The Reading Matrix: An International Online Journal
Volume 22, Number 2, September 2022

Relationship between Metacognitive Awareness, Listening Anxiety and Ambiguity Tolerance of Turkish EFL Learners*

Büşra Nur Durmaz
Hasan Kalyoncu University

Asuman Aşık
Gazi University

ABSTRACT

The present study aims to investigate the relationship between listening metacognitive awareness and listening anxiety with relation to the ambiguity tolerance in foreign language teaching. Participants included 374 participants studying at the School of Foreign Languages from three different universities in Turkey. With sequential explanatory research design, the data were collected through three scales: metacognitive awareness listening questionnaire, foreign language listening anxiety and second language tolerance of ambiguity and semi-structured interviews with 16 students. Results showed that there was (1) a significant negative correlation between ambiguity tolerance and listening anxiety, (2) a significant negative correlation between ambiguity tolerance and metacognitive awareness, (3) no significant correlation between metacognitive awareness and listening anxiety, (4) the moderator effect of ambiguity tolerance in the relationship between listening metacognitive awareness and listening anxiety in the Turkish EFL context.

INTRODUCTION

It has been acknowledged that listening skill, as a receptive skill in second/foreign language acquisition, is influenced by several factors affecting the listening comprehension and the strategies (Goh, 2008; Vandergrift & Baker, 2015). Vandergrift and Baker (2015) listed the variables that influence listening comprehension as L1 and L2 vocabulary knowledge, auditory discrimination, working memory and metacognition, while the role of affective factors, such as motivation and anxiety (Bekleyen, 2009; Elkhafaifi, 2005; Vogely, 1998); and strategy use (Golchi, 2012; Kök, 2018; Vogely, 1995) have also proved to be important factors in listening comprehension in various contexts. These variables are frequently studied as a single construct to investigate listening comprehension or through relationships between each other. Considering the fact that listening skill development is under the influence of several individual differences, affective factors and a diversity of variables, it is important to explore listening skill by investigating the relationship of several variables.

* This study is a part of a master's thesis titled '*The relationship between listening metacognitive awareness, foreign language listening anxiety and ambiguity tolerance of Turkish EFL students*' and supervised by Asuman Aşık.

Against this background, the present study focuses on three significant variables influencing listening skill in English as a Foreign Language (EFL) which are metacognitive awareness, listening anxiety and ambiguity tolerance. In this regard, this study investigates the relationship between listening metacognitive awareness and listening anxiety with relation to the ambiguity tolerance.

Review of Literature

Metacognitive Awareness

The term metacognition, first introduced by Flavell (1979), was defined as constantly monitoring, regulating, and evaluating the strategies to achieve a goal. Goh and Hu (2014), in this context, address two components of the metacognition; one is knowledge about one's cognitive processes on a certain task and the other is using this knowledge to regulate it. On this note, metacognition has been acknowledged to be one of the predictors of listening performance within language learning strategies (Dimassi, 2017; Goh, 2008, 2012, 2018; Vandergrift & Baker, 2015).

Vandergrift and Goh (2012) used the term metacognitive awareness to refer to all the indicators of metacognition with relation to listening skills. In this regard, a measurement tool was developed by Vandergrift, Goh, Mareschal, and Tafaghodtari (2006) to measure the metacognitive awareness in L2 listening skills of foreign language learners. The scale was found to be reliable with .62 Cronbach's alpha value for the whole scale and for the subscales of the scale, it ranged from .74 and .78. For validation purposes, the psychometric properties of the scale have been investigated with the Rasch model by Ehrich and Henderson (2019) and Aryadoust (2015). Both studies revealed similar results in that all the subscales yielded good psychometric functioning, except that Ehrich and Henderson (2019) found the 'person knowledge' subscale did not fit the model, and the scale was found to be reliable.

The scale has been widely used by scholars around the world; Tavakoli, Shahraki, and Rezazadeh (2012) used it in the Iranian context to reveal the positive effect of metacognitive awareness on listening comprehension; while Maftoon and Alamdari (2020) used it as a measurement of pre and posttest to reveal the positive effect of metacognitive instruction on metacognitive awareness in listening. In the Chinese context, it was used to discover a significant positive relationship between metacognitive awareness and listening performance (Goh & Hu, 2014) and a mediating effect of listening metacognitive awareness between listening anxiety and listening performance (Xu & Huang, 2018). Moreover, the studies in the Turkish context have investigated the concept in relation to the effect of metacognitive instruction in listening skill and revealed mixed results as; metacognitive instruction had a positive effect on listening comprehension while proving no significant difference in metacognitive awareness (Ülke, 2014) and a significant positive effect on both listening comprehension and metacognitive awareness in listening (Topaç, 2019).

Foreign Language Listening Anxiety

One of the most important affective factors that influence language learning and listening skill in particular is anxiety. Language anxiety is considered state anxiety, caused by negative experiences in the language environment (MacIntyre & Gardner, 1991). Anxiety has been negatively correlated with the success in language learning, in other words, the higher the anxiety

level of learners the lower their success rate in language learning. Thus, anxiety plays an important role in language acquisition in the sense that it may hinder the process and make it seem more difficult than it actually is (Krashen, 1982; MacIntyre & Gardner, 1991). Listening anxiety, in this regard, is the feeling of stress which occurs during a foreign language listening task and therefore prevents the individual from performing requested tasks. The causes of anxiety have been investigated and solutions have been revealed to reduce the anxiety level, such as low level of proficiency (Bekleyen, 2009; Gönen, 2009; Vogely, 1998). Also, low levels of anxiety have been linked to the high rate of success in language learning (Krashen, 1982) and have been studied with several variables in language learning, including ambiguity tolerance and metacognitive awareness (Dewaele, Jean-Marc, & Shan Ip, 2013; Sadeghi & Soleimani, 2016).

