Are You Listening Strategically or Randomly? Examining Listening Comprehension Strategies Among Saudi University EFL Students

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Abstract

Listening is obviously an essential skill for anyone who wishes to acquire a new language, but second-language (L2) listening research is scarce compared to research on L2 reading. Additionally, the literature indicates that Saudi students, regarding listening, lag behind students from other nationalities on standardized international language tests. Hence, in this study, I examined the use of L2 listening comprehension strategies in an English as a foreign language Saudi university context. Based on an existing 19-item psychometrically validated questionnaire followed by a listening test, the results revealed that students were aware of L2 listening strategies and used cognitive strategies slightly more often than metacognitive strategies. However, notably, their less frequent use of practice-based self-regulation listening strategies (e.g., having good partners in practicing listening skills) could adversely impact their L2 listening success. The results also showed a rather weak significant difference between the listening strategic trait and listening test performance; a weak negative significant relationship between listening strategies, age, and years of learning English; and an insignificant relationship between listening comprehension strategies and academic level. However, the results suggest that the number of years of learning English is linked to better listening test performance. Finally, the items in the existing questionnaire, which was employed to assess listening comprehension strategies, lacked internal consistency and had problematic subscales; nevertheless, an acceptable one-factor model emerged from this study.

Keywords: instructional practices, listening comprehension, listening strategies, Saudi EFL learners

1. Introduction

Listening is obviously "an essential skill" for anyone wishing to acquire a new language (Wallace, 2022, p. 6). However, as Harding, Alderson, and Brunfaut (2015) observed, listening in second-language (L2) acquisition is still under-researched compared to other skills, such as L2 reading comprehension and vocabulary (Rose et al., 2018), perhaps due to the lack of operationalized listening constructs (Aryadoust, 2022; Aryadoust & Luo, 2022; Wakamoto & Rose, 2021).

Field (2013) postulated that listening involves lower-level processes (decoding an acoustic message, lexical searching, and parsing, which impose a syntactic structure on a group of words) and higher-level processes (constructing meaning by building mental propositions and constructing discourse from the entire text). Aryadoust (2019, 2022) identified three mechanisms that underpin L2 listening: pre-comprehension (the listener perceives and decodes auditory stimuli), comprehension (the listener constructs a surface, literal representation of the words and parses the message into propositions, mainly using bottom-up processes), and post-comprehension (the listener connects different propositions to build a global mental representation of the message, mainly through top-down processes and inferencing). Such processes and mechanisms apply to fluent listening, but L2 listening comprehension can be frustrating (Vandergrift & Tafaghodtari, 2010) and daunting (Zhang & Shen, 2023) because L2 listeners often have trouble deploying listening strategies (Cutler, 2012; Rost, 2014; Vandergrift & Goh, 2012).

2. Background of the Study

2.1 Listening Strategies

Listening strategies are a subset of language learning strategies—a term that Thomas and Rose (2019), based on Oxford's (2017) definition, defined as "thoughts and actions used by learners with some degree of consciousness for purposes associated with language learning" (p. 10). Grabe (2009) added that such strategies "may be on their way to becoming [automatic] skills" (p. 221), and Rost (2002) defined listening strategies as "conscious plans to manage incoming speech" (p. 236). Vandergrift and Goh (2012) identified two major types of strategic processing during listening: cognitive processing (rapid, automatic perception, parsing, and utilizing the message with little conscious attention) and metacognitive processing (thinking about one's thinking and how to process oral information, which may include planning, monitoring, solving problems, and evaluating, all of which regulate cognitive processes). Drawing upon recent findings in the field of applied linguistics, Wakamoto and Rose (2021) also argued that the development of L2 listening strategies should reflect the new learning needs of language users, the global use of English as a lingua franca, and the importance of linking L2 listening strategies to self-regulation, a psychological construct that describes the extent to which language users are "active agents in their own learning" (p. 2). As Vandergrift and

Goh (2012) mentioned, however, listeners' use of strategies generally varies according to their level of L2 proficiency.

2.2 Effectiveness of Listening Strategy Instruction

Teaching listening strategies can foster listening success and help L2 listeners consciously select appropriate strategies based on their listening goals and needs (Cohen, 2011; Ngo, 2019; Vandergrift & Goh, 2012; Yeldham & Gao, 2021). Teachers can equip learners with strategies to overcome actual or anticipated listening problems (Field, 2008a; Goh, 2000; Vandergrift & Goh, 2012). For example, Vandergrift and Tafaghodtari (2010) provided Canadian students who were learning French with instruction and guided practice during L2 listening classes with the intention of helping them develop their metacognitive processes (the stages of the listening lessons were linked to specific metacognitive processes, such as monitoring, planning, evaluation, and selective attention, and guidance was provided throughout the semester). Listening strategies were thus taught as an overall approach rather than individually. Students who received this guidance outperformed the control group in the listening comprehension test. In particular, the listening strategies of less-skilled listeners in the experimental group improved significantly, and students with weaker listening skills benefitted most from instruction in listening strategies. Similarly, Graham and Macaro's (2008) study on high school learners of French in the United Kingdom showed that explicitly teaching L2 learners listening strategies over a period of six months improved their listening comprehension and awareness of multiple listening strategies, even six months after the intervention.

