between the independent variables significantly improved the fit indices of the model but it still fell short in uncovering the complex structure of listening comprehension. What remained for us to improve the model so that it could capture a better picture was adding causal as well as covariance relations among the independent variables, leading to a model with more than one latent variable, i.e. L2 listening comprehension. Therefore, we tested another two models with causal relations added to the equation. The first causal link added to the model was that between linguistic variables and working memory. Scholars mostly remained hesitant to advocate that there existed a causal relationship between these two variables. For example, Vandergrift and Baker (2018) comment on a possible effect of linguistic variables on working memory as follows:

> For the young learners in this study, WM should improve as L2 language proficiency increases. Greater L2 language proficiency helps listeners retain and process increasingly larger amounts of meaningful speech. Once WM improves, listeners will be able to concentrate on the content of what they hear, which is important to listening skills (p.93).

In a similar vein, Bourdeaud'hui et al. (2020) hesitantly associate low level of vocabulary knowledge with low performance in working memory, and thus in L2 listening comprehension as:

> The descriptive results of this study also revealed that non-native speaking students had a disadvantage in the area of verbal working memory and had a more limited vocabulary knowledge in the Lsch which could have a mediating effect on their performance in listening comprehension (p. 23).

Adams et al. (1999), among others, question the most the assumed relationship between working memory and vocabulary:

> The causal nature of this relationship has been the subject of much debate and the correlational nature of the present study is not informative in this regard. However, the most likely account now seems to be that the relationship is interactive; not only do phonological memory skills influence long-term learning, but word knowledge affects phonological memory performance (p.371).

Taken together with the results we obtained, these comments by previous researchers gave way to the introduction of a causal link between linguistic components and working memory in our final model. Also added to the model were causal links between affective variables and working memory over metacognitive awareness. Along with significant moderate correlations among listening anxiety, willingness to listen, metacognitive awareness, and working memory; what Wang and MacIntyre (2021) speculated about the possible causes of listening difficulties with regard to the relationship among these variables was effective in our decision to insert these paths to our model:

> This may be part of a vicious cycle wherein high anxiety and low enjoyment might consume cognitive resources, and narrow the material available for cognitive processing, leading to greater comprehension difficulties and poorer performance (p.505).

As Wang and MacIntyre (2021) suggest, positive and negative feelings towards listening lead to changes in how successfully listeners can exploit their metacognitive awareness. Another study by Golchi (2012) addressing the effect of listening anxiety on strategy use and listening comprehension suggested that listening anxiety has a negative effect on strategy use with higher levels of anxiety leading to decreases in strategy use. Kassem (2015) on the other hand discovered that listening self-efficacy beliefs, a concept equaling to willingness to listen in L2 in the current study, were strongly associated with listening strategy use. Higher scores on self-efficacy beliefs questionnaire were associated with higher scores on strategy use measure. Considering the arguments put forward by these scholars and the SEM results indicating a strong link between affect and metacognition, a causal link between the affective domain and metacognition then is a justified one. While positive feelings are associated with more cognitive space available for processing the stimuli encountered, negative feelings bring about a decrease in cognitive resources available. Along with high susceptibility to linguistic variables, sensitivity of cognition to affective variables assigns a situation-specific state to working memory rather than a trait-like concept. In other words, working memory capacity is not a static construct but dependent on other individual characteristics thus being highly context dependent as the model of working memory put forward by Just and Carpenter (1992) suggests.

Based on the significant correlations between linguistic components and emotional variables, causal paths were also drawn between these variables. Along with the

significant path analysis findings, the results obtained by Elkhafaifi (2005) and Golchi (2012) regarding the effect of proficiency and year of study on L2 listening anxiety were influential in our decision to insert a causal link between linguistic components and affective variables. Both studies pinpointed that with increasing experience in the target language and improvement in proficiency levels, L2 listening anxiety showed a decreasing pattern. Finally, based on the findings of Goh and Hu (2014) suggesting that students with higher proficiency levels obtained higher metacognition scores, we proposed that, with increasing scores on the linguistic variables, metacognitive awareness would also increase. Therefore, linguistic variables were causally linked to metacognitive awareness in the third model. However, due to statistical insignificance, the fourth model did not include a direct causal link from linguistic components to metacognition. The final model was more successful than all the other three models in capturing the complex structure of text comprehension with linguistic and affective variables, metacognition and cognition are all intertwined with each other and L2 listening comprehension in sophisticated manners.

The closest model to our model was put forward by Vafaee (2016) who investigated how vocabulary and grammar knowledge, metacognitive awareness, L2 listening anxiety, and working memory related to L2 listening comprehension. The study is an invaluable contribution to the L2 listening literature as it attempts to address component skills from all three domains, i.e. linguistic, affective, and cognitive, all at the same time and to model their relevance to L2 listening comprehension. However, a closer inspection of the model revealed important weaknesses. First and foremost, the model did not address the other side of the emotional domain, i.e. a construct denoting positive feelings towards L2 listening. Considering the existing literature on this side of the affective domain and the findings of the present study, a model neglecting this construct yields a rather incomplete picture of the underlying structure of L2 listening comprehension. Second drawback of the model was the heavy reliance of the researcher on the statistical values rather than the literature itself. Consequently, the model granted the component skills trivial roles in explaining variance in L2 listening comprehension. For example, working memory was thought to play a peripheral role in which it is assumed to only affect L2 listening comprehension directly and to be adversely affected by L2 listening anxiety. Potential interactions between this very construct and the other component skills were overseen, which deprives the construct of its situation-specific feature to a large extent. This in turn

leads to a false impression that this construct is not susceptible to intervention by teachers. Similarly, L2 listening anxiety was only assumed to be related to L2 listening comprehension through its effect on working memory, which also neglects the more complex interaction between this affective factor and the other component skills. Not much different from the other two peripheral components, metacognition was also granted an inferior role in the model as it was hypothesized to have a direct effect on L2 listening comprehension only, which oversees its sophisticated relationship with the other component skills. Another lacking point of the model, perhaps as important as neglecting the other side of the affective domain, is that it hypothesizes linguistic variables to make individual and isolated contributions to L2 listening comprehension without interacting with the other component skills. Considering the highlighted importance of these components in the existing literature, it can be argued that sparing an isolated role for these variables decreases the explanatory power of the model to a substantial extent.

Informed by the statistical values as well as the arguments and speculations of the existing studies accumulated over time, our model, on the other hand, grants each and every one of the variables complicated roles in which they are assumed to have high levels of interactions with one another. Among the components addressed, linguistic variables are hypothesized and also proved to play a foundational role as they affect all the other independent variables directly and indirectly as well as the dependent variable of text comprehension. In this sense, the model successfully reflects the construction integration model by Kintsch (1988) which also depicted text comprehension as a multi-layered structure. The final model also lends strong support for the lexical quality hypothesis (Perfetti, 2007), according to which one's representational lexical quality, which includes a word's semantic, syntactic, and morphological features, is the key to meaning integration in comprehension, and it implies the significance of the fundamental language skills to listening comprehension. Similarly, the compensatory model by Bernhardt (2005) which grants linguistic factors a central role in determining success in comprehension is also strongly supported by the final model. Though proposed for L2 reading comprehension, the three models assign linguistic variables a foundational role in affecting the process of text comprehension. Our model not only puts forward that linguistic components are the major contributors to L2 listening comprehension but it also highlights that a change in the foundational skills will lead to a snowball effect and bring about greater changes in the other variables as well, i.e. affect, metacognition, and

working memory. Improvements in listeners' linguistic repertoire have the potential to bring about improvements in emotional well-being towards listening which in turn will lead to more successful management of cognitive sources by relieving the cognitive burden on listeners. As Wang and MacIntyre (2021) also suggest, successful use of cognitive sources will inevitably result in increased performance in text comprehension.

To sum up, the present study serves three-fold purposes. First of all, it is highlighted by the findings that listening comprehension is a multi-faceted process with linguistic, affective, metacognitive and cognitive factors at play all at the same time. It is essential to take into consideration each and every one of these variables to explain variance in L2 listening comprehension. Second, the effect of each variable is subject to change across different subskills involved. While a certain variable prevails in listening for details, it is not the case in listening for main ideas, and inferencing. Therefore, it is advised that researchers be careful while coming up with generalizations about the predictive power of any variable in listening comprehension. Finally, listening comprehension does not only involve linear relationships with certain independent variables but also interconnections among them. Linguistic and affective variables, metacognition, and working memory interact with each other directly and indirectly to form a complex underlying structure of oral comprehension. It is vital to take into consideration this underlying complex web of interactions while explaining the process itself.

5. CONCLUSION, IMPLICATIONS AND SUGGESTIONS FOR FURTHER STUDIES

5.1. Conclusion

Adopting a componential approach, the current study tried to fulfill three objectives: a) to find out the effect of vocabulary and grammar knowledge, L2 listening anxiety, willingness to listen in L2, metacognitive awareness, and working memory on L2 listening comprehension, b) to find out whether the effect of these independent variables varies across listening for different subskills i.e. listening for main ideas, listening for details, and inferencing, and c) to investigate how the independent variables interact with each other thus providing a model depicting the underlying structure of L2 listening comprehension. A group of 212 university students taking English preparatory classes at two different universities were recruited for the study. The proficiency levels of the participants ranged from intermediate to upper-intermediate. Several instruments were used to collect data: Vocabulary Levels Test (Schmitt et al., 2001) for vocabulary knowledge, a researcher-made grammar test for grammar knowledge, *Foreign Language Listening anxiety Scale* (Polat & Erişti, 2016) for L2 listening anxiety, *Willingness to Listen in L2 Scale* (Akdemir, 2016) for willingness to listen in L2, *Metacognitive Awareness Listening Questionnaire* (Vandergrift et al., 2006) for L2 listening metacognitive awareness, and forward digit-span task for working memory. The instruments underwent a rigorous expert opinion procedure first and then were piloted with a similar group of learners receiving English preparatory classes at a different university to ensure reliability and validity. The study was conducted online due to COVID-19 pandemic restrictions over a four-week period under the supervision of course teachers.

Important findings were obtained regarding the effect of component skills on L2 listening comprehension. First of all, all the variables addressed yielded significant and moderate to strong correlations with L2 listening comprehension. This result underlines that L2 listening comprehension is a complex skill in which linguistic, affective, cognitive, and metacognitive factors are all at play simultaneously and all should be addressed to improve L2 listening comprehension. The largest individual contributor was found to be working memory, followed by grammar and vocabulary knowledge, metacognitive awareness, and willingness to listen in L2. Listening anxiety was, as

foreseen, found to have a debilitating effect on L2 listening comprehension. Both grammar and vocabulary knowledge, the two linguistic components, explained a large variance in L2 listening comprehension success among the participants with a slightly higher effect of grammar knowledge. This is important as grammar knowledge has not been addressed as frequently as vocabulary knowledge in L2 listening literature. Contrary to expectations, working memory yielded a larger individual correlation than each one of the linguistic components of vocabulary and grammar knowledge, which might be attributable to learners relying on memorization to compensate for deficiencies in the linguistic variables. Affective variables were also important predictors of success in L2 comprehension as L2 listening anxiety and willingness to listen in L2 correlated in reverse directions with listening comprehension. Although most previous studies did not address an affective variable denoting positive feelings such as willingness to listen in L2 besides L2 listening anxiety, the two variables were found to coexist in the L2 listening comprehension process thus requiring attention for improving oral comprehension. Metacognitive awareness, though proven to be a far more important contributor of L2 listening comprehension among L2 learners with more advanced proficiency levels, was also found to be an important factor leading to differences in L2 listening comprehension with a moderate correlation observed. All in all, taken as a whole, the components addressed explain a large variance in L2 listening comprehension.

As for the effects of the independent variables on listening comprehension across different subskills, it was found that component skills do not hold the same explanation power in listening for main ideas, listening for details, and inferencing. How strongly each one of the variables is associated with different subskills depends on the difficulty of the task to some extent. The subskill which the component skills affected most has been found to be listening for details with 70% of the variance explained by the variables addressed. On the other hand, as ceiling and floor effects were observed in listening for main ideas, and inferencing scores respectively, the explanatory power of component skills has been observed to drop substantially. This finding suggests that L2 listeners might adjust what resources they employ and to what extent across different tasks which require paying attention to different parts of the listening text. For example, listening for details requires attention to specific vocabulary and as a result, the variance in comprehension attributable to vocabulary knowledge increases. On the other hand, listening for main ideas and inferencing tasks necessitate focusing on a broader

understanding as well as how vocabulary items come together in building propositions thus causing the effect of vocabulary to decrease and grammar knowledge to prevail instead. In a nutshell, the explanatory power of the component skills is dynamic depending on task requirements and while a larger variance in a given subskill

Finally, the study aimed to put forward a model of L2 listening comprehension which depicts how the component skills are related to each other. In this regard, multiple path analyses were conducted via structural equation modelling to reach a statistically and theoretically plausible model after careful analyses and investigations into the literature of L2 listening comprehension, a model depicting a complex web of interactions among the component skills was proposed. According to the model, the components addressed do not have simple linear relationships with L2 listening comprehension but demonstrate a rather complicated set of interactions with one another instead. The model puts linguistic variables at the center since a butterfly effect follows any change in vocabulary and grammar knowledge in the other component variables. Linguistic components are closely related to the two affective variables with increased linguistic knowledge leading to increased emotional well-being: lowering anxiety but increasing willingness to listen in L2 at the same time. Affective variables in turn determine how successful listeners can employ metacognitive strategies while listening. Higher levels of willingness to listen in L2 and lower levels of L2 listening anxiety are associated with increased metacognitive awareness. Successful employment of metacognitive awareness in turn determines how much momentary space in the working memory capacity is left for processing the incoming stimuli. An increased working memory capacity successively allows listeners to process the linguistic input more successfully and build a more comprehensive representation of the text, which increases the level of comprehension. Since working memory capacity can increase or decrease depending on how occupied the cognitive resources are with handling the situational obstacles such as task requirements, unknown structures and vocabulary items, emotional state, and lack of knowledge about the nature of the task and one's own performance, all component skills proved effective in the component skill of working memory, thus L2 listening comprehension. In sum, the model suggests that the effect component skills exert on comprehension of oral texts in L2 stems from a rather complex web of interactions between them, and that addressing all the component skills will lead to multiplied improvements in L2 listening.

In conclusion, the study yielded three important findings. First, listening comprehension is a complex process in which linguistic and affective variables, metacognition, and cognition play an important role. Second, the explanatory power of component skills in L2 listening comprehension changes across different subskills, underlining the moderating effect of task requirements. Finally, the component skills are not only associated with L2 listening comprehension but they are also closely intertwined with one another, which underlines the complex underlying structure of L2 listening comprehension.