Ambiguity Tolerance

In relation to anxiety, Ambiguity Tolerance is also another significant variable to be focused on. Sayar (2021) claims that '"anxiety feeds on ambiguity since most people do not know how to handle ambiguity" (p. 22) and therefore have different levels of 'tolerance' for ambiguity. Ambiguity is defined by Brudner (1962) as a confusing situation with unfamiliar and unclear cues. This may be caused by the lack of information on ambiguous stimuli. In this sense, ambiguity tolerance is the reaction given to this ambiguity, which is considered 'tolerance' if handled well, and 'intolerance' if avoided (Stanley Budner, 1962; Genç, 2016; McLain, 1993). At first, it is considered as a personality variable and has been considered as a learning style and has been linked to several concepts such as "cognitive orientation, a perception defense, a personality trait, or an educational achievement" (Furnham & Ribchester, 1995, p.196) since the 1950s. The studies on the relationship between ambiguity tolerance and anxiety show that a high level of tolerance usually indicates low levels of anxiety, and higher reading strategy awareness (Keshavarz & Assar, 2011). However, there are studies showing that a moderate level of tolerance is suggested (El-Koumy, 2000) since high tolerance may imply indifference towards the input while the intolerance may indicate low levels of proficiency.

There have been several studies on the dimensionality of ambiguity tolerance about whether it is a personality trait or content specific (Durrheim & Foster, 1997). In this regard, a has been linked to the second language tolerance of ambiguity, in which case ambiguity tolerance in foreign language learning, in this case, is the tendency to interpret lexical, phonological, and syntactic cues as a threat (Chapelle & Roberts, 1986).

Ambiguity tolerance has been investigated with reference to the listening comprehension, strategy use, and anxiety in language learning, and studies show that second language ambiguity tolerance; (a) has a significant negative correlation with foreign language classroom anxiety (Asmalı, 2019; Dewaele, Jean-Marc, & Shan Ip, 2013); Sadeghi & Soleimani, 2016); is a strong predictor of reading anxiety (Genç, 2016); and a negative predictor of the language learning strategies (Ely, 1989) and metacognitive strategy use (Sadeghi & Soleimani, 2016), while being positively correlated with the listening comprehension (Afshar & Khassemi, 2019; Behresi, Moulaei & Motlag, 2016). Moreover, it was found that although strategy training helped learners in terms of dealing with ambiguity tolerance, high levels of ambiguity tolerance did not help high proficiency learners but only the low proficient ones, therefore ambiguity tolerance was negatively correlated with listening proficiency (Tranbanco, 2017). These studies underline the importance of the role ambiguity tolerance plays in language learning and with specific reference to the listening skill. Nevertheless, previous studies were somewhat limited in the Turkish context and it

is important to provide empirical evidence as to the relationship between AT and variables in foreign language listening skills.

The Present Study

With the aforementioned studies as background, the present study aims to investigate the relationship between listening metacognitive awareness and listening anxiety with relation to the ambiguity tolerance variable. Although the relationship of metacognitive awareness, anxiety, and ambiguity tolerance with regard to listening skill has been studied separately, to the best knowledge of the researchers, there has been no research that explored the relationship between metacognitive awareness and listening anxiety with relation to ambiguity tolerance for listening

skill in FL neither in Turkey nor other EFL contexts. However, their relationship is significant to analyze the role of affective factors in strategy use in foreign language learning. Thus, we proposed a model for the moderator effect of ambiguity tolerance in the effect of listening anxiety on metacognitive awareness (Figure 1).

Figure 1. The Hypothesized Model

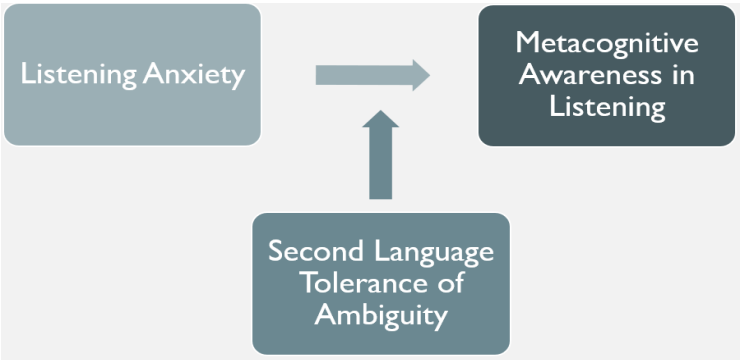

Figure 1 shows the hypothesized model of the study, indicating the moderator role of AT in the effect of listening anxiety on listening MA. In line with this purpose and hypothesis, the following questions are asked:

(1) Is there a relationship between
   (a) Metacognitive awareness and listening anxiety of Turkish EFL learners?
   (b) metacognitive awareness and ambiguity tolerance of Turkish EFL learners?
   (c) second language ambiguity tolerance and listening anxiety of Turkish EFL learners?