A more recent study on listening instruction was conducted by Yeldham and Gao (2021) with Mandarin-speaking students learning English in Taiwan. Their quasi-experimental study examined whether matching learners' cognitive styles (analytical vs. global, and field-dependent vs. field-independent) with instructional methods (top-down strategies, such as listening to obtain the gist, vs. interactive bottom-up strategies, such as recognizing reduced speech skills and noticing details at the word/sentence level) would enhance their L2 listening development. The study showed that matching instruction methods with cognitive styles positively impacted listening learning outcomes. Yeldham and Gao (2021) thus recommended assigning L2 learners to listening classes based on their cognitive styles and providing individualized strategy instruction, although they recognized that such an approach may be impractical.

In another recent study, Wallace (2022) found that vocabulary knowledge was the strongest predictor of listening performance, followed by topical knowledge of the listening text and attentional control. Metacognitive awareness, which was measured using the Metacognitive Awareness Listening Questionnaire (MALQ; Vandergrift et al., 2006), only indirectly impacted listening; that is, "listeners who were more metacognitively aware were better able to access their (self-reported) knowledge of the topic, which in turn aided comprehension" (p. 37). Wang and Treffers-Daller (2017) also found that metacognitive awareness did not directly impact L2 listening success, which contradicts previous research emphasizing the importance of metacognitive awareness and listening strategy use during listening. Macaro, Graham, and Vanderplank (2007) similarly stated that the successful use of strategic knowledge as part of metacognitive awareness "may be explained as much by greater linguistic knowledge as by anything else" (p. 171).

However, in relation to the context of the present study, current listening teaching practices in Saudi Arabia have often been criticized by Saudi researchers. For example, Al-Seghayer (2021) claimed that in public state schools, listening is integrated with other language skills in English classes and only taught for 45 minutes, four times per week. Moreover, due to teachers' lack of listening teacher training and awareness of the complex demands of listening, they do not give students sufficient opportunities to practice listening, encourage them to seek listening opportunities outside the classroom, and/or direct them to use listening strategies. According to Al-Seghayer (2021), poor listening teaching practices have adversely impacted students' listening ability, as shown by the results of the Test of English as a Foreign Language (TOEFL) and the International English Language Testing System (IELTS) tests, for which the mean listening scores of Saudi test-takers regularly lag behind those of both international and Middle Eastern examinees.

2.3 Instruments to Measure Listening Strategies

Field (2008b) and Zhang and Shen (2023) observed that L2 listening strategies are often measured using 1) think-aloud and other self-report protocols (qualitative methods) or 2) psychometric methods (i.e., constructed and validated questionnaires) that evaluate multiple listening strategies. According to Zhang and Shen (2023), the latter approach has recently become more popular in research on L2 listening.

2.3.1 Introspective and Retrospective Studies on L2 Listening

One of the first studies on L2 listening problems and strategies was conducted by Goh (2000). Using retrospective verbalizations, listening diaries, and semi-structured interviews, the researcher collected data from high- and low-proficiency Chinese students studying L2 English in preparation for undergraduate study and identified 10 processing problems. High- and low-proficiency learners faced similar processing problems, but low-proficiency listeners struggled more with lower-level processing (e.g., word segmentation). Goh's (2000) study suggested 33 listening tactics that may be used to compensate for listening problems or to actively facilitate comprehension, which were subsequently classified into four types of listening practice: 1) perception practice (e.g., following along with a transcript while listening), 2) cognitive tactics (e.g., inferring the meaning of unfamiliar words from the context), 3) metacognitive tactics (e.g., continuing to listen despite difficulty), and 4) social-affective tactics (e.g., encouraging oneself to continue listening). According to Zhang and Shen (2023), Goh's (2000) findings established a preliminary inventory of cognitive and metacognitive strategies for L2 listening.

In another study using focus groups, Ngo (2019) considered changes in listeners' use of listening strategies after 11 weeks of needs-based listening strategy instruction in a Vietnamese context. Ngo (2019) found that several factors affected students' use of listening strategies:

listening materials selected based on their listening needs, teacher scaffolding, and, most importantly, a learner-focused approach to teaching listening (i.e., instruction should not be teacher-led but, instead, mediated by the instructor and peers). This study also revealed that learners transferred L2 listening strategies taught in class to other non-teaching situations (e.g., watching and listening to an L2 film) and highlighted the importance of orchestrating different strategies for successful listening.