5.2. Implications for the Language Classroom and L2 Listening Literature

The current study set out to investigate the construct of L2 listening comprehension in light of the componential approach. To this end, the present investigation aimed to shed light on how linguistic factors, i.e. vocabulary and grammar knowledge; affective variables, i.e. L2 listening anxiety and willingness to listen in L2; metacognitive awareness, and working memory affect the process of both overall L2 listening comprehension and the subskills of listening both individually and in cooperation with one another. In this regard, the study aimed to accomplish three purposes: a) to explain how much variability in L2 listening comprehension can be attributed to the variables under investigation, b) to determine whether the contribution of component skills to oral comprehension changes across listening subskills, and c) to come up with a plausible explanation of how these variables interact with each other in explaining this complex process by presenting the literature a sound model. Consequently, the findings of the current study have clear implications for practice and theory in three ways: 1) the contribution of four domains i.e. language knowledge, affect, cognition, and metacognition, to overall L2 listening comprehension, 2) the contribution of the four domains to oral comprehension across listening subskills, and 3) the interaction among the four domains in the process.

In order to provide a better understanding of how the study can contribute to classroom practices, the findings are separately interpreted for both overall L2 listening comprehension, and the subskills of listening. As the results of our study suggest for overall L2 listening comprehension, all the variables under investigation have their individual and significant contribution in explaining variance among learners' success in comprehension. Therefore, any attempt by the practitioners to improve their students in

all of the variables addressed in the study should also bring about improvements in overall L2 listening comprehension.

First and foremost, teachers need to be aware of the enormous contribution that L2 vocabulary makes to listening comprehension success. It is not surprising to see that L2 learners try to make meaning out of listening texts by first drawing on their vocabulary knowledge. Since vocabulary knowledge is one of the foundational skills for comprehension, either written or spoken, any effort put into building a fine repertoire of vocabulary knowledge will be of great benefit for the students to become successful in L2 listening comprehension. Considering the findings that vocabulary knowledge not only directly affects L2 listening comprehension but also is indirectly associated with it over its effect on the other variables addressed in this study, it can be suggested that improving students' vocabulary knowledge will have multiplied effects on listening comprehension. Therefore, L2 teachers should take their time and seize every opportunity to expand their students' vocabulary knowledge before expecting them to be successful in listening comprehension. In their efforts to promote a satisfactory level of vocabulary knowledge, language teachers could design explicit intentional vocabulary learning activities to increase the amount of time spent engaging with the target lexical items in the classroom. They could also maximize opportunities for incidental vocabulary learning from various input sources to consolidate and enhance explicitly taught lexical items by recruiting certain instruments such as graded readers and web 2.0 tools as they see fit.

Along with vocabulary knowledge, grammar knowledge is also another foundational skill for comprehension as also suggested by the findings. When it is considered that grammar knowledge functions as the glue to stick vocabulary items together in creating a meaningful representation of texts, it is reasonable to expect a large contribution from this foundation skill to text comprehension. The results of the current study meet this expectation with even a larger contribution of grammar knowledge than that of vocabulary knowledge and the practical implication is obvious for language classes: integrating grammar teaching in the teaching of four main skills i.e. reading, writing, listening, and speaking will help to equip language learners with the necessary knowledge of how individual words and phrases come together and build a meaningful text. This in turn will benefit L2 learners in their endeavor to make the best use of their vocabulary knowledge and combine individual vocabulary items to depict a meaningful representation of the text at hand. Faced with the so-called difficult dilemma of favoring

fluency over accuracy or favoring accuracy over fluency, language teachers generally prefer the option that suits their educational context better. More specifically, if they teach in an environment where they are expected to prepare their students for certain examinations emphasizing accuracy, they tend to design their courses in a way to promote accuracy rather than aiming to develop fluency. On the other hand, if they teach to students who need language for communication purposes, they go for fluency neglecting teaching of grammar comprehensively. However, as also suggested by the findings of this investigation, grammar knowledge is a vital foundational skill for comprehension of aural input, which is also an important part of communication, and time invested in building a sound body of grammar knowledge will pay off in terms of both fluency and accuracy. In order to achieve a balanced teaching of grammar structures and fluency at the same time, teachers may benefit from input enhancement techniques where the teaching of both receptive and productive skills is designed and even manipulated in a sense to highlight how certain grammar structures function in a specific discourse so that form, meaning, and use of a specific structure can be addressed at the same time. This might help teachers provide the learners with the vital knowledge of grammar structures in meaningful and real contexts where this knowledge applies. Consequently, L2 teachers will not have forsaken fluency or accuracy for the other.

As for the relationship between affective variables and overall L2 listening comprehension, the findings of the study suggest that the affective domain is also an important area to cater for in language classes. As also proposed by Krashen's (1982) affective filter hypothesis, language classes bear affective barriers to overcome and the results of the current study align with this idea. The two affective variables addressed in the study, i.e. L2 listening anxiety and willingness to listen in L2, have been found to function in opposite directions with the former affecting L2 listening comprehension adversely while the latter having a facilitative effect on the process of aural comprehension. Considering the findings, it would be wise to suggest that L2 listening classes will benefit from decreased anxiety levels and increased willingness to listen among L2 learners. Therefore, the time spent for finding ways to create an anxiety-free atmosphere and an environment rich in willingness to listen should prove fruitful for achieving higher levels of comprehension in the language classroom. To be more specific, investigating the factors leading to decreased levels of willingness and higher levels of anxiety is vital for promoting satisfactory levels of text comprehension. Based on the

items in the instruments used for measuring willingness to listen and L2 listening anxiety, among those factors responsible for decreases in affective well-being of L2 learners can be listed frequent encounters with unknown structures and vocabulary, listening texts with high rate of speech and unfamiliar accents, uninteresting or unfamiliar topics chosen for listening texts, and difficult or unfamiliar tasks. It is then not illogical to suggest that language teachers address these factors responsible for decreasing affective well-being of language learners. For example, language teachers can bring to the language classes level-specific texts so that the L2 learners will not encounter too many unknown grammar structures and vocabulary items. Similarly, as encounters with unknown grammar and vocabulary items are strongly related to deficiencies in vocabulary and grammar knowledge, improving L2 learners in these areas should also work for decreasing anxiety and increasing willingness to listen. Another important caveat for teachers could be that since listening comprehension is highly constrained by time due to its inherent nature and students cannot review the text whenever they wish as in reading, choosing listening texts with speech rates according to the level of the students would be wise in eliminating listening anxiety and increasing willingness levels. At least at the initial phases of listening instruction, audio recordings can be adjusted in terms of speech rate as slower texts might be easier to process thus providing the students with a sense of achievement and increasing emotional well-being. Similarly, different accents can be avoided in the early phases of listening instruction so that frustration and sense of failure can be avoided, and students can get accustomed to the process of oral comprehension first before facing challenges posed by unfamiliar accents. Another crucial point to take into consideration while choosing listening passages is how familiar and/or interesting the topic is to the learner group. Considering that unfamiliar and uninteresting topics may result in unwillingness and anxiety, choosing the topics democratically will bear great value in diminishing hard feelings towards L2 listening. It may not be possible to cater for every student's taste in selecting the topics but teachers can start with the wishes of those having the most difficulty in listening so that they can more easily adapt to the process and catch up with their peers. Last but not least, L2 teachers should be careful in planning listening tasks as unfamiliar and difficult tasks have the potential to cause a sense of failure thus leading to unwillingness and increased levels of anxiety. It might prove beneficial to proceed from more familiar to less familiar tasks as L2 learners gain automaticity and expertise in L2 listening and their linguistic repertoire develops. Once they have gained

enough confidence and automaticity in listening tasks, L2 learners will more easily adapt to more challenging tasks without being vulnerable to negative feelings.

Metacognition has been found to be another significant contributor to overall listening comprehension and thence deserves specific attention by L2 teachers. That metacognitive awareness is a construct which lends itself to training makes it an area for L2 teachers to improve. There is empirical support for the role of metacognitive awareness in the development of listening skills when we consider the findings of our study and those of intervention studies on teaching listening to language learners. Vandergrift and Baker (2018) suggest that metacognition develops over time as language learners progress in terms of proficiency, which underlines the importance of starting metacognitive strategy instruction early on in teaching listening. Language teachers can design courses to train L2 learners to be strategic listeners who can plan for and observe their own performance during the listening comprehension process. In doing so, they can equip the L2 learners with the necessary knowledge about the ways to cope with the difficulties encountered while listening such as guessing the meanings of unknown words from context. Moreover, students can be taught how to direct attentional resources to different parts of the listening text and switch between top-down and bottom-up processes based on the purpose of the tasks at hand. For example, they should recognize that listening for main ideas will not require focusing on details so that they can spare their attentional sources for a general understanding only. Similarly, L2 learners should be made aware that listening for details requires more attention to specific items in a listening text. Accordingly, they should be trained about the ways to identify those specific points such as detecting numbers, places, names, pronominal references, and cause and effect relationships. This way, L2 learners can engage in different listening tasks more efficiently. In a similar vein, L2 learners can be trained on how to prepare for certain listening tasks and what to expect from certain genres of listening texts so that they can make the utmost use of their existing linguistic and world knowledge in their efforts to reach a meaningful representation of listening texts. Another potentially useful way of promoting strategic listening would be to identify what strategies successful students employ while listening and then train struggling learners on these strategies accordingly. This will grant every student equal opportunities to achieve better text comprehension.

Seemingly, the most controversial results of the current study belong to the effect of working memory on listening comprehension. It has been observed that, contrary to

most of the previous literature on the relationship between component skills and listening comprehension, the highest individual contribution to listening comprehension comes from working memory rather than linguistic components. Seemingly not susceptible to instruction, there is not much teachers can do to better their learners in terms of working memory directly. However, as Just and Carpenter (1992) underline and the results of the structural equation modelling demonstrate, working memory capacity has a situation-specific feature that has the potential to make it dependent on other component skills. To be more specific, momentary working memory capacity is related to some other variables such as fatigue, and task difficulty according to the model proposed by Just and Carpenter (1992). In our model, we hypothesized working memory capacity to be contingent directly upon linguistic knowledge and metacognitive awareness, and indirectly upon affective variables. The results indeed suggest that working memory is, to a large extent, affected by these variables, which allows language teachers some room for improving this seemingly trait-like component skill. First of all, equipping the L2 learners with grammar and vocabulary knowledge will play an important role in helping students increase their momentary working memory capacity during listening. Encountering less unknown structures and lexical items will spare the working memory capacity for processing the incoming stimuli and building a mental representation of the text. Similarly, metacognitive awareness has been documented to affect working memory positively. Hence, it is another area where language teachers can help their students in overcoming working memory capacity deficiencies. Training in metacognitive strategies of planning and monitoring will help L2 learners to use their existing resources, be it linguistic or cognitive, more efficiently, thus compensating for deficiencies in momentary working memory. Along with direct contributors of working memory i.e. linguistic components, and metacognition, affective state is the indirect contributor to working memory over metacognition in our model. Higher levels of emotional well-being of L2 learners are associated with higher metacognitive awareness levels, which in turn is associated with larger working memory capacity. Considering this complex relationship between affective factors and working memory, language teachers might be recommended to overcome the affective barriers so that students can more comfortably manage their cognitive and linguistic resources during listening tasks. In summary, working memory does not only contribute to listening comprehension on its own but it mediates the effect of the other components on listening comprehension, which grants

some room for teachers to intervene and improve their students in this component skill. Considering the findings from the previous studies which underline that working memory ceases to be an important contributor over time as proficiency improves, the initial stages of listening training can be devoted to improving students in linguistic and affective variables, and metacognition. In doing so, language teachers might be able to lessen working memory capacity differences among language learners thus avoiding negative effects capacity deficiencies might exert on comprehension.

In addition to the predictive power of the component skills in explaining overall L2 listening comprehension, how strongly these components skills are associated with the subskills of listening comprehension has also been addressed in the current study. This is an important concern as it has the potential to provide valuable insights into differential requirements of each subskill thus allowing practitioners to identify the areas to improve for the subskill they address. The results regarding the different subskills underline that not each one of them has been found to strongly correlate with component skills. For example, main idea comprehension is not as much susceptible to differences in component skills as detail comprehension. Since a ceiling effect has been observed in this subskill, that is, nearly all the participants achieved maximum scores, it can be said that differences among the participants in terms of component skills do not have much to explain variance. Similarly, a sharp decrease has been observed in the predictive power of component skills in inferencing scores. This can be attributed to the fact that, unlike the situation in listening for main ideas, floor effects have been observed with the participants obtaining scores close to the minimum score. As shown by the findings, listening for details require the listeners to employ their component skills the most among the subskills. This in turn brings about an important implication: teachers should prefer to gradually go from teaching listening for main ideas, which even less competent learners can achieve without much effect of deficiencies in component skills, to listening for details, and finally inferencing, which require a great deal of expertise in the component skills to be successful. If language teachers try to address listening for details, and inferencing subskills early on in listening instruction, there might be unwanted consequences such as feelings of failure and apprehension among L2 learners since they might not be ready in component skills to meet the requirements of these subskills. Instead, starting with the subskill of listening for main ideas at the initial stages of teaching listening is highly recommended as teachers can promote automaticity in and

familiarity with the process of oral comprehension among L2 learners. In doing so, teachers will have the opportunity to provide their students with enough time for gaining the required expertise for the more challenging subskills of listening for details, and inferencing. By exposing L2 learners to listening texts with different genres and topics accompanied by different types of tasks aiming to measure a general understanding of the text, language teachers will be able to show their students what the listening comprehension process looks like in the convenience the subskill of listening for main ideas provide: even less competent learners can achieve a satisfactory level of understanding without much effect of all the variables. As L2 learners proceed from listening for main ideas to listening for details, and finally inferencing, they are likely to develop linguistically, affectively, and metacognitively, and cognitively as well, which will equip them with the necessary skills to cope with the challenges of the two latter subskills of listening comprehension. Provided that L2 learners are allotted enough time to master each subskill, a staged approach to listening subskills should promote positive feelings towards listening skill because of a sense of achievement. Therefore, L2 teachers should be aware of their students' readiness for different subskills and adjust what they expect from them accordingly.