(2) Is there any effect of listening anxiety on the metacognitive awareness of Turkish EFL learners?

(3) Is there any effect of second language tolerance of ambiguity on metacognitive awareness of Turkish EFL learners?

(4) Is there any effect of second language tolerance of ambiguity in the relationship between metacognitive awareness and listening anxiety?

METHODOLOGY

Research Design

This study employs a sequential explanatory research design to examine the relationship between MA and listening anxiety in relation to the ambiguity tolerance of Turkish EFL learners. Explanatory research is one of the mixed-method research designs and employs both qualitative and quantitative means of data collection. The qualitative part is conducted as a follow-up to support or expand the findings of the quantitative study (Fraenkel, Wallen & Hyun, 1993).

Participants

The study included 374 participants who studied at the School of Foreign Languages from three different universities in Turkey. The levels of the participants varied and were determined with the proficiency exams at the beginning of the term, and they are assigned to the classrooms based on these levels. The participants were chosen based on a convenience sampling method. Convenient sampling is used when the sample is easily accessible by the researcher (Fraenkel, Wallen & Hyun, 1993). This method of sampling is used especially when the researcher has difficulty in selecting the sample randomly because of the difficulty in terms of reaching the participant (Creswell & Creswell, 2017), in our case, it was COVID-19 pandemic. The descriptive statistics regarding the levels and genders of the participants are presented in Table 1.

Table 1. Descriptives for the Participants

		Level of English						Total
		A1	A2	B1	B2	C1	C2	
Gender	Male	29	16	8	15	3	7	78
	Female	147	60	30	31	11	17	296

Table 1 shows the participants' numbers based on their levels and gender. The participants mostly consisted of A1 (47%) and A2 (10%) level students. Furthermore, the majority of them (79%) were females.

Moreover, 16 of these participants also participated in the qualitative part and were interviewed by the researcher. Eleven of them were females while five of them were males. Also, among those who participated in the interviews, six students were C2 (advanced) levels, another six were C1 (upper-intermediate) levels, one of them was B2 (intermediate) level, one was B1 (pre-intermediate) and one was A2 (elementary) level. Additionally, those who participated in the interviews were assigned codes as P1, P2, P3, and so on by the researcher for confidentiality purposes.

Instrument

To answer the research questions, four data collection instruments (three quantitative tools and one qualitative instrument) were implemented. Before the data collection procedure, necessary ethical approvals were received from the ethical committee of each university.

MA Listening Questionnaire (MALQ)

The scale was developed by Vandergrift, Goh, Mareschal, and Tafaghodtari (2006) to measure the MA of university students in listening skills. The scale consists of 21 items and five factors. It is a 6-point Likert scale ranging from 1= Strongly Disagree to 6= Strongly Agree. There are six reverse-coded items (3rd, 4th, 8th, 11th, 16th, and 18th) in the scale and Cronbach's alpha coefficient for the whole scale was .62.

Adaptation and validation of the scale to Turkish was implemented by the researchers. As a result of the adaptation study, the scale was reduced to 18 items with a unidimensional structure because the five subscales did not work, and three items had to be removed for reliability and validity purposes (Nur Durmaz & Aşık, 2022). The Cronbach's alpha coefficient of the Turkish version was .80, which is considered reliable as it is higher than .70 (Büyüköztürk, 2019). The adapted and validated version of the scale was used in the present study.

Foreign Language Listening Anxiety Scale (FLLAS)

Kim (2000) developed the Foreign Language Anxiety Scale to examine the relationship between LA and listening performance of university students in Korea. The scale is a 5-point Likert scale ranging from 1= strongly agree to 5=strongly disagree and it was adapted to Turkish by Kılıç (2007). The original scale included 33 items with the reliability value of .93 while the adapted version included 24 items since nine items were omitted because they did not work in the Turkish context. The adapted version had .86 Cronbach's alpha value, which was used in the study.

Second Language Tolerance of Ambiguity Scale (SLTAS)

The scale was developed by Ely (1989) to measure ambiguity tolerance of second and third-year university students who were learning Spanish as a second language. It was adapted to Turkish by Erten and Topkaya (2009) with Turkish learners of English who studied preparatory school at a state university. The scale consists of 12 items with a Cronbach alpha value of .82. The scale is a 5-point scale ranging from 1= strongly agree to 5= strongly disagree. The original version had .82 while the adapted version has Cronbach's alpha value of .75, which are considered high values for reliability (Büyüköztürk, 2019) and the adapted version was used in the present study.

Semi-structured Interview Form

A semi-structured interview form was prepared by the researcher (Appendix 4). The form included the planned questions as a guide for the interview. The questions included the aspects related to LA, ambiguity tolerance and metacognitive awareness during listening practices in English. The interviews were conducted for the purpose of contradicting or confirming the quantitative findings in accordance with the explanatory research design (Fraenkel, Wallen, and Hyun, 1993). Participants' consent was received before the interviews began and they were

informed about the confidentiality of ethical concerns of the study. Since the data was collected during the COVID-19 restrictions, the interviews were collected over mobile phones and the researcher took notes simultaneously. The notes later were shared with the participants to have their confirmation about and to learn whether they had anything to add or omit.