The current study also has some implications for L2 listening literature. In a theoretical perspective, the results of the present investigation not only corroborate the arguments that the construction-integration model (Kintsch, 1988), and compensatory model (Bernardt, 2005) put forward but further propose a listening comprehension model with elaborately defined relationships between component skills and listening comprehension. The findings underline that listening comprehension is a complex skill requiring not only basic linguistic abilities but also working memory and other variables like metacognitive awareness, listening anxiety, and willingness to listen. Many of the previous studies investigated component skills in isolation and did not go beyond being a mere repetition of one another and emphasizing that the component skill they addressed should be improved for better comprehension. Although these studies addressing different component skills in isolation are valuable when taken together with one another, they fall short in depicting a comprehensive picture of listening comprehension. However, measuring the relative effect of different component skills on listening comprehension at the same time and identifying their relationship with each other in explaining listening comprehension has far greater value in scientific endeavors to

conceptualize the process. In this regard, the model proposed in the current study can be accepted as a valuable attempt to provide a comprehensive conceptualization of L2 listening comprehension with linguistic and affective variables, metacognition, and cognition all addressed at the same time. In the L2 listening literature, there is not a sound and robust model demonstrating how all these variables interact with each other and with listening comprehension. Instead, researchers tried to conceptualize L2 listening comprehension as a contributor to L2 reading comprehension by adopting the so-called simple view of reading framework, which is originally put forward to explain L1 reading literacy. Viewing L2 listening comprehension as a component of L2 reading comprehension is faulty as documented in the literature. In a study investigating listening and reading vocabulary of Chinese EFL students, Bian et al. (2019) found that there was a significant difference between listening and reading vocabulary of the participants with reading vocabulary size outperforming the listening vocabulary size. They concluded that reading vocabulary grew much earlier than listening vocabulary. Similarly, Oh (2016) also suggests that the order of skill mastery is reversed in L2 with listening comprehension being mastered way later than reading. It can be argued then that rather than being part of L2 reading comprehension, L2 listening comprehension has its own dynamics and needs to be looked into separately. Therefore, the field of L2 listening comprehension calls for a comprehensive model and the current study provides one. To this end, the proposed model can be tested in further studies whether it applies to different participants in different contexts and it can serve as a gateway to a theoretical model of L2 listening comprehension if verified in further studies. Moreover, the model has the potential to be used in detecting where listening comprehension difficulties of a certain group stem from, thus proving helpful in developing better diagnostic and intervention programs.

Another contribution of the current study to the literature of L2 listening comprehension is that not only overall comprehension but also comprehension in the subskills of listening i.e. listening for main ideas, listening for details, and inferencing has been addressed. When we delve into the existing studies on L2 listening comprehension, it can be seen that EFL learners have been assessed on L2 listening comprehension through a variety of listening tasks, such as multiple choice, matching, sentence completion, and dictation, but no specific attention has been paid to comprehension across different subskills. Only two studies up to date, Bian et al. (2019), who compared gap

filling vs. multiple choice tasks, and Li (2019) who investigated short talks vs. conversations suspected and reported a differential effect of vocabulary knowledge across different tasks, but did not specifically address different subskills. A subskill-wise approach to L2 listening comprehension is vital as the requirements of each subskill is different, thus exerting differential cognitive demands on L2 learners in employing the resources available. Discovering how much variance in these subskills can be attributed to component skills should prove to be of great value for practitioners to plan the necessary intervention programs depending on the subskill they want to address, and for researchers to reach a better conceptualization of L2 listening comprehension. Based on the findings, a caveat for researchers might be that they be careful with raw generalizations about the effect of component skills on listening comprehension. A specific component skill may prove much more effective in one subskill while it can explain far less variance in another subskill. As a result, researchers should always take into consideration the fact that each subskill has its own dynamics, and report the relative contribution of a set of components to oral comprehension across different subskills as well as overall comprehension. In doing so, they might be able to avoid hasty generalizations regarding the role of component skills in L2 listening comprehension.

5.3. Limitations and Suggestions for Further Studies

The results of the current study and the arguments put forward should be taken with great care since the study was conducted in a rather rigorously controlled setting in many aspects. First of all, the participants of the current study represent L2 learners at intermediate and upper-intermediate proficiency levels, which limit our results and discussion of the findings to larger groups within this proficiency range only. As discussed earlier, previous studies, when taken together, demonstrate that the explanatory power of each one of the component skills might vary as proficiency levels of the participants increase. As a result, the current strengths of association among the variables addressed might not perfectly apply to more or less proficient learner groups.

Second, the listening texts used for measuring comprehension have been selected after careful and rigorous expert opinion processes so that they do not include unfamiliar accents, high speech rates, grammar structures and vocabulary items not appropriate for the proficiency of the participants, and unfamiliar or dull topics. This may not quite reflect the actual listening situations where accents, high speech rates, several unknown grammar

structures or vocabulary items, and topics that are not familiar or interesting to the listener might exert additional cognitive burden on L2 listeners. Hence, the points discussed about the relevance of component skills to listening comprehension should apply to carefully chosen listening texts only.

Another point to consider is that the listening tasks in the current study reflect usual testing procedures where participants listen to an audio-recording and answer the accompanying questions at the same time. In academic settings or ordinary listening contexts on the other hand, they have the opportunity to take notes and ask for clarifications, which might be helpful in promoting comprehension. Put differently, the results of the study might not fully explain variances in listening comprehension where L2 listeners may have the opportunity to compensate for deficiencies in component skills by taking notes and asking for clarifications. Therefore, the results of the current study should only apply to exam settings where L2 listeners have to count on the representation of text they build from the listening material by employing the cognitive, linguistic, or metacognitive resources available.

Taking into consideration these points, some suggestions for further studies are worth mentioning. First and foremost, one of the most important objectives of the current study was to contribute to L2 listening literature by introducing a comprehensive model of L2 listening comprehension with linguistic, affective, cognitive and metacognitive components all addressed simultaneously. This objective has been successfully fulfilled with a both statistically and theoretically plausible model of L2 listening which elaborately depicts how all these components interact with each other and oral comprehension. Further studies can adopt this model of L2 listening comprehension and provide some valuable empirical evidence to verify whether the model applies in other contexts with different participants.

Second, since the participant group of the current study represents larger populations with intermediate and upper-intermediate proficiency levels, it is of great importance for further studies with cross-sectional designs addressing the other proficiency levels to find out whether the model will explain L2 listening comprehension as well as it does in the present investigation.

Third, researchers can investigate how strong the component variables are in explaining L2 listening comprehension in adverse conditions where the listening texts include accents, unfamiliar words and structures, and diverse topics with varying

familiarity and interest to the participant group at hand. This can reveal much about the strategies L2 listeners employ at times when they encounter difficulties during listening.

Fourth, the components addressed in the current study are limited to vocabulary and grammar knowledge, L2 listening anxiety, willingness to listen in L2 metacognitive awareness listening, and working memory which altogether explain a large proportion variance in L2 listening comprehension. However, the remaining variance which cannot be accounted for by these components can be linked to other variables not addressed. Therefore, further studies might address some other component skills as background knowledge, and morphological and phonological awareness in addition to the ones addressed in the current study; and investigate whether additional variance can be explained by introducing these components into the model.

Finally, since there is not much empirical accumulation regarding the effect of component skills across different subskills of listening, more evidence is needed to verify the differential explanation power of component skills observed in different subskills addressed. This will enlighten the practical dimension by informing the areas to be improved for success in a given subskill as well as providing a better conceptualization of the complex nature of listening comprehension.

REFERENCES

Adams, A. M., Bourke, L., & Willis, C. (1999). Working memory and spoken language comprehension in young children. *International Journal of Psychology, 34,* 364-373.

Adnan, A., Marlina, L., & Annisa, S. R. (2020, March). Listening comprehension and listening anxiety: A case of basic listening class students at English Department UNP Padang. In *7th International Conference on English Language and Teaching (ICOELT 2019)* (pp. 200-206). Atlantis Press.

Akbari, Z. (2014). The role of grammar in second language reading comprehension: Iranian ESP context. *Procedia-Social and Behavioral Sciences, 98,* 122-126.

Akdemir, A. S. (2016). The development and validation of Willingness-to-Listen in L2 (WTL) Scale. *PASAA: Journal of Language Teaching and Learning in Thailand, 51,* 127-154.

Al-Jahwari, M., Al-Mekhlafi, A. M., Al-Barwani, T., & Abdulraheim, A. (2019). The effect of metacognitive listening strategy instruction on Omani grade 11 EFL learners' listening comprehension and their metacognitive listening awareness. *International Journal of Learning, Teaching and Educational Research, 18*(9), 256-275.

Amin, I. A. R., Aly, M. A. S., & Mohammed, A. M. (2012). A correlation study between EFL strategic listening and listening comprehension skills among secondary school students. *Benha Faculty of Education Journal, 23*(1), 1-26.

Alderson, J. C. (1984). Reading in a foreign language: A reading problem or a language problem? In J. C. Alderson & A. H. Urquhart (Eds.), *Reading in a foreign language* (pp. 1–24). London: Longman.

Al Seyabi, F., & Tuzlukova, V. (2014). Writing problems and strategies: An investigative study in the Omani school and university context. *Asian Journal of Social Sciences & Humanities, 3*(4), 37-48.

Anderson, A., & T. Lynch (1988). *Listening*. London: Oxford University Press.

Andersson, U. (2010). The contribution of working memory capacity to foreign language comprehension in children. *Memory, 18,* 458-472.

Andringa, S., Olsthoorn, N., van Beuningen, C., Schoonen, R., & Hulstijn, J. (2012). Determinants of success in native and non-native listening comprehension: An individual differences approach. *Language Learning, 62,* 49-78.

Aotani, M. (2011). *Factors affecting the holistic listening of Japanese learners of English*. (Publication No. 3457854). [Doctoral dissertation, Temple University]. ProQuest Dissertations & Theses Global.

Asadi, I. A. (2020). The contribution of linguistic and cognitive measures to listening comprehension among Arabic-speaking kindergartners. *Literacy Research and Instruction, 59*(1), 1-16.

Atasheneh, N., & Izadi, A. (2012). The role of teachers in reducing/increasing listening comprehension test anxiety: A case of Iranian EFL learners. *English Language Teaching*, *5*, 178-187.

Ataş, U. (2018). The role of receptive vocabulary knowledge in advanced EFL listening comprehension. *TESL-EJ, 21*(4), 1-12.

Babayiğit, S., & Shapiro, L. (2019). Component skills that underpin listening comprehension and reading comprehension in learners with English as first and additional language. *Journal of Research in Reading, 43*(1), 78-97.

Baddeley, A. (1992). Working memory. *Science, 255*(5044), 556–559.

Beal, V. (2007). *The weight of involvement load in college level reading and vocabulary tasks* (Doctoral dissertation). Retrieved from Concordia University CLUES Library Catalogue (LE 3 C66E38M 2007 B43)

Bernhardt, E. (2005). Progress and procrastination in second language reading. *Annual Review of Applied Linguistics, 25*, 133–150.

Bian, X., Cai, X., & Cai, D. (2019). The contributions of listening and reading vocabularies to listening comprehension of Chinese EFL students. *International Journal of Listening*, 1-13.

Bonk, W. J. (2000). Second language lexical knowledge and listening comprehension. *International Journal of Listening, 14*, 14-31.

Bozorgian, H., & Alamdari, E. F. (2018). Multimedia listening comprehension: Metacognitive instruction or metacognitive instruction through dialogic interaction. *ReCALL, 30*(1), 131-152.

Bourdeaud'hui, H., Aesaert, K., & van Braak, J. (2020). Identifying student-and class-level correlates of sixth-grade students' listening comprehension. *L1 Educational Studies in Language and Literature, 20*, 1-38.

Buck, G. (2001). *Assessing listening*. Cambridge, England: Cambridge University Press.

Brunfaut, T., & Révész, A. (2015). The role of task and listener characteristics in second language listening. *Tesol Quarterly*, *49*(1), 141-168.

Call, M. E. (1985). Auditory short-term memory, listening comprehension, and the input hypothesis. *TESOL Quarterly*, *19*, 765-781.

Carr, T. H., & Levy, B. A., (Eds.) (1990). *Reading and its development: Component skills approaches*. San Diego: Academic Press.

Carrell, P. L., & Eisterhold, J. C. (1983). Schema theory and ESL reading pedagogy. *TESOL Quarterly*, *17*(4), 553-573.

Cheng, J., & Matthews, J. (2018). The relationship between three measures of L2 vocabulary knowledge and L2 listening and reading. *Language Testing*, *35*(1), 3-25.

Chen, K. Y. (2011). The impact of EFL students' vocabulary breadth of knowledge on literal reading comprehension. *Asian EFL Journal, 51*, 30-40.

Cheng, Y. S. (2002). Factors associated with foreign language writing anxiety. *Foreign Language Annals*, *35*(6), 647-656.

Cheng, Y. S., Horwitz, E. K., & Schallert, D. L. (1999). Language anxiety: Differentiating writing and speaking components. *Language Learning*, *49*(3), 417-446.

Chiang, H. H. (2018). English vocabulary size as a predictor of TOEIC listening and reading achievement among EFL students in Taiwan. *Theory and Practice in Language Studies*, *8*(2), 203-212.

Dabbagh, A. (2016). The predictive role of vocabulary knowledge in listening comprehension: depth or breadth. *International Journal of English Language and Translation Studies*, *4*(3), 1-13.

Elkhafaifi, H. (2005). Listening comprehension and anxiety in the Arabic language classroom. *The Modern Language Journal*, *89*(2), 206-220.

Fathi, J., & Hamidizadeh, R. (2019). The contribution of listening strategy instruction to improving second language listening comprehension: A case of Iranian EFL learners. *International Journal of Instruction*, *12*(2), 17-32.

Fatikhah, E. N., Martono, M., & Asrori, M. The correlation between learning motivation, vocabulary mastery and listening comprehension. *English Education*, *6*(2), 231-238.

Fay, A. (2012). *Listening comprehension and working memory capacity in beginning L2 learners: an exploratory study* (Unpublished doctoral dissertation). Pontifical Catholic Univer- sity of Rio Grande do Sul, Brazil.

Fiani, A., Suherdi, D., & Musthofa, B. (2019, June). The impact of metacognitive instruction on EFL students' listening comprehension and metacognitive awareness in Lubuk Linggau. In *UNNES International Conference on English Language Teaching, Literature, and Translation (ELTLT 2018)*. Atlantis Press.

Field, J. (2004). An insight into listeners' problems: Too much bottom-up or too much top-down? *System, 32,* 363-377.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist, 34*(10), 906–911

Florit, E., Roch, M., Altoè, G., & Levorato, M. C. (2009). Listening comprehension in preschoolers: The role of memory. *British Journal of Developmental Psychology*, *27*, 935-951.

Florit, E., Roch, M., & Levorato, M. C. (2011). Listening text comprehension of explicit and implicit information in preschoolers: The role of verbal and inferential skills. *Discourse Processes, 48*(2), 119–138.

Ghapanchi, Z., & Taheryan, A. (2012). Roles of linguistic knowledge, metacognitive knowledge and metacognitive strategy use in speaking and listening proficiency of Iranian EFL learners. *World Journal of Education, 2*(4), 64-75.

Goh, C. C., & Hu, G. (2014). Exploring the relationship between metacognitive awareness and listening performance with questionnaire data. *Language awareness*, *23*(3), 255-274.

Golchi, M. M. (2012). Listening anxiety and its relationship with listening strategy use and listening comprehension among Iranian IELTS learners. *International Journal of English Linguistics*, *2*(4), 115–128.

Goodman, K. S. (1967). Reading: A psycholinguistic guessing game. *Journal of the Reading Specialist, 6*(4), 126–135.

Guo, Y., Roehrig, A. D., & Williams, R. S. (2011). The relation of morphological awareness and syntactic awareness to adults' reading comprehension: Is vocabulary knowledge a mediating variable? *Journal of Literacy Research*, *43*(2), 159-183.

Huy, N. T. (2015). Problems affecting learning writing skill of grade 11 at Thong Linh high school. *Asian Journal of Educational Research, 3*(2), 53-69.

In'nami, Y., Cheung, M. W. L., Koizumi, R., & Wallace, M. P. (2022). Examining second language listening and metacognitive awareness: A meta-analytic Structural Equation Modeling approach. *Language Learning,* 1-40.

In'nami, Y., Koizumi, R., Jeon, E.-H., & Arai, Y. (2022). L2 listening and its correlates: A meta-analysis. In E.-H. Jeon & Y. In'nami (Eds.), *Understanding L2 proficiency: Theoretical and meta-analytic investigations* (pp. 235–283). John Benjamins.

Jeon, E. H., & Yamashita, J. (2014). L2 Reading comprehension and its correlates: A meta-analysis. *Language Learning, 64*, 160-212.

Jones, S., Myhill, D., & Bailey, T. (2013). Grammar for writing? An investigation of the effects of contextualised grammar teaching on students' writing. *Reading and Writing, 26*(8), 1241-1263.

Just, M. A., & Carpenter, P. A. (1992). A capacity theory of comprehension: Individual differences in working memory. *Psychological Review, 99*(1), 122–149.

Karalık, T., & Merç, A. (2019). Correlates of listening comprehension in L1 and L2: A Meta-analysis. *Eurasian Journal of Applied Linguistics, 5*(3), 353-383.

Kassem, H. M. (2015). The relationship between listening strategies used by Egyptian EFL college sophomores and their listening comprehension and self-efficacy. *English Language Teaching, 8,* 153.

Keating, G. D. (2008). Task effectiveness and word learning in a second language: The involvement load hypothesis on trial. *Language Teaching Research, 12*(3), 365-386.

Khotimah, S. (2014). The use of problem based learning to improve students' speaking ability. *ELT Forum: Journal of English Language Teaching, 3*(1), 50-56.

Kim, J. H. (2000). *Foreign language listening anxiety: A study of Korean students learning English*. The University of Texas at Austin.

Kim, Y. S. (2015). Language and cognitive predictors of text comprehension: Evidence from multivariate analysis. *Child Development, 86,* 128-144.

Kim, Y. S. G. (2016). Direct and mediated effects of language and cognitive skills on comprehension of oral narrative texts (listening comprehension) for children. *Journal of Experimental Child Psychology, 141*, 101-120.

Kim, Y. S., & Phillips, B. (2014). Cognitive correlates of listening comprehension. *Reading Research Quarterly, 49*, 269-281.

Kintsch, W. (1988). The use of knowledge in discourse processing: A construction–integration model. *Psychological Review, 95*, 163–182.

Koda, K. (2005). *Insights into second language reading: A cross-linguistic approach*. New York: Cambridge University Press.

Kök, İ. (2018). Relationship between listening comprehension strategy use and listening comprehension proficiency. *International Journal of Listening*, *32*(3), 163-179.

Krashen, S. D. (1985). *The input hypothesis: Issues and implications.* London: Longman.

Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied linguistics*, *22*(1), 1-26.

Lee, J. W. (2016). The role of vocabulary and grammar in different L2 reading comprehension measures. *English Teaching, 71*(3), 79-97.

Lepola, J., Lynch, J., Laakkonen, E., Silvén, M., & Niemi, P. (2012). The role of inference making and other language skills in the development of narrative listening comprehension in 4–6-year-old children. *Reading Research Quarterly, 47*, 259-282.

Li, C. H. (2019). Using a listening Vocabulary Levels Test to explore the effect of vocabulary knowledge on GEPT listening comprehension performance. *Language Assessment Quarterly*, *16*(3), 328-344.

Li, Y., & Zhang, X. (2019). L2 vocabulary knowledge and L2 listening comprehension: A Structural Equation Model. *Canadian Journal of Applied Linguistics/Revue canadienne de linguistique appliquée*, *22*(1), 85-102.

Lund, R. J. (1991). A comparison of second language listening and reading comprehension. *The Modern Language Journal*, *75*(2), 196-204.

Mahdavi, N., & Miri, M. (2019). Co-shaping metacognitive awareness and developing listening comprehension through process-based instruction. *International Journal of Listening*, *33*(1), 53-70.

MacIntyre, P.D. & Charos, C. (1996). Personality, attitudes, and affect as predictors of second language communication. *Journal of Language and Social Psychology*, *15*, 3–26.

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. Modern Language Journal, *82*, 545-562.

Masrai, A. (2020). Exploring the impact of individual differences in aural vocabulary knowledge, written vocabulary knowledge and working memory capacity on explaining L2 learners' listening comprehension. *Applied Linguistics Review*, *11*(3), 423-447.

Matthews, J. (2018). Vocabulary for listening: Emerging evidence for high and mid-frequency vocabulary knowledge. *System, 72*, 23-36.

Matthews, J., & Cheng, J. (2015). Recognition of high frequency words from speech as a predictor of L2 listening comprehension. *System, 52*, 1-13.

Mecartty, F. H. (1994). *Lexical and grammatical knowledge in second language reading and listening comprehension*. University of Illinois at Urbana-Champaign.

Migdadi, H. F., Yunus, K., & Daradkeh, A. A. (2019). The relatıonship between EFL Saudi university students' vocabulary knowledge and listening comprehension. *International Journal*, *2*(5), 51-64.

Namaziandost, E., Hafezian, M., & Shafiee, S. (2018). Exploring the association among working memory, anxiety and Iranian EFL learners' listening comprehension. *Asian-Pacific Journal of Second and Foreign Language Education*, *3*(1), 1-17.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Nejad, S., & Farvardin, M. T. (2019). Roles of general language proficiency, aural vocabulary knowledge, and metacognitive awareness in L2 learners' listening comprehension. *International Journal of Listening*, 1-20.

Noreillie, A. S., Kestemont, B., Heylen, K., Desmet, P., & Peters, E. (2018). Vocabulary knowledge and listening comprehension at an intermediate level in English and French as foreign languages: An approximate replication study of Stæhr (2009). *ITL-International Journal of Applied Linguistics*, *169*(1), 212-231.

Oh, E. (2016). Comparative studies on the roles of linguistic knowledge and sentence processing speed in L2 listening and reading comprehension in an EFL tertiary setting. *Reading Psychology*, *37*(2), 257-285.

Pan, Y. C., Tsai, T. H., Huang, Y. K., & Liu, D. (2018). Effects of expanded vocabulary support on L2 listening comprehension. *Language Teaching Research*, *22*(2), 189-207.

Pérez Manzanilla, I. S., & Díaz Cabrera, K. M. (2014). *Factors that may have an impact on advanced EFL students' speaking ability* (Master's Thesis). Retrieved from http://cdigital.uv.mx/handle/123456789/35250

Perfetti, C. (2007). Reading ability: Lexical quality to comprehension. *Scientific studies of reading*, *11*(4), 357-383.

Perfetti, C. A., Landi, N. and Oakhill, J. 2005. The acquisition of reading comprehension skill. In *The science of reading: A handbook*, Edited by: Snowling, M. J. and Hulme, C. 227–247. Oxford, UK: Blackwell.

Plonsky, L., & Oswald, F. L. (2014). How big is "big"? Interpreting effect sizes in L2 research. *Language learning*, *64*(4), 878-912.

Polat, M., & Erişti, B. (2018). Development of a foreign language listening anxiety scale. *Turkish Studies-International Periodical for the Languages, Literature and History of Turkish or Turkic*, *13*(11), 1113-1138.

Purba, C. N. (2020). Improving students' listening comprehension through new vocabulary learning. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, *3*(2), 1270-1279.

Rahimi, A., & Abedini, A. (2009). The interface between EFL learners' self-efficacy concerning listening comprehension and listening proficiency. *Novitas-Royal*, *3*, 14-28.

Rashidi, N., & Khosravi, N. (2010). Assessing the role of depth and breadth of vocabulary knowledge in reading comprehension of Iranian EFL learners. *Journal of Pan-Pacific Association of Applied Linguistics*, *14*, 81-108.

Rost, M. (2002). *Teaching and Researching Listening*. London, UK: Longman.

Roussel, S., Gruson, B., & Galan, J. P. (2019). What types of training improve learners' performances in second language listening comprehension? *International Journal of listening*, *33*(1), 39-52.

Sağlam, S. (2014). The role of vocabulary breadth, syntactic knowledge, and listening strategy use on listening comprehension. *Route Educational and Social Science Journal*, *1*, 54-72.

Saito, Y., Garza, T. J., & Horwitz, E. K. (1999). Foreign language reading anxiety. *The Modern Language Journal*, *83*(2), 202-218.

Salehawati, L., Hayati, R., & Jaya, H. P. (2019, January). The correlation between metacognitive awareness and listening comprehension achievement of the students of English Education Study program of Sriwijaya Unıversity. In *International Seminar and Annual Meeting BKS-PTN Wilayah Barat*, *1*(1), 393-398.

Satori, M. (2021). Effects of working memory on L2 linguistic knowledge and L2 listening comprehension. *Applied Psycholinguistics*, *42*(5), 1313-1340.

Sawaki, Y., Quinlan, T., & Lee, Y. W. (2013). Understanding learner strengths and weaknesses: Assessing performance on an integrated writing task. *Language Assessment Quarterly*, *10*(1), 73-95.

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test. *Language testing*, *18*(1), 55-88.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of educational research*, *99*(6), 323-338.

Scovel, T. (1978). The effect of affect on foreign language learning: A review of the anxiety research. *Language Learning*, *28*(1), 129-142.

Sellers, V. D. (2000). Anxiety and reading comprehension in Spanish as a foreign language. *Foreign Language Annals*, *33*(5), 512-520.

Serraj, S., & Noordin, N. B. (2013). Relationship among Iranian EFL students' foreign language anxiety, foreign language listening anxiety and their listening comprehension. *English Language Teaching*, *6*(5), 1-12.

Shabani, M. B., Malmir, A., & Arjmand, F. (2018). The contribution of lexical, grammatical, and propositional knowledge preparation to L2 listening comprehension. *Iranian Journal of Applied Language Studies*, *10*(2), 175-208.

Shiotsu, T., & Weir, C. J. (2007). The relative significance of syntactic knowledge and vocabulary breadth in the prediction of reading comprehension test performance. *Language Testing, 24*, 99-128.

Stæhr, L. S. (2008). Vocabulary size and the skills of listening, reading and writing. *Language Learning Journal*, *36*, 139-152.

Stæhr, L. S. (2009). Vocabulary knowledge and advanced listening comprehension in English as a foreign language. *Studies in Second Language Acquisition, 31,* 577-607.

Stanovich, K. E. (1984). The Interactive-Compensatory Model of reading: A confluence of developmental, experimental, and educational psychology. *Remedial and Special Education, 5*(3), 11–19.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education, 48*(6), 1273-1296.

Tabrizi, H. M., & Saeidi, M. (2015). The relationship among Iranian EFL learners' self-efficacy, autonomy and listening comprehension ability. *English Language Teaching, 8,* 158-169.

Tafaghodtari, M. H., & Vandergrift, L. (2008). Second and foreign language listening: Unraveling the construct. *Perceptual and Motor Skills, 107,* 99-113.

Taheri, P., & Hedayat Zade, M. (2018). The contribution of metacognitive strategies to EFL learners' listening comprehension task types. *Teaching English Language, 12*(2), 169-198.

Tahir, S. Z. (2015). Improving students' speaking skill through voice chat at University of Iqra Buru. *Journal of Modern Education Review, 5*(3), 296-306.

Taysi, E. (2019). The effect of listening attitude and listening anxiety on listening comprehension: A regression model. *Universal Journal of Educational Research, 7*(2), 356-364.

Teng, F. (2014). Assessing the depth and breadth of vocabulary knowledge with listening comprehension. *PASAA: Journal of Language Teaching and Learning in Thailand, 48,* 29-56.

Teng, F. (2016). An in-depth investigation into the relationship between vocabulary knowledge and academic listening comprehension. *TESL-EJ, 20* (2), 1-17. Retrieved from http://www.teslej.org/wordpress/issues/volume20/ej78/ej78a5

Tham, H. T. Applying metacognitive strategies in teaching listening comprehension to advanced program students at Thai Nguyen University of Technology. *SSRG International Journal of Humanities and Social Science (SSRG-IJHSS), 5*(3), 4-9.

Tighe, E. L., Spencer, M., & Schatschneider, C. (2015). Investigating predictors of listening comprehension in third-, seventh-, and tenth-grade students: a dominance analysis approach. *Reading Psychology*, *36*, 700-740.

Tsuchihira, T. (2007). L2 working memory capacity and L2 listening test scores of Japanese junior college students. *Bunkyo Gakuin Foreign Language Department of Bunkyo Gakuin Junior College*, *7*, 159-175.

Ulu, M. (2016). A structural equation model to explain the effect of fluent reading, literal comprehension and inferential comprehension levels of elementary school 4th grade students on success in problem solving. *Education and Science, 41*(186), 93-117.

Ummah, F., & Arifani, Y. (2018). The relationship between metacognitive listening strategy used by proficiency level and their listening comprehension for eleventh grade in SMA Negeri 1 Gresik. *Journal of English Teaching, Literature, and Applied Linguistics*, *1*(2), 72-84.

Unsworth, N., & Engle, R. W. (2006). Simple and complex memory spans and their relation to fluid abilities: Evidence from list-length effects. *Journal of Memory and Language*, *54*(1), 68-80.

Urquhart, A. H., & Weir, C. J. (1998). *Reading in a second language: Process, product, and practice*. New York: Longman.

Vafaee, P. (2016). *The relative significance of syntactic knowledge and vocabulary knowledge in second language listening comprehension* (Doctoral dissertation, University of Maryland, College Park).

Valizadeh, M. R., & Alavinia, P. (2013). Listening Comprehension Performance Viewed in the Light of Emotional Intelligence and Foreign Language Listening Anxiety. *English Language Teaching*, *6*(12), 11-26.

Van Dijk, T. A., & Kintsch, W. (1983). *Strategies of discourse comprehension*. New York, NY: Academic Press.