Data Analysis

Both qualitative and quantitative data analysis methods were employed to analyse the data. The normality of the data set was tested to see whether to use parametric or non-parametric tests in further analyses. The data set did not include missing values or univariate outliers, however, two participants (56th and 58th) were multivariate outliers and thus removed from the data set. Therefore, the following analyses were conducted with 372 participants. The Pearson correlation tests were performed to reveal the relationship between the three variables. Later the hierarchical regression analyses were performed to examine the effects of listening anxiety and ambiguity tolerance on metacognitive awareness. Finally, the path analysis was performed to investigate the moderator effect of ambiguity tolerance in the effect of listening anxiety on the metacognitive awareness. The moderator variable affects the strength, direction, level, or the presence of a relationship between two other variables (Baron & Kenny, 1986). The model of the moderator variable is given below (Figure 2).

Figure 2. Moderator Model (Baron & Kenny,1986)

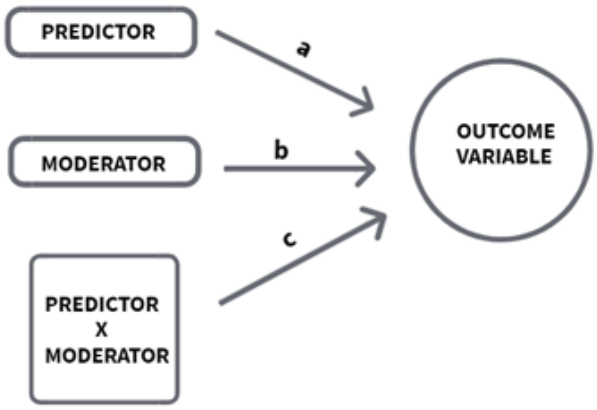

Figure 2 illustrates the model for path analysis in which are the *a, b* and *c* paths. Path *a* represents the effect of the independent variable, in our case it is listening anxiety, while path b represents the effect of the moderator variable (ambiguity tolerance). And finally, path *c* represents the interaction of independent and moderator variables, all looking for an effect in the outcome variable, which is metacognitive awareness in the present study. If the interaction or path *c* is significant it means that the model works.

The descriptive analysis was used for the analysis of the qualitative data, which includes four stages (Strauss & Corbin, 1990). The first stage is the *outlining* framework with the help of interview questions or pre-existing dimensions of the construct that is examined. This stage is important so as to avoid misinterpretation or loss of the data during the analysis. The second stage

is *analyzing,* which includes highlighting the data that falls into the predetermined framework and leaving out the rest. Analyzing is followed by *identifying* the findings with the help of direct quotations, and lastly, *interpreting* them by relating the findings to the aim of the study.

RESULTS

In order to answer the research questions, firstly, the descriptive statistics of the three scales (MALQ, FLLAS, and SLTAS) were analyzed. Table 2 below displays the findings.

Table 2. Descriptive Statistics of MALQ, FLLAS, and SLTAS

	Item Number	Min.	Max.	Mean	Std. Deviation	Skewness SEs: 0,126	Kurtosis SEk: 0,252
MALQ	18	33	93	70,293	13,82	-0,812	0,239
FLLAS	24	26	120	78,360	18,17	-0,347	-0,212
SLTAS	12	16	53	30,556	8,16	0,839	0,151

Given in Table 2, the highest score on the MALQ is 93, while the lowest score is 33. The mean score of the MALQ is 70,293 and the standard deviation is 13,82. The highest score obtained from FLLAS is 120, while the lowest score is 26. The mean score of FLLAS is 78,360 and the standard deviation is 18,17. The highest score obtained from SLTAS is 53, while the lowest score is 16. The mean score of SLTAS is 30,556 and the standard deviation is 8,16. Moreover, skewness and kurtosis values of all three scales are between -1 and +1, which shows that the data set is normally distributed, and parametric tests can be performed (Büyüköztürk, 2019).

Following the descriptive statistics, to answer RQ1, Pearson correlation was calculated to examine the relationship between metacognitive awareness, listening anxiety, and ambiguity tolerance. Table 3 shows the Pearson Correlation results of these three variables.

Table 3. Pearson Correlation Results between MALQ, FLLAS, and SLTAS

	MALQ	FLLAS	SLTAS
MALQ	1		
FLLAS	0,072	1	
SLTAS	-0,451*	-0,483*	1

*p<0,05.

Table 3 shows that there are significant negative correlations between ambiguity tolerance and metacognitive awareness and listening anxiety and ambiguity tolerance. However, there is no significant correlation between metacognitive awareness and listening anxiety.

The negative correlation between ambiguity tolerance and listening anxiety implies that as one increases the other variable decreases. The correlation between listening anxiety and ambiguity tolerance has not yet been investigated in the Turkish context, however, other anxiety variables such as Foreign Language Classroom Anxiety and Foreign Language Reading Anxiety have been investigated and yielded negative correlations with ambiguity tolerance (Asmalı, 2019; Dewaele, Jean-Marc, & Shan Ip, 2013; Genç, 2016; Sadeghi & Soleimani, 2016). In addition to these studies, it was argued that low levels of ambiguity tolerance indicated high levels of anxiety (Chapelle, 1983) and therefore our result with listening anxiety seems plausible based on this premise and studies.

Another result the study has revealed is the negative correlation between ambiguity tolerance and metacognitive awareness. That is, as one variable increases the other one decreases, and vice versa. In this context, the studies show that there is a negative relationship between strategy variables in language learning and second language ambiguity tolerance (Ely, 1989; Kamran & Maftoon, 2012; Sadeghi & Soleimani, 2016), although there are no studies that particularly investigated AT with listening metacognitive awareness. The studies revealed that learners tend to use metacognitive strategies as a way to cope with the ambiguous stimuli, hence the negative correlation.