Vandergrift, L. (1999). Facilitating second language listening comprehension: acquiring successful strategies. *ELT Journal*, *53*(3), 168–176.

Vandergrift, L. (2004). Learning to listen or listening to learn. *Annual Review of Applied Linguistics*, *24*(1), 3-25.

Vandergrift, L., & Baker, S. (2015). Learner variables in second language listening comprehension: An exploratory path analysis. *Language Learning, 65,* 390-416.

Vandergrift, L., & Baker, S. C. (2018). Learner variables important for success in L2 listening comprehension in French immersion classrooms. *Canadian Modern Language Review, 74*(1), 79-100.

Vandergrift, L., & Goh, C.C.M. (2012). *Teaching and learning second language listening: Metacognition in action.* New York, NY: Routledge.

Vandergrift, L., Goh, C. C., Mareschal, C. J., & Tafaghodtari, M. H. (2006). The metacognitive awareness listening questionnaire: Development and validation. *Language learning*, *56*(3), 431-462.

Vulchanova, M., Foyn, C. H., Nilsen, R. A., & Sigmundsson, H. (2014). Links between phonological memory, first language competence and second language competence in 10- year-old children. *Learning and Individual Differences*, *35*, 87-95.

Wang, L., & MacIntyre, P. D. (2021). Second language listening comprehension: The role of anxiety and enjoyment in listening metacognitive awareness. *Studies in Second Language Learning and Teaching*, *11*(4), 491-515.

Wang, S. (2015). An empirical study on the role of vocabulary knowledge in EFL listening comprehension. *Theory and Practice in Language Studies*, *5*(5), 989.

Wang, Y., & Treffers-Daller, J. (2017). Explaining listening comprehension among L2 learners of English: The contribution of general language proficiency, vocabulary knowledge and metacognitive awareness. *System, 65,* 139-150.

Whitehead, E. (2020). Application of meta-cognitive strategy instruction in listening comprehension to the Level III student teachers. *Excellence in Education Journal, 9*(1), 104-119.

Wolfgramm, C., Suter, N., & Göksel, E. (2016). Examining the role of concentration, vocabulary and self-concept in listening and reading comprehension. *International Journal of Listening, 30,* 25-46.

Woodrow, L. (2006). Anxiety and speaking English as a second language. *RELC Journal, 37*(3), 308-328.

Yashima, T. (2002). Willingness to communicate in a second language: The Japanese EFL context. *The Modern Language Journal*, *86* (1), 54-66.

Yulisa, D. (2018). Learning to listen: Listening strategies and listening comprehension of Islamic senior high school students. *Edukasi: Jurnal Pendidikan dan Pengajaran*, *5*(1), 22-30.

Zhang, D. (2012). Vocabulary and grammar knowledge in second language reading comprehension: A structural equation modeling study. *The Modern Language Journal*, *96*(4), 558-575.

Zhang, D., & Koda, K. (2012). Contribution of morphological awareness and lexical inferencing ability to L2 vocabulary knowledge and reading comprehension among advanced EFL learners: testing direct and indirect effects. *Reading and Writing*, *25*(5), 1195-1216.

Zhiping, D., & Paramasivam, S. (2013). Anxiety of speaking English in class among international students in a Malaysian university. *International Journal of Education and Research*, *1*(11), 1-16.

Zin, M. Z., & Rafik-Galea, S. (2010). Anxiety and academic reading performance among Malay ESL learners. *Journal of Pan-Pacific Association of Applied Linguistics, 14*(2), 41-58.

Zwaan, R. A., & Radvansky, G. A. (1998). Situation models in language comprehension and memory. *Psychological Bulletin, 123*(2), 162–185.

APPENDICES

APPENDIX-1. Overview of Correlational Studies on Listening Comprehension

	Participants	Component(s)	Instrument(s)	Results
***Adams et al. (1999)**	66 British Children	Working memory Vocabulary knowledge	Word/digit span The British Picture Vocabulary Scale Comprehension scale of Reynell Developmental Language Scales	Word span (*r*=.30) Digit span (*r*=.27) Vocabulary knowledge (*r*=.65)
Adnan et al. (2020)	23 Indonesian university students (English major)	Listening anxiety	Foreign Language Listening Anxiety Questionnaire TOEIC Listening test	Listening anxiety (*r*=-.006)
Amin et al. (2011)	80 Egyptian secondary school students	Strategic listening	Strategic listening checklist Strategic listening interview Strategic listening questionnaire Listening comprehension task	SLC (*r*=.73) SLI (*r*=.70) SLQ (*r*=.80)
Andersson (2010)	95 Swedish children	Working memory	Word-span task Digit span task Listening comprehension task	Word-span (*r*=.28) Digit span (*r*=.25)
***Andringa et al. (2012)**	121 native/113 non-native speakers of Dutch	Vocabulary knowledge Working memory Grammatical processing	Receptive vocabulary test Digit and non-word span task Sentence initial acceptability task Dutch State Exam of Listening Proficiency	Native speakers Vocabulary knowledge (*r*=.35) Grammatical processing (*r*=not given) Working memory (*r*=.28) Non-native speakers Vocabulary knowledge (*r*=.68) Grammatical processing (*r*=.77) Working memory (*r*=.25)
Aotani (2011)	179 Japanese university students	Vocabulary knowledge Grammar knowledge Metacognitive awareness	Vocabulary Size Test Grammatical Error Detection Test MALQ Short listening test Long listening test	Short listening test Vocabulary knowledge (*r*=.57) Grammar knowledge (*r*=.55) Metacognitive awareness (*r*=.07) Long listening test Vocabulary knowledge (*r*=.55) Grammar knowledge (*r*=.60) Metacognitive awareness (*r*=.05)

***Asadi (2020)**	262 Arabic-speaking children	Vocabulary knowledge Syntactic knowledge Working memory Phonological awareness Morphological knowledge	Adapted version of Peabody Picture Vocabulary Test Picture-based grammar test Arabic morphological structure test Arabic phonological awareness test Word-span tasks A researcher-made listening test	Vocabulary knowledge (*r*=.48) Syntactic knowledge (*r*=.55) Morphological awareness (*r*=.57) Phonological awareness (*r*=.43) Working memory (*r*=.51)
Ataş (2018)	33 Turkish university students	Vocabulary knowledge	Vocabulary Levels Test Cambridge Certificate of Proficiency in English (CPE) listening test	Vocabulary knowledge (*r*=.55)
Atasheneh & Izadi (2012)	60 Iranian university students (English major)	Foreign language learning anxiety	Foreign Language Class Anxiety Scale Two listening tests of Main Street Series	Language learning anxiety (*r*=-47)
***Babayiğit & Shapiro (2020)**	74 native children 134 children learning English	Vocabulary knowledge Grammar knowledge	The British Picture Vocabulary Scales-III The Test of Reception of Grammar-2 York Assessment of Reading for Comprehension (Parallel forms for listening)	Native Children Vocabulary knowledge (*r*=.43) Grammar knowledge (*r*=. 40) Non-native children Vocabulary knowledge (*r*=.62) Grammar knowledge (*r*=.57)
Bian et al. (2019)	191 Chinese university students (English major)	Vocabulary knowledge	Reading Vocabulary Levels Test Listening Vocabulary Levels Test TEM-8 listening section	Multiple-choice Task Reading vocabulary (*r*=.14) Listening vocabulary (*r*=.19) Gap-filling Task Reading vocabulary (*r*=.35) Listening vocabulary (*r*=.40) Overall Reading vocabulary (*r*=.31) Listening vocabulary (*r*=.37)
Bonk (2000)	59 Japanese university students (English major)	Lexical familiarity	Dictation task Four researcher-made listening texts	Lexical familiarity (*r*=.44)
***Bourdeaud'hui et al. (2020)**	974 native/nonnative Dutch speaking children	Working memory Listening strategy use Vocabulary knowledge Listening motivation	Dutch version of the listening span task Listening strategy use scale Dutch youth-word test listening motivation questionnaire Dutch audiovisual listening test	Working memory (*r*=.27) Listening strategy (*r*=-.03) Vocabulary knowledge (*r*=.23) Motivation (*r*=.03)

Brunfaut & Révész (2015)	93 international learners of English	Working memory Listening anxiety	Forward and backward span tasks Foreign language listening anxiety scale PTE Academic listening subsection	Working memory (*r*=.29) Listening anxiety (*r*=-.54)
Call (1985)	41 Arabic/Spanish university students	Working memory	Random word, random digit, and sentence tasks Michigan Test of Aural Comprehension	Working memory (*r*=.42)
Cheng & Matthews (2018)	250 Chinese University students	Vocabulary knowledge	Receptive vocabulary task Productive vocabulary task Productive aural vocabulary task IELTS listening test	Receptive vocabulary (*r*=.39) Productive vocabulary (*r*=.55) Productive oral vocabulary (*r*=.71)
Chiang (2018)	973 Taiwanese University students	Vocabulary knowledge	Vocabulary size test TOEIC listening test	Vocabulary knowledge (*r*=.61)
Dabbagh (2016)	73 Iranian university students	Vocabulary size Depth of vocabulary knowledge	Vocabulary Levels Test Word Association Test IELTS listening test	Vocabulary size (*r*=.20) Vocabulary depth (*r*=.82)
Elkhafaifi (2005)	233 international learners of Arabic	Foreign language classroom anxiety Foreign language listening anxiety	Foreign language classroom anxiety scale Foreign language listening anxiety scale Final course grades in listening	Language classroom anxiety (*r*=-.53) Listening anxiety (*r*=.-70)
Fay (2012)	24 Brazilian adult EFL learners	Working memory	Battery for Working Memory Assessment Test The Cambridge Key English Test	Working memory subtest 1 (*r*=.66) Working memory subtest 2 (*r*=.38) Working memory subtest 3 (*r*=.87)
Fatikhah et al. (2019)	73 Indonesian high school students	Learning motivation Vocabulary knowledge	Motivation questionnaire (not specified) Vocabulary test (not specified) Listening test (not specified)	Learning motivation (*r*=.43) Vocabulary knowledge (*r*=.37)

***Florit et al. (2009)**	84 Italian children	Vocabulary knowledge Working memory	Peabody Picture Vocabulary Test Forward and backward word span tasks Test for listening comprehension (TOR 3–8)	Vocabulary knowledge (*r*=40) Working memory (*r*=.38)
Golchi (2012)	63 Iranian adult EFL learners	Listening anxiety	IELTS Listening Test Foreign Language Listening Anxiety Scale	Language anxiety (*r*=-63)
Ghapanchi & Taheryan (2012)	96 Iranian university students	Metacognitive strategy use Metacognitive knowledge Grammar knowledge Vocabulary knowledge	Metacognitive awareness in listening inventory Metacognitive awareness inventory TOEFL subsection of grammar TOEFL subsection of vocabulary Listening course grades	Strategy use (*r*=.43) Metacognition (*r*=.39 Grammar knowledge (*r*=.44) Vocabulary knowledge (*r*=.51)
Goh & Hu (2014)	111 Chinese university students	Metacognitive awareness	MALQ IELTS listening test	Metacognition (*r*=.44)
Kassem (2015)	84 Egyptian university students (English major)	Listening strategy use	Listening strategy questionnaire TOEFL listening test	Listening strategy (*r*=.62)
Kim (2000)	245 Korean university students	Listening anxiety	Foreign Language Listening Anxiety Scale TOEFL listening test	Listening anxiety (*r*=-.36)
***Kim (2015)**	148 Korean children	Vocabulary knowledge Grammar knowledge Working memory Comprehension monitoring	Peabody Picture Vocabulary test Grammar knowledge task Listening span task Inconsistency detection task Picture-sentence matching Narrative listening picture matching task Narrative listening open-ended questions	Picture-sentence matching Vocabulary knowledge (*r*=.57) Grammar knowledge (*r*=.46) Working memory (*r*=.19) Comprehension monitoring (*r*=.47) Narrative listening picture matching Vocabulary knowledge (*r*=.52) Grammar knowledge (*r*= .56) Working memory (*r*=.27) Comprehension monitoring (*r*=.61) Narrative listening short answers Vocabulary knowledge (*r*=.42)

				Grammar knowledge (*r*=.46) Working memory (*r*=.17) Comprehension monitoring (*r*=.50)
***Kim (2016)**	201 Korean children	Working memory Vocabulary knowledge Grammar knowledge Inference skills Comprehension monitoring	Listening span task, Expressive vocabulary task Grammatical knowledge task Inference task Inconsistency detection task Two listening texts with different tasks	Text 1 Working memory (*r*=.43) Vocabulary knowledge (*r*=.40) Grammar knowledge (*r*=.45) Inference skills (*r*=.50) Comprehension monitoring (*r*=.43) Text 2 Working memory (*r*=.31) Vocabulary knowledge (*r*=.30) Grammar knowledge (*r*=.31) Inference skills (*r*=.33) Comprehension monitoring (*r*=.33)
***Kim & Phillips (2014)**	156 international children	Vocabulary knowledge Comprehension monitoring	The Picture Vocabulary subtest of the Woodcock–Johnson III Inconsistency detection task Listening Comprehension Scale of the Oral and Written Language Scales (OWLS) Test of narrative language (TNL)	OWLS Vocabulary knowledge (*r*=.46) Comprehension monitoring (*r*=.43) TNL Vocabulary knowledge (*r*=.59) Comprehension monitoring (*r*=.55)
Kök (2018)	44 Turkish university students (English major)	Listening strategy use	Listening comprehension strategy use inventory IELTS Listening test	Metacognitive strategy use (*r*=.86)

***Lepola et al. (2012)**	130 Finnish children	Phonological awareness Vocabulary knowledge Sentence memory Inference skills	Rhyme and alliteration tasks Vocabulary test of the Finnish Wechsler Intelligence Scale for Children The subtest of the Developmental Neuropsychological Assessment Picture book reviewing Text comprehension test	Time1 Vocabulary knowledge (*r*=.45) Phonological awareness (*r*=.31) Sentence memory (*r*=.50) Inference skills (*r*=.39) Time 2 Vocabulary knowledge (*r*=.53) Sentence memory (*r*=.31) Inference skills (*r*=.51) Time 3 Vocabulary knowledge (*r*=.45) Sentence memory (*r*=.35) Inference skills (*r*=.54)
Li (2019)	146 Taiwanese university students	Vocabulary knowledge	Listening Vocabulary Levels Test GEBT listening test	GEPT Part I Vocabulary knowledge (*r*=.42) GEPT Part II Vocabulary knowledge (*r*=.49) GEPT Part III Vocabulary knowledge (*r*=.61) GEPT Overall Vocabulary knowledge (*r*=.72)
Li & Zhang (2019)	290 Chinese university students	Vocabulary size Depth of vocabulary knowledge Vocabulary fluency	Peabody Picture Vocabulary Test Word Associates Test, Aural Vocabulary Fluency Test IELTS listening practice test	Vocabulary size (*r*=.60) Vocabulary depth (*r*=.41) Vocabulary fluency (*r*=.46)
Masrai (2019)	130 international adult learners of English	Vocabulary knowledge Working memory	XK-Lex test (written vocabulary) A-Lex test (aural vocabulary) Listening span task, IELTS Listening test	Written vocabulary (*r*=.59) Aural vocabulary (*r*=.67) Working memory (*r*=.64)
Matthews (2018)	247 Chinese university students	Vocabulary knowledge	Aural vocabulary knowledge test (AVK) IELTS listening test	AVK level 1 (*r*=.64) AVK level 2 (*r*=.66) AVK level 3 (*r*=.68)
Matthews & Cheng (2015)	167 Chinese university students	Vocabulary knowledge	Word recognition from speech test IELTS listening test	Vocabulary knowledge (*r*=.73)