In addition to the quantitative findings on the relationship between listening anxiety and metacognitive awareness, qualitative data also indicates a relationship between metacognitive awareness and listening anxiety. The participants (n=16) were interviewed about the way they feel during a listening task, and whether they use specific strategies to feel or not to feel that way. Six of them stated that they felt comfortable during a listening session as opposed to ten of them who stated that they got stressed or anxious. Regardless of their proficiency level, anxious listeners stated that they mostly favored *'note-taking'* and '*comprehension questions'* as ways to improve their listening. For example, one of the anxious participants said the following:

'I feel very uneasy and nervous. I feel relaxed if I can understand the accent of the people talking and if the topic is something I'm familiar with. I believe the most effective way for improving listening is listening to the text, then taking notes, then listening again, and answering comprehension questions. Also, I think listening to texts with different accents should be integrated more into the courses.' (P5, A2 level).

Another participant (P9) stated that he felt '*uneasy'* and that he tries to *'focus his attention on the task'* while he *'takes notes'***.** He also added that he believes *'speaking'* is an efficient way to improve listening skills because listening and speaking go hand-in-hand. Another anxious participant P1 *(B1 Level)* also provided a similar answer, as he stated that he feels *'very anxious' if* he gets '*distracted'* during a listening task. He added that he *'takes short notes while listening as memos.* He also believed that *after* listening to the audio once '*reading the transcript and listening to the text again'* was helpful.

As for the non-anxious learners, they mostly stated that they try to '*focus their attention to the task'* and *'practice listening outside the classroom'*. One of them, for instance, said the following:

'*I feel pretty relaxed because I listen to music in English a lot and watch movies in their original language outside the classroom. Note-taking is important as well, but I believe that you*

need to be exposed to the language (English) as much as possible to get familiar with it. And I recommend listening to different accents. It is also very important to get familiar with different accents' (P11, C1 level).

Furthermore, another non-anxious learner P2 (C1 level) stated that she feels '*relaxed and comfortable'* and that she tries to *'remove the distractions'* and *'focus her thoughts on the task'*. She also mentioned that she '*writes down the keywords'* she hears and watches movies and listens to the music for listening practice outside the classroom. Similarly, participant P4 stated that *'taking short notes'* while listening keeps her calm and she '*listens to podcasts'* to practice her listening skills outside the classroom.

Here we see that anxious learners tend to use more cognitive strategies like 'note-taking' and 'answering comprehension questions, while comfortable learners use higher-order skills such as 'directed attention' and 'selective attention'. In other words, qualitative data shows some kind of relationship between anxiety and metacognitive awareness, while our quantitative data shows no correlation between the two variables. Although the studies show that there is a negative correlation between metacognitive awareness and listening anxiety in different contexts such as Iran, China and Turkey (Berber & Gönen, 2017; Genç, Kuluşaklı, & Aydın, 2016; Golchi, 2012; Han, 2014; Movahed, 2014), the result of the present study shows no significant relation at all. Therefore, the results contradict the studies in the field in this sense. The difference in this result could be caused by the difference in the data collection tools, the difference in the sample demographics, or could be because of another variable that interferes with the relationship between the two.

Therefore, to answer the RQ2 and RQ3, we performed a hierarchical regression analysis to reveal the effects of listening anxiety and ambiguity tolerance on metacognitive awareness. Table 4 shows the results of Hierarchical Regression Analysis related to the three variables.

Table 4. Results of Hierarchical Regression Analysis

Model	Predictors	B	Std. Error	Beta	ΔR^2
1	Constant	66,002	3,172		
	FLLAS	0,055	0,039	0,072	0,005
2	Constant	109,736	5,042		
	FLLAS	-0,145	0,040	-0,190*	
	SLTAS	-0,920	0,088	-0,543*	0,226

As Table 4 shows, the in the Model 1, FLLAS alone is not a significant predictor of metacognitive awareness, but when SLTAS is included in the model, FLLAS shows a significant and a negative effect on metacognitive awareness. Also, SLTAS explains the %23 of the total variance in metacognitive awareness. Beta coefficient is not significant in Model 1, whereas it is significant in Model 2 when the SLTAS is controlled. These results led us to think about the moderating effect of ambiguity tolerance in the relationship between listening anxiety and metacognitive awareness.

Therefore, to answer the RQ5, which aimed at revealing the moderator effect of ambiguity tolerance between listening anxiety and metacognitive awareness, we performed a path analysis, results of which are presented in Table 5.

Table 5. The Results of Regression Analysis regarding the moderator role of AT

Model	R	R2	Adjusted R Square	Std. Error of the Estimate	ΔR^2	F	df1	df2
1	,501	0,251	,227	12,154	,020	41,263	3	368

a. Predictors: (Constant), FLLAS, SLTAS

b. Dependent Variable: MALQ

*p<0,05.

As Table 5 shows, the results of path analysis revealing that the role of ambiguity tolerance as a moderator is significant. In addition, 25 % of the variance of the dependent variable is explained by the model (F (3,368) = 41,263, p< .001, R=.25). Below the coefficients of the model are presented in Table 6.