Mecartty (1994)	77 international learners of Spanish	Lexical knowledge Grammatical knowledge	Matching/antonym tasks Sentence completion task A researcher-made listening test	Lexical knowledge (*r*=.36) Grammar knowledge (*r*=.22)
Migdadi et al. (2019)	40 Saudi university students	Vocabulary size Depth of vocabulary knowledge	Breadth of Vocabulary Test Word Associates Test TOEFL listening test	Vocabulary size (*r*=.72) Vocabulary depth (*r*=.59)
Namaziandost et al. (2018)	60 Iranian learners of English	Listening anxiety Working memory	Foreign Language Listening Anxiety Scale Working memory span test A researcher-made listening test	Listening anxiety (*r*=-.95) Working memory (*r*=.87)
Nejad & Farvardin (2019)	100 Iranian learners of English	Vocabulary knowledge Metacognitive awareness	Aural vocabulary knowledge test MALQ IELTS listening test	Vocabulary knowledge (*r*=.45) Metacognitive awareness (*r*=.-11)
Noreillie et al. (2018)	199 Dutch university students learning English 351 Flemish university students learning French	Vocabulary knowledge	VocabLab Test Listening part of PET VocabLab Test B1 DELF-test	Learners of English Vocabulary knowledge (*r*=.63) Learners of French Vocabulary knowledge (*r*=.70)
Oh (2016)	75 Korean university students	Vocabulary knowledge Grammar knowledge	Auditory vocabulary test Sentence completion task Listening parts of the mid-term and final exams	Vocabulary knowledge (*r*=.59) Grammar knowledge (*r*=.55)
Onaha (2010)	103 Japanese high school students	Working memory	Forward/backward digit span tasks Standardized Test of English Proficiency	Working memory (*r*=.56)
Rahimi & Abedini (2009)	61 Iranian university students (English major)	Self-efficacy	Self-efficacy questionnaire TOEFL listening test	Self-efficacy (*r*=.78)

Sağlam (2014)	73 Turkish university students	Grammar knowledge Vocabulary knowledge Listening strategy use	Structure sub-section of TOEFL Vocabulary Levels Test TOEFL listening test	Grammar knowledge (*r*=.70) Vocabulary knowledge (*r*=.71) Strategy use (*r*=.12)
Salehawati et al. (2018)	85 Indonesian university students (English major)	Metacognitive awareness	Metacognitive awareness questionnaire TOEFL listening test	Metacognitive awareness (*r*=.30)
Satori (2021)	150 Japanese university students (English major)	Vocabulary knowledge Grammar knowledge Working memory	Aural vocabulary test Aural grammar test L2 Listening span task	Higher-Proficiency group Vocabulary knowledge (*r*=.59) Grammar knowledge (*r*=.61) Working memory (*r*=.14) Lower-Proficiency group Vocabulary knowledge (*r*=.14) Grammar knowledge (*r*=.37) Working memory (*r*=.36)
Serraj & Noordin (2013)	210 Iranian EFL learners	Foreign language classroom anxiety Foreign language listening anxiety	Foreign language classroom anxiety scale Foreign language listening anxiety scale IELTS listening practice test	Language classroom anxiety (*r*=-.21) Listening anxiety (*r*=-41)
Stæhr (2008)	88 Danish high school students	Vocabulary size	Vocabulary Levels Test A researcher-made listening comprehension test	Vocabulary size (*r*=.69)
Stæhr (2009)	115 Danish university students	Vocabulary size Depth of vocabulary knowledge	Vocabulary Levels Test Word Associates Test Cambridge Certificate of Proficiency in English Test	Vocabulary size (*r*=.70) Vocabulary depth (*r*=.65)
Tabrizi & Saeidi (2015)	90 Iranian EFL learners	Listening self-efficacy Listening autonomy	Listening self-efficacy beliefs questionnaire Listening autonomy questionnaire TOEFL listening practice test	Listening self-efficacy (*r*=.56) Listening autonomy (*r*=.58)

Tafaghodtari & Vandergrift (2008)	115 Iranian university students (English major)	Metacognitive awareness Language learning motivation	MALQ Language learning motivation orientation scale Listening sub-test of University of Ottawa proficiency test	Metacognitive awareness (*r*=.57) Motivation (*r*=.46)
***Tayşi (2019)**	187 Turkish secondary school students	Listening anxiety Listening attitude	Listening anxiety scale Listening attitude scale A researcher-made listening comprehension test	Listening anxiety (*r*=-.48) Listening attitude (*r*=.31)
Teng (2014)	88 Chinese university students	Vocabulary size Depth of vocabulary knowledge	Vocabulary size test Depth of vocabulary knowledge test IELTS listening test	Vocabulary size (*r*=.86) Vocabulary depth (*r*=.91)
Teng (2016)	88 Chinese university students	Vocabulary size Depth of vocabulary knowledge	Vocabulary size test Depth of vocabulary knowledge test IELTS listening test	Vocabulary size (*r*=.70) Vocabulary depth (*r*=.75)
***Tighe et al. (2015)**	215 3rd graders 188 7th graders 182 10th graders from several backgrounds	Working memory Reasoning skills Vocabulary knowledge	Competing language processing task Wechsler Abbreviated Scale of Intelligence (different subtests for reasoning and vocabulary knowledge) Listening sub-test of Florida Comprehensive Assessment Test	3rd graders Working memory (*r*=.40) Reasoning skills (*r*=.44) Vocabulary knowledge (*r*=.62) 7th graders Working memory (*r*=.32) Reasoning skills (*r*=.39) Vocabulary knowledge (*r*=.57) 10th graders Working memory (*r*=.15) Reasoning skills (*r*=.36) Vocabulary knowledge (*r*=.46)
Tsuchihira (2007)	22 Japanese university students	Working memory	Listening span task Listening sections of STEP 2	Working memory (*r*=.72)
Ummah & Arifani (2017)	30 Indonesian high school students	Metacognitive awareness	MALQ Listening sub-test of TOEFL	Metacognitive awareness (*r*=.52)

Vafaee (2016)	263 Iranian EFL learners	Vocabulary size Depth of vocabulary knowledge Grammar knowledge Listening anxiety Metacognitive awareness Working memory	Aural vocabulary size test Aural word associates test Aural grammar tasks Anxiety questionnaires MALQ Block span, Shape builder IELTS listening test	Vocabulary size (*r*=.78) Vocabulary depth (*r*=.80) Grammar knowledge (*r*=.77) Listening anxiety (*r*=-.52) Metacognition (*r*=.37) Working memory (*r*=31)
Valizadeh & Alavinia (2013)	160 Iranian university students (English major)	Emotional intelligence Listening anxiety	Emotional Quotient Inventory Foreign Language Listening Anxiety Scale TOEFL listening test	Emotional intelligence (*r*=.59) Listening anxiety (*r*=-58)
Vandergrift & Baker (2015)	157 7th grade French Immersion students	Vocabulary knowledge Working memory Metacognitive awareness,	Peabody Picture Vocabulary Test WTMB-C (Working Memory Test Battery for Children) MALQ A researcher-made listening comprehension test	Vocabulary knowledge (*r*=.51) Working memory (*r*=.20) Metacognition (*r*=.23)
Vandergrift & Baker (2018)	84 4th grade French immersion students	Vocabulary knowledge Working memory Metacognitive awareness	Peabody Picture Vocabulary Test Working Memory Test Battery for Children (WMTB-C) MALQ A researcher made listening comprehension test	Vocabulary knowledge (*r*=.51) Working memory (*r*=.23 Metacognitive awareness (*r*=.06)
Vandergrift et al. (2006)	115 Iranian university students 226 university students learning French	Metacognitive awareness	MALQ University of Ottawa Placement Test (English-French versions)	Metacognitive awareness (*r*=.36)
Vulchanove et al. (2014)	87 Norwegian children	Working memory Vocabulary knowledge	Working memory test battery for children Peabody Picture Vocabulary Test A researcher-made listening comprehension test	Working memory (*r*=.40) Vocabulary knowledge (*r*=.54)
Wang (2015)	120 Chinese university students	Vocabulary size Depth of vocabulary knowledge	Vocabulary Levels Test Productive Levels Test Listening sub-test of CET-4	Vocabulary size (*r*=.36) Vocabulary depth (*r*=.40)

Wang & MacIntyre (2021)	410 international learners of English	Listening enjoyment Listening anxiety Metacognitive awareness	Foreign Language Listening Enjoyment Scale Foreign Language Anxiety Scale MALQ IELTS listening test	Listening enjoyment (r=.31) Listening anxiety (r=-.52) Metacognitive awareness (r=-.09)
Wang & Treffers-Daller (2017)	151 Chinese university students	Vocabulary knowledge Metacognitive awareness	Vocabulary Size Test MALQ Listening sub-test of CET-4	Vocabulary knowledge (r=.44) Metacognitive awareness (r=.19)
***Wolfgramm et al. (2016)**	354 Swiss learners of German	Concentration Working memory Vocabulary knowledge Self-concept	Test Battery for the Assessment of Concentration Letter-Number Sequencing task Vocabulary knowledge subtest of Klassencockpit test Differential Vocational Self-concept Grid Klassencockpit Listening Comprehension Test HarmoS Listening Comprehension Test	Klassencockpit Concentration (r=.26) Working memory (r=.14) Vocabulary knowledge (r=.45) Self-concept (r=.30) HarmoS Concentration (r=.39) Working memory (r=.35) Vocabulary knowledge (r=.48) Self-concept (r=.35)
Yulisa (2018)	68 Indonesian high school students	Listening strategy use	Listening strategy use questionnaire Listening sub-test of TOEFL	Listening strategy (r=.51)

*The study is conducted in L1 or includes a sample of native speakers

APPENDIX-2a. Listening Texts

FRIENDSHIP FORCE

Hello, this is the Friendship Force. The Friendship Force helps people make friends all over the world. We think a world of friends is a world of peace. For more information about the Friendship Force, press 1. To speak with someone about friendship Force International groups, press 2.

Rick: Hello friendship Force, Rick speaking.

Nina: Hi, my name is Nina Rodriguez. And I'm interested in the Friendship force.

Rick: Great!

Nina: But I have some questions

Rick: Sure. What do you want to know Nina?

Nina: Well... First can college students be in the Friendship Force?

Rick: Sure. We have people of all ages. Teenagers, college students, even grandparents.

Nina: Oh, that's great. And how many people travel together?

Rick: Each group usually has between 15 and 30 people and each group is from the same city. So everyone can make friends before they go to the new country.

Nina: That's a good idea.

Rick: Uh-huh. But you know, you don't all stay together in the new country. Each person stays with a different host family, you know in their home.

Nina: Yeah. I understand that.

Rick: Okay good. Because Friendship Force visitors never stay in hotels.

Nina: Oh, that isn't a problem for me. I think living with a family is the best way to learn about a country.

Rick: Okay then. So what country do you want to go to?

Nina: Well, I'm really interested in Thailand.

Rick: Oh, Thailand is a beautiful country.

Nina: But what about the language? I only speak English?

Rick: Oh, that isn't a problem. Some host families speak English or other languages. But Friendship Force visitors and host families always become good friends.

Nina: Really? Even if they don't speak the same language?

Rick: Language isn't so important. They always understand each other. You'll see.

Nina: Okay, that's good. I just have one more question.

Rick: Okay.

Nina: Do the visitors have any time to travel around the country?

Rick: Yes, they do.

Nina: Oh, good!

Rick: Most visitors spend one or two weeks with their host family first. And then after that they usually travel and see the country. But you know at the Friendship Force we say “people, NOT places”.

Nina: I like that.

Rick: Because we think making new friends is the most important thing when you travel.

Nina: I think so, too.

Rick: Good! Any more questions?

Nina: No, I think that's it. Oh, where can I get an application?

Rick: There's an application on our website.

Nina: Okay. Well, I'm really excited about the Friendship Force. Thank you so much for your help.

Rick: You're welcome, Nina and good luck.

Nina: Thanks.

Rick: Okay. Bye now. Take care. Bye.

FISHERMAN

A businessman was walking along the dock of a harbor when a small fishing boat came in from the sea. Out of the boat stepped a young fisherman. The businessman stopped to talk to him.

Businessman: How many fish did you catch today?

Fisherman: Six fish. Six nice ones...

Businessman: Good for you! And are you going back out again?

Fisherman: Oh, no, I'm finished for today.

Businessman: Finished? But it's still early you could fish for several more hours and catch a lot more fish.

Fisherman: I don't need to catch any more. This is enough to feed my family and still have a few to sell for a little money.

Businessman: But what will you do for the rest of the day?

Fisherman: Oh, I will take a nap and play with my children and talk with my wife. In the evening, I will visit my friends. We will eat and drink together play the guitar and sing.

The businessman laughed and said: “Look! You are young. I have a lot of experience with business and I will give you some advice. You should start fishing all day and catch as many fish as you can. Then you can sell the extra fish and make a little money. With the extra money, you can buy a bigger boat. With a bigger boat, you can catch more fish. When you sell more fish, you will get even more money.

“And then?” asked the fisherman.

Businessman: Why? Then you can buy a second boat. You can hire some people to work for you catching and selling fish. With the money, you can buy a third boat until you have a whole fleet of fishing boats.

“A whole Fleet of fishing boats? Well, I don't know what would I do with them?” asked the fisherman.

Businessman: Well, you can catch enough fish that you don't need to sell them to the market. You can use your money to open a canning factory. You can then sell your cans of fish to markets all over the country or even sell them to other countries.

“Very interesting!” said the fisherman. And then what would I do?

Businessman: Then you'll be able to leave this little village and live in a big city. New York, London, Tokyo, Mexico City, San Paulo, Paris. You can run your fishing business from there. Now this might take 15 or 20 years sure, but then you would be very rich.