Table 6. Coefficients of Path Analysis Results

Predictors	B	Std. Error	t	ΔR^2
Constant	137,158*	9,984	13,739	0,02
FLLAS	-0,513*	0,123	-4,184	
SLTAS	-1,773*	0,283	-6,264	
Interaction	0,012*	0,004	3,169	

*p<0,05.

Table 6 reveals that all the coefficients of the model are significant. This means that the interaction effect of the moderator variable (SLTAS) increases the effect of FLLAS on MALQ by 3.5 times (-0,513/ -0,145= 3.54). Moreover, the Johnson-Neyman significance was found to be 36,10, which was tested to determine the region of significance of the effect between the variables (Hunka & Leighton, 1997). In other words, this value shows us that there is a significant negative effect of listening anxiety on metacognitive awareness only when the ambiguity tolerance score is lower than 36,10. In other words, if the ambiguity tolerance score is higher than 36,10, there is no significant effect of listening anxiety on metacognitive awareness.

These results reveal that the relationship between listening anxiety and metacognitive awareness is interfered with by the ambiguity tolerance and therefore shows no correlation when we only examine the correlation between the two. As we mentioned before, higher levels of ambiguity tolerance may imply indifference to the language input (El-Koumy, 2000; Erten & Topkaya, 2009) Therefore, the reason for no relationship between anxiety and metacognitive awareness when ambiguity tolerance is higher than a certain point (36,10) could be because indifference would cause no use of strategies or no anxiety. So, this means that the levels of ambiguity tolerance in our sample is higher than 36,10, causing a no significant correlation between listening anxiety and metacognitive awareness per se. Also, the ambiguity tolerance variable is related to language learning in general, while the other variables listening anxiety and

metacognitive awareness are directly related to the listening skill in L2. The moderator effect of ambiguity tolerance, in this regard, implies that it is important to investigate the other variables

Moreover, the interview results show that *'different accents of English'* cause learners to feel anxiety and nervous if included in the listening task and that they want courses to include more practice as such. This may be interpreted as a source of ambiguity for them, which could be another reason for ambiguity tolerance to be high in our sample.

CONCLUSION

The present study aimed to examine the relationship between listening anxiety, metacognitive listening awareness, and second language tolerance of ambiguity. To this end, a mixed method design was used and both quantitative and qualitative means of data collection was employed. The three scales (MALQ, FLLAS and SLTAS) were used for quantitative part to measure each variable (Ely, 1989; Erten & Topkaya, 2009; Vandergrift et al., 2006; Kim, 2000; Kılıç, 2007), while a semi-structured interview form was used as a means for qualitative data collection. In total, 374 Turkish EFL learners participated in the study, 16 of them were also included in the interviews.

The results revealed several important points: (1) a significant negative correlation between ambiguity tolerance and listening anxiety, (2) a significant negative correlation between ambiguity tolerance and metacognitive awareness, (3) no significant correlation between metacognitive awareness and listening anxiety, and finally (4) the moderator effect of ambiguity tolerance in the relationship between listening metacognitive awareness and listening anxiety, in the Turkish EFL context. The first two results are also supported by the studies in the different EFL contexts. Thus, the present study contributes to the field by investigating these variables with respect to listening skill in the Turkish EFL context. The third result contradicts the relevant findings in different contexts. The fourth result revealed the moderator role of ambiguity tolerance in the relationship between listening metacognitive awareness and listening anxiety, which has been investigated in neither Turkish nor the global context.

A limitation of the study is that due to Covid-19 pandemic, the interviews could not be conducted f2f. Also, the scope of the study does not include exploring the relationship of the variable with the proficiency level of the students. The participants were from the School of Foreign languages with a wide range of different proficiency levels. Future research can be conducted by focusing on particular proficiency levels.

Furthermore, the moderator role of ambiguity tolerance can be examined further with a structural equation model with a much larger sample and with other possible variables which are thought to have a relationship with listening metacognitive awareness or listening performance. Also, the effect of ambiguity tolerance in listening skill is under-researched; therefore, researchers in the fields can focus on this particular variable in future studies. In this regard, instructors can determine the level of ambiguity tolerance of learners and design the syllabi of listening courses accordingly and conduct and test the effectiveness of the syllabi.

ACKNOWLEDGEMENT

This study is a part of a master's thesis titled 'The relationship between listening metacognitive awareness, foreign language listening anxiety and ambiguity tolerance of Turkish EFL students' and supervised by Asuman Aşık. Preliminary findings were presented at 2nd International Language Teacher Education Research Group Conference (Online) in 2020.

REFERENCES

Aryadoust, V. (2015). Fitting a mixture Rasch model to English as a foreign language listening tests: The role of cognitive and background variables in explaining latent differential item functioning. *International Journal of Testing*, 15, 216–238. https://doi.org/10.1080/15305058.2015.1004409

Afshar, H. S., & Khassemi, D. Ambiguity Tolerance, Learner Beliefs, Learning Styles, and Listening Comprehension of Senior EFL Students. *Iranian Journal of English for Academic Purposes.* 8(4), 102-120.

Asmalı, M. (2019). How anxious are Turkish EFL learners? Tolerance of ambiguity and self-perceived communication competence as predictors. *The Literacy Trek. 5*(2), 25-46. Retrieved from https://dergipark.org.tr/tr/pub/literacytrek/issue/50626/595224

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology, 51*(6), 1173-1182. Retrieved from https://psycnet.apa.org/buy/1987-13085-001

Behresi, M., Moulaei, A., & Motlag, H. S. (2016). Investigating the relationship between tolerance of ambiguity, individual characteristics and listening comprehension ability among Iranian EFL learners. *International Journal of English Linguistics*, *6*(7). 185-193. http://dx.doi.org/10.5539/ijel.v6n7p185

Berber, G. & Gönen, S. İ. (2017). How Do High and Low Anxious FL Listeners Employ FL Listening Comprehension Strategies? Exploring Student Perspectives. *Eğitimde Nitel Araştırmalar Dergisi*, 5 (3), 90-108. doi: 10.14689/issn.2148- 2624.1.5c3s4m

Bekleyen, N. (2009). Helping teachers become better English students: Causes, effects, and coping strategies for foreign language listening anxiety. *System, 37(*4), 664-675. https://doi.org/10.1016/j.system.2009.09.010

Stanley Budner, N. Y. (1962). Intolerance of ambiguity as a personality variable 1. *Journal of personality*, *30*(1), 29-50. https://doi.org/10.1111/j.1467-6494.1962.tb02303.x

Büyüköztürk, Ş. (2019). *Sosyal bilimler için veri analizi el kitabı*. Ankara; Pegem

Chapelle, C. A. (1983). *The relationship between ambiguity tolerance and success in acquiring English as a second language in adult learners* (Doctoral dissertation, University of Illinois at Urbana-Champaign).

Chapelle, C., & Roberts, C. (1986). Ambiguity tolerance and field independence as predictors of proficiency in English as a second language. *Language Learning, 36(*1), 27-45. https://doi.org/10.1111/j.1467-1770.1986.tb00367.x

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. USA:Sage. Retrieved from http://www.drbrambedkarcollege.ac.in/sites/default/files/research-design-ceil.pdf

Dewaele, J. M., & Ip, T. S. (2013). The link between foreign language classroom anxiety, second language tolerance of ambiguity and self-rated English proficiency among Chinese learners. *Studies in Second Language Learning and Teaching 3* (1), pp. 47-66

Dimassi, A. (2017). Strategies and predictors of EFL listening comprehension. *Arab World English Journal (AWEJ) Volume*, *8*. 154-171 https://dx.doi.org/10.24093/awej/vol8no3.11

Durrheim, K., & Foster, D. (1997). Tolerance of ambiguity as a content specific construct. *Personality and Individual Differences, 22*(5), 741-750.https://doi.org/10.1016/S0191-8869(96)00207-3

Ehrich, J. F., & Henderson, D. B. (2019) Rasch Analysis of the Metacognitive Awareness Listening Questionnaire (MALQ), International Journal of Listening, 33:2, 101-113, https://doi.org/10.1080/10904018.2017.1418350

El-Koumy, A. S. (2000). Effects of skills-based versus whole language approach on the comprehension of EFL students with low and high listening ability levels. *Education Resources Information Center (ERIC), USA*.

Elkhafaifi, H. (2005). Listening comprehension and anxiety in the Arabic language classroom. *The Modern Language Journal*, *89*(2), 206-220. https://doi.org/10.1111/j.1540-4781.2005.00275.x

Ely, C. M. (1989). Tolerance of ambiguity and use of second language strategies. *Foreign Language Annals*, 22(5), 437-445. https://doi.org/10.1111/j.1944-9720.1989.tb02766.x

Erten, I. H., & Topkaya, E. Z. (2009). Understanding tolerance of ambiguity of EFL learners in reading classes at tertiary level. *Novitas-royal, 3(1).* 29-44

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

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1993). *How to design and evaluate research in education*. New York: McGraw-Hill.

Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current psychology, 14(3), 179-199.* https://doi.org/10.1007/BF02686907

Genç, G., Kuluşaklı, E., & Aydın, S. (2016). The relationship between emotional intelligence and productive language skills. *The Reading Matrix: An International Online* Journal*,16*(1), 91-105. Retrieved from https://eric.ed.gov/?id=EJ1100424

Goh, C. (2008). Metacognitive instruction for second language listening development: Theory, practice, and research implications. *RELC journal*, *39*(2), 188-213. http://dx.doi.org/10.1177/0033688208092184

Goh, C. C., & Hu, G. (2014). Exploring the relationship between metacognitive awareness and listening performance with questionnaire data. *Language Awareness,* 23(3), 255-274. http://dx.doi.org/10.1080/09658416.2013.769558

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. http://dx.doi.org/10.5539/ijel.v2n4p115

Gonen, M. (2009, July). The relationship between foreign language listening anxiety and foreign language listening strategies: The case of Turkish EFL learners. *Proceedings of the 5th International Conference on Educational Technologies* (pp. 44-49). University of La Laguna, Spain

Han, J. (2014). A study on the influence of anxiety and metacognitive strategies on listening proficiency. J*ournal of Chemical and Pharmaceutical Research, 6*(6), 2484-2496. https://en.cnki.com.cn/Article_en/CJFDTotal-HWYY201306048.htm

Hunka, S., & Leighton, J. (1997). Defining Johnson-Neyman regions of significance in the three-covariate ANCOVA using Mathematica. *Journal of Educational and Behavioral Statistics,* 22(4), 361-387. https://www.jstor.org/stable/1165228

Kamran, S. K., & Maftoon, P. (2012). An Analysis of the Associations between Ambiguity Tolerance and EFL Reading Strategy Awareness. *English Language Teaching*, *5*(3), 188-196. http://dx.doi.org/10.5539/elt.v5n3p188

Keshavarz, M. H., & Assar, M. (2011). Reading comprehension ability and metacognitive awareness of reading strategies among high, mid and low ambiguity tolerance EAP students. *Iranian Journal of Applied Language Studies*, *1*(2), 71-108.