“I see.” said the fisherman. And in 15 or 20 years when I'm very rich, what would I do then?

“Why? Anything you want...” said the businessman. You can stop working, move to a little village near the sea. You can take a nap every afternoon, talk with your children and your wife and spend your evenings eating and drinking and playing music with your friends.

PHOBIAS

Dr. Jones: Good morning and welcome to Psyched. I'm Dr. Jones and this is a show about real life and the human mind. This morning we're going to talk about phobias.

A phobia is a very strong fear. When you have a phobia your body sometimes shakes and your heart beats very fast. You feel like you are in danger, but really there is no danger. For example, I know one person with arachnophobia, the fear of spiders. She can't even look at a picture of a spider. Now, a picture can't hurt you. We all know that. But a phobia means having a very strong fear— when there is really no danger. A phobia is very strong, and it changes your life. Believe me, a phobia is a very serious issue.

Dr. Jones: Good morning. Here's our first caller: Anna, from New York. Hello, Anna.

Anna: Dr. Jones, hello! Thanks so much for taking my call. I have a phobia story for you.

Dr. Jones: Please go ahead. We're listening.

Anna: Well, first of all, I really agree with you—a phobia is a very serious issue. Here's my story: I always wanted to go to Paris. So I worked really hard and saved a lot of money. Finally, I went to Paris, and I was so happy. I went to the Eiffel Tower... you know, it was the dream of my life. I was so excited when I started to climb up the tower. But after a few minutes, I started to feel very scared. I didn't know where I was. And I was confused. Where was the top? Where was the bottom? I just didn't know. So I started running down the stairs really fast. I was so scared—I had to get out. There were lots of kids on the stairs, kids on a class trip or something. But I didn't care. I just ran past them! I had to get out. I felt like I was going to die in there.

Dr. Jones: It sounds like you had claustrophobia: the fear of small spaces. Was that your first experience with a phobia?

Anna: Yes. And that was just the beginning. Then it got worse: After I came home. I couldn't take elevators or drive my car

Dr. Jones: Yes, because those are both small, closed spaces.

Anna: For a long time, I couldn't do so many things.

Dr. Jones: What kinds of things.

Anna: Well, some of my good friends live in tall apartment buildings, and I was afraid to take the elevator. I always walked up the stairs—and it took forever. And when I looked for a new job, I could only work in low buildings, not high ones. And I couldn't drive my car, so I couldn't travel easily.

Dr. Jones: I see... So, there were a lot of changes in your life...

Anna: Yeah, and not good ones. But I'm better now.

Dr. Jones: What helped you?

Anna: Different things—going to doctors. They helped me. And reading books. I read about 20 books a week because I really want to understand my phobias.

Dr. Jones: And how's your life today.

Anna: It's still not very easy, but it's better. I'm a lot better with elevators.

Dr. Jones: Any advice for people with elevator phobias.

Anna: Yes—don't take a job in a high building—not even for a million dollars. I'm just kidding. I guess my advice is: don't be angry with yourself. Lots of people have phobias—you're not the only one. And it's not your fault.

Dr. Jones: That's right, Anna. I completely agree. Thanks so much for calling today... and good luck!

UNUSUAL ART

Inakadate is a small town in rural Japan. In the rice fields outside this town there are some great works of art. However if you walk through the fields you won't be able to see these pieces of art. You have to view these works of art from above in order to appreciate them. The farmers who create these masterpieces do not use paint or dye. These works of art are made with living rice plants. Some of these rice plants have purple leaves. Some have yellow leaves and some have green leaves. Every year in late April hundreds of farmers and volunteers plant the tiny rice plants. They very carefully arrange these rice plants to create the art in their fields. It's a lot of work. These pieces of art cover 15000 square meters of rice fields. In the summer, the plants grow and the patterns begin to appear. By September the rice and the art is fully grown. Over one hundred and fifty thousand tourists arrive to view the art. Near the fields is a building made to look like an old castle. Most tourists view the art from the tower on top of the castle that is seven stories high. A few fly over the fields in planes or helicopters. On October 4th the rice plants that make up the art are harvested like all the other rice plants in the fields. Then after the harvest the farmers begin to meet to decide what art will take shape in their fields next. They begin the careful planning that will allow them to create new masterpieces the following year. The farmers of Inakadate have been creating these extraordinary works of art in their rice fields since 1993. It began as a way to bring tourist money to their village. For the first nine years, their designs were simple. But beginning in 2002, their ideas grew more and more complex. In 2005 the farmers signed agreements that allowed them to extend the design across areas belonging to more than one farmer. The next year they began using computers that allowed them to precisely arrange the different colors of rice to create the giant pictures. By 2010 over one hundred and fifty thousand tourists came to see these pictures in the rice fields. Art that can only be seen from above is not new. The Nazca people of ancient Peru created giant shapes and pictures of animals, birds, fish, and people in the desert. But without modern technology, ancient artists could not create images as precise or as complex as those now seen in Japan.

UNUSUAL ART PART II

1. When most people first see photographs of the amazing rice field art in Japan, they think that the photographs have been created with a computer.

2. Farmers in other parts of Japan have seen the success of the farmers in Inakadate in drawing tourists to their area. They have begun creating art in their rice fields as well.

3. Although most people cannot afford to ride in a helicopter, this is the best way to view the rice field art.

4. Visitors to Inakadate can take an elevator to the fifth floor of the nearby tower. And then walk up two more stories to the top of the tower.

5. One scientist believed that the Nazca used a hot air balloon to view the images that they made in the desert. He built a balloon using only the materials and technology that was available to the Nazca, and the balloon was able to fly.

6. Like the Nazca, People who lived in Britain thousands of years ago also created art that could be best appreciated when seen from above.

7. In a way, the art that the Japanese rice farmers create is like the beautiful, complex sandcastles some people make on the beach. These castles can be enjoyed for a short time and then they disappear forever. Perhaps this is one reason why some people like this kind of art so much.

APPENDIX-2b. Comprehension Questions

Part A: Listen to the conversation and write T (true) or F (false).

___**1**. Friendship Force visitors can be young or old

___**2**. Some Friendship Force visitors stay in hotels.

___**3**. Nina wants to stay with a host family in Thailand

___**4**. All host families speak English.

___**5**. Nina and Rick think it's good to have international friends.

Part B: Listen and circle the correct answer to complete each sentence.

1. Friendship Force groups have _____ people.

a. 13to 50 b. 15 to 30 c. 20 to 35

2. Friendship Force groups meet for the first time _____ .

a. before they travel b. at the airport c. in the foreign country

3. Nina thinks "When you live with a host family, you learn _____" .

a. their language b. about the country c. about their culture

4. Nina _____ Thai (the language of Thailand).

a. speaks perfect b. speaks a little c. doesn't speak

5. Friendship Force visitors stay with their host family for one or two _____ .

a. days b. weeks c. months

6. After they stay with their host family, many Friendship visitors travel _____.

a. back to their hometown b. to a different country c. in the same country

Part C: Listen to the story and answer the questions.

1. How many fish did the fisherman catch?

a. two b. four c. six

2. How long did he fish?

a. part of the day b. all day c. two days

3. Which instrument will the fisherman play in the evening?

a. the violin b. the guitar c. the harmonica

4. Which city does the businessman NOT mention that the fisherman could move to?

a. Tokyo b. Madrid c. San Paulo

5. The businessman tells the fisherman to build his own _____

a. boat b. supermarket c. canning factory

6. The businessman says it might take _____ years to be rich.

a. 5-10 b. 10-15 c. 15-20

Part D: Listen to the show and write T (true) or F (false).

___**1**. Arachnophobia is the fear of spiders.
___**2**. People with phobias sometimes shake.
___**3**. A phobia is being afraid of danger.
___**4**. Claustrophobia is the fear of small spaces.
___**5**. Anna cared about the kids in the Eiffel Tower.
___**6**. Anna was scared of elevators and cars.
___**7**. Writing helps Anna feel less afraid.
___**8**. Anna's life is easy today.
___**9**. Having a phobia is your fault.
___**10**. Many people have phobias.

Part E: Listen to the first part of a talk about rice field patterns in Inakadate, Japan. Match each action with the time of year when it happens.

____**1**. late April	a. The rice is harvested
____**2**. summer	b. The patterns begin to appear in the fields.
____**3**. September	c. The greatest number of visitors arrive.
____**4**. October 4th	d. The farmers meet and plan their next works of art.
____**5**. late fall	e. Farmers and volunteers plan the rice.

Part F: Listen to the second half of the talk and match each year with the correct action.

____**1**. The works of art became more complicated.	a. 1993
____**2**. More than 150,000 visitors came to see the art.	b. 2002
____**3**. Farmers began creating art in their rice fields.	c. 2005
____**4**. Computer were first used to plan the works of art.	d. 2006
____**5**. Farmers signed an agreement that allowed them to make bigger works of art	e. 2010

Part G: You will hear some short comments about rice-field art. Listen and check write T (true) or F (false).

___**1**. The photographs of the rice-field art are actually made by computers.
___**2**. People in other parts of Japan want to attract tourists with rice-field art.
___**3**. Viewing the rice-field art from a helicopter is very expensive.
___**4**. The tower near the rice fields of Japan is seven stories high.
___**5**. This scientist has proven that the Nazca used hot-air balloons.
___**6**. People who created geoglyphs in Britain were influenced by the Nazca.
___**7**. Some people may like the rice-field art because it is "temporary"— it does not last for a long time

APPENDIX-3. Vocabulary Levels Test (Schmitt et al., 2001)

Match the definitions with the correct words. An example has been done for you.

l business	
2 clock	___6__ part of a house
3 horse	___3__ animal with four legs
4 pencil	___4__ something used for writing
5 shoe	
6 wall	

The 2,000 Word Level

1 copy		1 admire	
2 event		2 complain	____ make wider or longer
3 motor	____ end or highest point	3 fix	____ bring in for the first time
4 pity	____ this moves a car	4 hire	____ have a high opinion of someone
5 profit	____ thing made to be like another	5 introduce	
6 tip		6 stretch	
1 accident		1 arrange	
2 debt	____ loud deep sound	2 develop	
3 fortune	____ something you must pay	3 lean	____ put in order
4 pride	____ having a high opinion of	4 owe	____ like more than something else
5 roar	yourself	5 prefer	____ grow
6 thread		6 seize	
1 coffee		1 blame	
2 disease		2 elect	
3 justice	____ money for work	3 jump	____ make
4 skirt	____ a piece of clothing	4 manufacture	____ choose by voting
5 stage	____ using the law in the right way	5 melt	____ become like water
6 wage		6 threaten	
1 clerk		1 ancient	
2 frame		2 curious	
3 noise	____ a drink	3 difficult	____ not easy
4 respect	____ office worker	4 entire	____ very old
5 theater	____ unwanted sound	5 holy	____ related to God
6 wine		6 social	
1 dozen		1 bitter	
2 empire	____ chance	2 independent	
3 gift	____ twelve	3 lovely	____ beautiful
4 opportunity	____ money paid to the	4 merry	____ small
5 relief	government	5 popular	____ liked by many people
6 tax		6 slight	

The 3,000 Word Level

1 bull		1 abandon	
2 champion	____ formal and serious manner	2 dwell	____live in a place
3 dignity	____ winner of a sporting event	3 oblige	____ follow in order to catch
4 hell	____ building where valuable	4 pursue	____ leave something permanently
5 museum	objects are shown	5 quote	
6 solution		6 resolve	
1 blanket		1 assemble	
2 contest	____ holiday	2 attach	____ look closely
3 generation	____ good quality	3 peer	____ stop doing something
4 merit	____ wool covering used on beds	4 quit	____ cry out loudly in fear
5 plot		5 scream	
6 vacation		6 toss	
1 comment		1 aware	
2 gown	____ long formal dress	2 blank	____ usual
3 import	____ goods from a foreign country	3 desperate	____ best or most important
4 nerve	____ part of the body which carries	4 normal	____ knowing what is happening
5 pasture	feeling	5 striking	
6 tradition		6 supreme	
1 administration		1 drift	
2 angel	____ group of animals	2 endure	____ suffer patiently
3 frost	____ spirit who serves God	3 grasp	____ join wool threads together
4 herd	____ managing business and affairs	4 knit	____ hold firmly with your hands
5 fort		5 register	
6 pond		6 tumble	
1 atmosphere		1 brilliant	
2 counsel	____ advice	2 distinct	____ thin
3 factor	____ a place covered with grass	3 magic	____ steady
4 hen	____ female chicken	4 naked	____ without clothes
5 lawn		5 slender	
6 muscle		6 stable	

APPENDIX-4. Grammar Test

1. On Mondays they _____ the village meeting right here in the same hall.
a) holding
b) have held
c) hold
d) had held

2. I think _____ man over there is very ill. He can't stand on his feet.
a) a
b) an
c) the
d) -

3. She miscalculated and poured _____ milk on the floor.
a) some
b) any
c) a few
d) many

4. **A**: Would you like _____ coffee while you wait?
B: Huh? Coffee? No thank you.
a) any
b) some
c) much
d) a few

5. **A**: Hello. Can I talk to David?
B: He is busy now. He _____ his homework.
a) does
b) will do
c) is doing
d) has done

6. "Tony, we _____ about this yesterday." Sherita said calmly.
a) have talked
b) talked
c) had talked
d) are talking

7. We _____ get to the meeting on time yesterday, because the train was delayed by one hour.
a) can't
b) shouldn't
c) couldn't
d) mustn't

8. He's amazing, he _____ speak five languages, including Chinese.
a) can
b) will
c) may
d) might

9. I _____ for ten years. We are really close friends.
a) had known
b) have known
c) knew
d) will know

10. Americans _____ GM products for nearly two decades.
a) had eaten
b) have been eating
c) will have eaten
d) are eating

11. Water evaporates if you _____ it.
a) boil
b) will boil
c) boiled
d) boiling

12. Anna decided _____ her job.
a) to quit
b) quitting
c) will quit
d) going to quit

13. 'I'll give you a biscuit when you _____ your soup!' the mother said to her son.
a) finished
b) finish
c) finishing
d) will finish

14. What did you do with the money _____ your mother lent you?
a) which
b) who
c) when
d) whose

15. If I _____ you, I _____ a new job.
a) were/will get
b) was/am going to get
c) were/would get
d) am/will

16. Sunday is the day _____ most countries respect a day of rest in the week.
a) which
b) where
c) when
d) whose

17. The car we had been interested for a long time_____ before we gathered enough money.
a) sold
b) was sold
c) had sold
d) was selling

18. The man _____ car we bought was from Texas.
a) that
b) whom
c) whose
d) who

19. Our neighbors next door _____ away. Their shutters have been closed for two weeks.
a) must be
b) can't
c) don't have to be
d) will be