Kılıç, M. (2007). *The sources and relations of foreign language anxiety with respect to text type and learner variables: A case study at Gaziantep University*. (Unpublished master's thesis, Gaziantep University). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/

Kim, J. (2000). *Foreign Language Listening Anxiety: A Study of Korean Students Learning English.* (Doctoral dissertation, The University of Texas at Austin). ProQuest DissertationsPublishing.https://www.proquest.com/docview/251738386?pqorigsite=gscholar&fromopenview=true

Kök, İ. (2018). Relationship between listening comprehension strategy use and listening comprehension proficiency. *International Journal of Listening, 32*(3), 163-179. https://doi.org/10.1080/10904018.2016.1276457

Krashen, S. (1982). *Principles and practice in second language acquisition*, Oxford, UK: Pergamon.

MacIntyre, P. D., & Gardner, R. C. (1991). Investigating language class anxiety using the focused essay technique. *The Modern Language Journal, 75*(3), 296-304. https://doi.org/10.2307/328723

Maftoon, P., & Fakhri Alamdari, E. (2020). Exploring the effect of metacognitive strategy instruction on metacognitive awareness and listening performance through a process-based approach. *International Journal of Listening*, *34*(1), 1-20. https://doi.org/10.1080/10904018.2016.1250632

Movahed, R. (2014). The effect of metacognitive strategy instruction on listening performance, metacognitive awareness and listening anxiety of beginner Iranian EFL students. *International Journal of English Linguistics, 4*(2), 88. http://dx.doi.org/10.5539/ijel.v4n2p88

Nur Durmaz, B. & Aşık, A. (2022). The adaptation of metacognitive awareness listening questionnaire into Turkish. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 42*(1), 897-920.

Sadeghi, K., & Soleimani, M. (2016). The relationship between anxiety, shyness, ambiguity tolerance, and language learning strategies. *International Journal of Pedagogies and Learning, 11*(1), 70-87. https://doi.org/10.1080/22040552.2016.1187652

Sayar, K. (2020). *Ruhun Derin Yaraları*. İstanbul Kapı Yayınları

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Los Angeles, CA: SAGE

Trabanco, A. F. (2017). *Tolerance of ambiguity and L2 listening comprehension* [Master'sthesis, University of Delaware]. ProQuest Dissertations Publishing.

https://www.proquest.com/docview/1957964630?pqrigsite=gscholar&fromopenview=true

Trabanco, A. F. (2017). *Tolerance of ambiguity and L2 listening comprehension*. University of Delaware.

Tavakoli, M., Shahraki, S. H., & Rezazadeh, M. (2012). The relationship between metacognitive awareness and EFL listening performance: focusing on IELTS higher and lower scorers. The Journal of Language Learning and Teaching, 2(2), 24-37.

Topaç, E. (2019). The Effect of Metacognitive Listening Strategy Instruction on EFL Learners' Listening Comprehension and Awareness Levels and the Role of Ted-Talks as a Listening Resource on Students' Perceptions. Unpublished master's thesis. Retrieved from https://tez.yok.gov.tr

Ülke, H. (2014). The effects of metacognitive strategy training on the English listening comprehension of Turkish students. Unpublished master's thesis. Retrieved from https://tez.yok.gov.tr

Vandergrift, L., & Baker, S. (2015). Learner variables in second language listening comprehension: An exploratory path analysis. *Language learning*, *65*(2), 390-416. https://doi.org/10.1111/lang.12105

Vandergrift, L., & Goh, C. C. (2012). *Teaching and learning second language listening:Metacognition in action*. 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. https://doi.org/10.1111/j.1467-9922.2006.00373.x

Vogely, A. (1995). Perceived strategy use during performance on three authentic listening comprehension tasks. *The Modern Language Journal, 79*(1), 41-56. https://doi.org/10.1111/j.1540-4781.1995.tb05414.x

Vogely, A. J. (1998). Listening comprehension anxiety: Students' reported sources and solutions. *Foreign Language Annals, 31*(1), 67-80. https://doi.org/10.1111/j.1944-9720.1998.tb01333.x

Xu, J., & Huang, Y. T. (2018). The mediating effect of listening metacognitive awareness between listening test anxiety and listening test performance. *The Asia-Pacific Education Researcher*, *27*(4), 313-324. https://doi.org/10.1007/s40299-018-0388-z

Büşra Nur Durmaz *is a Research Assistant at English Language Teaching Department at Hasan Kalyoncu University. She has earned her M.A. at Gazi University in 2021 and currently doing her Ph.D. at the same university.*

Email: busranur.durmaz@hku.edu.tr

Asuman Aşık *is an Associate Professor at English Language Teaching Department at Gazi University, Turkey. Her main research topics include teacher training, technology and language teaching, teaching English to young learners and curriculum and materials development, corpora and language teaching, CALL and e-learning.*

Email: asuman.asik@gmail.com