20. The woman _____ was looking for you has just gone.
a) whose
b) whom
c) which
d) who

21. This is the film _____ I wanted you to see.
a) when
b) that
c) who
d) whose

22. The trees in the garden were _____ big _____ they took almost all the light away.
a) as / so
b) such / as
c) so / as
d) so / that

23. Sarah _____ in the Sales Department last year but now she is working in a different position.
a) had worked
b) was working
c) was going to work
d) has worked

24. I'm thinking about _____ to another city but I have lots of friends here.
a) moving
b) to move
c) to moving
d) move

25. There are _____ people she really trusts. It's a bit sad.
a) a little
b) a few
c) few
d) many

26. London has _____ sunshine in the winter. That's why so many British people go on holiday to sunny places!
a) little
b) a little
c) much
d) a few

27. **A**: The burglar broke into our home in daylight.'
B: 'Then some of your neighbors _____ him.
a) may see
b) must see
c) might have seen
d) should have seen

28. I left Tony two voicemails, but he hasn't called me back yet. He _____ **(be)** very busy all day.
a) can be
b) should have been
c) must have been
d) has to be

29. Brushes and puffs, however, can introduce bacteria, so make sure that they _____ monthly with mild soap or face cleanser.
a) cleaned
b) are cleaned
c) being cleaned
d) cleaning

30. She didn't want to be a character in a novel where everyone _____ one by one.
a) killed
b) are killing
c) got killed
d) killing

31. We couldn't go into the concert because we _____ our tickets.
a) haven't brought
b) weren't bringing
c) hadn't brought
d) aren't bringing

32. We _____ have finished the game, even if we'd wanted to. It was raining very hard and we had to stop.
a) shouldn't
b) mustn't
c) can't
d) couldn't

33. It's impossible to say what time he will arrive. He just turns up _____ he wants.
a) whenever
b) however
c) whatever
d) wherever

34. She asked me _____ I had seen a popular Japanese TV drama called Tokyo Love Story.
a) as
b) if
c) such
d) like

35. The study says there is some evidence to believe that these children actually _____ in more typical child-care programs.
a) can harm
b) can harmed
c) can be harmed
d) can harming

36. Three months ago my landlord told me _____ a new place because she was going to sell to developers.
a) finding
b) going to find
c) to find
d) to finding

37. Some of them even folded their hands in respect for the little girl, _____ was quite amazing.
a) that
b) who
c) which
d) whom

38. As soon as I _____ my last sip, Zane picked up our cups and carried them to the trash.
a) have taken
b) had been taking
c) had taken
d) was taking

39. _____you take them to where they want to go, they will help you pay for the gas.
a) as far as
b) as much as
c) as if
d) as long as

40. The next day postal workers discovered the blue box _____ broken into and mail _____stolen.
a) has been /was
b) is /has been
c) has been /has been
d) had been /had been

APPENDIX-5a. Metacognitive Awareness Listening Questionnaire-Turkish (Vandergrift et al., 2006)

	Değerli katılımcı. Bu ölçek yabancı dilde dinleme hakkında bilişüstü farkındalığınızı ve kullandığınız dinleme stratejilerini belirlemek amacıyla hazırlanmıştır. Aşağıda verilen ifadeleri sizlere uygunluk derecesine göre **1**'den **(Kesinlikle katılmıyorum) 6**'ya (**Kesinlikle katılıyorum**) kadar değerlendiriniz.						
		1	**2**	**3**	**4**	**5**	**6**
1	Dinlemeye başlamadan önce kafamda nasıl dinleyeceğime yönelik bir planım olur.						
2	Anlamakta zorlandığım zaman metne daha fazla odaklanırım.						
3	İngilizce dinlemenin, İngilizce okuma, konuşma ve yazmadan daha zor olduğunu düşünüyorum.						
4	Dinlerken kafamda çeviri yaparım.						
5	Anlamadığım kelimeleri tahmin etmek için anladığım kelimeleri kullanırım.						
6	Dikkatim dağıldığı zaman hemen konsantrasyonumu toplarım.						
7	Dinlerken, anladıklarımı konuyla ilgili bildiklerimle karşılaştırırım.						
8	İngilizce dinlediğini anlamada zorlandığımı düşünüyorum.						
9	Dinlediğimi anlamada yardımcı olması için deneyimlerimi ve bilgilerimi kullanırım.						
10	Dinlemeden önce daha önce dinlemiş olabileceğim benzer metinler hakkında düşünürüm.						
11	Dinlerken anahtar kelimeleri çeviririm.						
12	Konsantrasyonumu kaybettiğimde toparlanmaya çalışırım.						
13	Dinlerken, yorumunun yanlış olduğunu fark edersem, yorumumu hemen değiştiririm.						
14	Dinledikten sonra, nasıl dinlediğimi ve bir dahaki sefere neyi farklı yapabileceğimi düşünürüm.						
15	İngilizce dinlerken kaygılanmam.						
16	Duyduğumu anlamada güçlük çektiğimde pes eder ve dinlemeyi bırakırım.						
17	Anlamadığım kelimelerin anlamını tahmin etmek için parçanın ana fikrini kullanırım.						
18	Dinlerken her kelimeyi çeviririm.						
19	Bir kelimenin anlamını tahmin ettiğimde, tahminimin mantıklı olup olmadığını görmek için metnin genelini düşünürüm.						
20	Dinlerken kendime belirli aralıklarla anlama düzeyimden tatmin olup olmadığımı sorarım.						
21	Dinlerken bir hedefim olur						

APPENDIX-5b. Metacognitive Awareness Listening Questionnaire (Vandergrift et al., 2006)

	Dear participant. This scale has been prepared to determine your metacognitive awareness about listening in a foreign language and the listening strategies you use. Evaluate the following statements from 1 (I strongly disagree) to 6 (I strongly agree) according to the degree of relevance to you..						
		1	**2**	**3**	**4**	**5**	**6**
1	Before I start to listen, I have a plan in my head for how I am going to listen.						
2	I focus harder on the text when I have trouble understanding.						
3	I find that listening in French is more difficult than reading, speaking, or writing in French.						
4	I translate in my head as I listen.						
5	I use the words I understand to guess the meaning of the words I don't understand.						
6	When my mind wanders, I recover my concentration right away.						
7	As I listen, I compare what I understand with what I know about the topic.						
8	I feel that listening comprehension in French is a challenge for me.						
9	I use my experience and knowledge to help me understand.						
10	Before listening, I think of similar texts that I may have listened to.						
11	I translate key words as I listen.						
12	I try to get back on track when I lose concentration						
13	As I listen, I quickly adjust my interpretation if I realize that it is not correct.						
14	After listening, I think back to how I listened, and about what I might do differently next time.						
15	I don't feel nervous when I listen to French.						
16	When I have difficulty understanding what I hear, I give up and stop listening.						
17	I use the general idea of the text to help me guess the meaning of the words that I don't understand.						
18	I translate word by word, as I listen						
19	When I guess the meaning of a word, I think back to everything else that I have heard, to see if my guess makes sense.						
20	As I listen, I periodically ask myself if I am satisfied with my level of comprehension.						
21	I have a goal in mind as I listen.						

APPENDIX-6. Foreign Language Listening Anxiety Scale (Polat and Erişti, 2016)

	Değerli Katılımcı. Bu ölçek sizlerin İngilizce dinleme kaygı seviyenizi belirlemek amacıyla hazırlanmıştır. Aşağıda yer alan ifadeleri sizlere uygunluk derecesine göre **1 (Kesinlikle katılmıyorum) 2 (Katılmıyorum), 3 (Kısmen katılıyorum) 4 (Katılıyorum) 5 (Kesinlikle katılıyorum)** değerlendiriniz.					
		1	**2**	**3**	**4**	**5**
1	İngilizce duyduklarımı anlayıp anlamadığımdan emin olamadığımda moralim bozulur.					
2	İngilizce dinlerken kelimeleri çoğunlukla anlarım ama yine de konuşmacının tam olarak ne dediğini pek anlamam.					
3	İngilizce bir metin dinlerken kafam o kadar karışıyor ki ne dinlediğimi hatırlayamıyorum.					
4	İngilizce metin dinlemek hep gözümü korkutmuştur.					
5	Konusuna aşina olmadığım bir İngilizce parçayı dinlerken endişelenirim					
6	İngilizce bir dinleme metninde bilmediğim dilbilgisi yapısı duymak moralimi bozar.					
7	İngilizce dinlerken metindeki her kelimeyi anlayamazsam endişelenirim ve kafam karışır.					
8	İngilizce dinlerken telaffuz edemediğim kelimelerle karşılaşmak sinirimi bozar.					
9	İngilizce dinlerken kendimi çoğu zaman kelimesi kelimesine çeviri yaparken bulurum.					
10	İngilizce 'de tuhaf seslerle karşılaştığınızda dinlediğinizi hatırlamanız zordur.					
11	Konuşma İngilizcesini anlamak için öğrenilmesi gereken tüm yeni sesler beni endişelendirir.					
12	İngilizce bir şeyler dinlemekten hoşlanırım.					
13	İngilizce dinleme konusunda kendime güvenirim					
14	Alıştıktan sonra İngilizce dinlemek o kadar da zor değil.					
15	İngilizce öğrenmenin en zor tarafı konuşma İngilizce 'sini anlamayı öğrenmektir.					
16	Konuşma İngilizce 'sini anlamayı öğrenmektense, sadece İngilizce okumayı öğrenmek beni mutlu eder.					
17	Kendi başıma İngilizce dinlemeyi sorun etmem ama grup halinde İngilizce dinlemek zorunda kalınca çok rahatsız hissederim.					
18	İngilizce dinlediğini anlama açısından ulaşmış olduğum seviyeden memnunum.					
19	İngiliz kültürü ve düşünceleri bana çok yabancı gelir.					
20	Konuşma İngilizce 'sini anlayabilmek için İngiliz kültürü ve tarihi hakkında çok şey bilmeniz gerekir.					

APPENDIX-7a. Willingness to Listen in L2 Scale-Turkish (Akdemir, 2016)

	Değerli Katılımcı. Bu ölçek sizlerin yabancı dilde dinleme istekliliğinizi ölçmek ve bunu etkileyen faktörleri belirlemek amacıyla hazırlanmıştır. Aşağıda verilen ifadeleri sizlere uygunluk derecesine göre **1 (Hiçbir Zaman), 2 (Nadiren), 3 (Bazen), 4 (Sıklıkla)** ve **5 (Her zaman)** olarak değerlendiriniz.					
		1	2	3	4	5
1	Değişik ritimde konuşan birini dinlemeye istekli olurum.					
2	Yüksek konuşma hızı olan bir konuşmacıyı dinlemeye istekli olurum.					
3	Zor kelimeleri olan bir konuşmacıyı dinlemeye istekli olurum.					
4	Değişik ve zor aksanı olan bir konuşmacıyı dinlemeye istekli olurum.					
5	Yeterli kelime dağarcığım olmadığında dinlemeye isteksiz olurum.					
6	Yeterli arka plan bilgisine sahip olmadığımda dinlemeye isteksiz olurum.					
7	Yeterli ön bilgiye sahip olmadığımda dinlemeye isteksiz olurum.					
8	Dinleme stratejileri hakkında yeterli bilgim olmadığında dinlemeye isteksiz olurum.					
9	İkili çalışma yaparken dinlemeye istekli olurum.					
10	Grup çalışması yaparken dinlemeye istekli olurum.					
11	Etkinliklerde sonradan ne geleceğini tahmin edebildiğim zaman dinlemeye istekli olurum.					
12	Başlıktan tahmin yürütebildiğim zaman dinlemeye istekli olurum.					
13	Dinleme parçasının kavramsal zorluğundan dolayı dinlemeye isteksiz olurum.					
14	Anlamı yorumlamakta zorluk yaşadığımda dinlemeye isteksiz olurum.					
15	Eğer zor dilbilgisi yapıları varsa dinlemeye isteksiz olurum.					
16	Dinleme parçası uzun ve yoğunsa dinlemeye isteksiz olurum.					
17	Aktivitenin yapısal zorluğundan dolayı dinlemeye isteksiz olurum.					
18	Dinleme parçasının yapısal zorluğundan dolayı dinlemeye isteksiz olurum					
19	Uzun soru cevaplarda zorluk yaşadığım zaman dinlemeye isteksiz olurum.					

APPENDIX-7b. Willingness to Listen in L2 Scale (Akdemir, 2016)

	Dear Participant. This scale has been prepared to measure your willingness to listen in a foreign language and to determine the factors affecting it. Please rate the following statements as **1 (Never)**, **2 (Rarely)**, **3 (Sometimes)**, **4 (Often)** and **5 (Always)** according to the degree of relevance to you.					
		1	2	3	4	5
1	I am willing to listen to a speaker with different rhythm.					
2	I am willing to listen to a speaker with a high speech rate.					
3	I am willing to listen to a speaker with a different/difficult vocabulary.					
4	I am willing to listen to a speaker with a different or difficult accent.					
5	I am unwilling to listen when I do not have enough vocabulary..					
6	I am unwilling to listen when I do not have enough background knowledge					
7	I am unwilling to listen when I do not have enough prior knowledge					
8	I am unwilling to listen when I do not have enough knowledge and application of listening strategies.					
9	I am willing to listen when I do pair-work					
10	I am willing to listen when I do group-work.					
11	I am willing to listen when I can predict the next.					
12	I am willing to listen when I can predict from the title					
13	I am unwilling to listen because of conceptual difficulty of the text/audio.					
14	I am unwilling to listen when I have difficulty in interpreting the meaning.					
15	I am unwilling to listen if there are difficult grammatical patterns.					
16	I am unwilling to listen if the text/audio is long and dense					
17	I am unwilling to listen because of syntactic complexity of the task..					
18	I am unwilling to listen because of syntactic complexity of the text/audio					
19	I am unwilling to listen when I have difficulty in long answers/questions.					

APPENDIX-8. Etik Kurul Karar Belgesi

Evrak Kayıt Tarihi: 13.03.2020	Protokol No: 23654	Tarih: 03.06.2020

ANADOLU ÜNİVERSİTESİ
SOSYAL VE BEŞERÎ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU
KARAR BELGESİ

ÇALIŞMANIN TÜRÜ:	Doktora Tez Çalışması
KONU:	Eğitim Bilimleri
BAŞLIK:	Components of L2 Listening Comprehension: A Componential Model/Yabancı Dilde Dinleme Anlamanın Bileşenleri: Bir Bileşen Modellemesi
~~PROJE~~/TEZ YÜRÜTÜCÜSÜ:	Doç. Dr. Ali MERÇ
TEZ YAZARI:	Tuncay KARALIK
ALT KOMİSYON GÖRÜŞÜ:	-
KARAR:	Olumlu