Many previous studies have used small samples and qualitative methods to explore listening strategies, including diaries and interviews (Chen, 2007), verbal self-reports of engagement during a listening task (Graham, Santos, & Vanderplank, 2011), stimulated recall, notes taken while listening, and verbal and written summaries (Ruckthong & Brunfaut, 2020).

2.3.2 Questionnaire-based Psychometric Surveys

Nix (2016) sought to construct and validate a 23-item questionnaire on listening traits to measure the strategic listening behavior of Chinese EFL students in Taiwan. Based on multidimensional item response theory, structural equation modeling (SEM), and responses collected from senior and junior high school EFL learners and undergraduate university students, Nix (2016) developed a two-dimensional model of listening strategies, according to which bottom-up and top-down listening strategies must interact with each other to positively impact L2 learners' use of listening strategies. Nix (2016) also found that the length of EFL study (indicating implicit strategic knowledge independently of specific strategy training regimens, as noted by Cross, 2009) was directly proportional to greater knowledge of listening strategies; in other words, "the longer learners study L2, the greater their tendency to employ both bottom-up and top-down strategies" (p. 92).

Wakamoto and Rose (2021) developed a Listening Comprehension Strategy Questionnaire (LCS-Q) based on theories of language learning and listening strategies, self-regulation, and Global Englishes. The resulting questionnaire measured metacognitive awareness and its relationship to L2 listening and also integrated other essential constructs, including self-regulation (e.g., "I have useful tools [devices/facilities] to use for improving my listening skills," p. 5) and listening to English as a lingua franca (e.g., "When I engage in listening practice, I listen to different English accents," p. 5) to predict strategic listening behavior during L2 listening. Second, they tested their questionnaire on EFL students (Japanese college students) who were engaged in formal L2 learning, considering lower-proficiency learners and Wakamoto and Rose (2021) claimed that most research on L2 learning strategies has drawn on the notion of an ideal learner, but has neglected less-than-ideal learners, who warrant further research. Third, items in their questionnaire were aggregated from an existing listening strategy questionnaire (Vandergrift et al., 2006), and interviews with students but included additional items on Global Englishes and self-regulation based on the researchers' personal knowledge of the literature. The questionnaire was then validated and went through a number of development phases. First, 52 initial items were subjected to exploratory factor analysis and confirmatory factor analysis, which reduced the number of items to 19. A three-factor listening strategy model emerged from the data, which comprised cognitive, metacognitive, and self-regulation strategies. In addition, multiple regression analyses were conducted to compare participants' perceptions of their own listening strategies with their listening test scores and to establish the predictive role of the three listening strategies in L2 listening comprehension. This revealed that practice-based (self-regulation) strategies (i.e., self-regulation and listening to English as a global lingua franca) were the only significant, strong predictors of L2 listening proficiency, confirming that "self-regulation is a robust construct of strategic behaviour," as argued by Wakamoto and Rose (2021, p. 1).

Earlier, Vandergrift et al. (2006) constructed the MALQ to assess L2 listening in different cultural contexts with language learners who had varying proficiency levels. They measured constructs such as planning/evaluation, directed attention, and problem-solving. The MALQ was used by Nix (2016) and Wakamoto and Rose (2021) when constructing their questionnaires, who identified this questionnaire as one of the first psychometrically validated instruments specifically designed to measure L2 listening. The MALQ is the best-known and most widely used instrument in L2 listening strategy research, but it is now somewhat outdated, and other instruments are needed, as argued by Wakamoto and Rose (2021).

Other instruments targeting L2 academic listening have been developed. For example, Aryadoust, Goh, and Lee (2012) collected data from international English as a second language (ESL) students at different universities to develop the 47-item Academic Listening Self-Rating Questionnaire and to help tertiary students assess their awareness and perceived use of the subskills, processes, and strategies that underpin L2 academic listening. Their model of academic listening encompassed general listening ability and six other L2 academic listening factors: cognitive processing skills, linguistic components and prosody, note-taking, lecture structure, memory and concentration, and relating input to other materials. The researchers argued that students' awareness of these listening subskills when listening to lectures and seminars may positively impact academic achievement in a university context.

Taken together, there are various psychometrically tested, research-based questionnaires that can measure various L2 listening strategies. The results of questionnaire-based studies have revealed, as Vandergrift et al. (2006) acknowledged, that "language learners possess knowledge about the listening process" (p. 436), albeit to different degrees, in accordance with their listening ability. Although it is advisable to triangulate data collection methods when exploring listening strategies (Kanayama, 2020; Macaro et al., 2007), questionnaires provide "a snapshot of a comprehensive list of listening strategies with a much larger sample size" (Kanayama, 2020, p. 20). However, previous taxonomic studies on listening strategies have resulted in mixed findings, especially regarding the number of factors and related items that underpin the L2 strategic listening construct. Furthermore, previous studies on listening strategy use have employed different methodologies. For example, in Vandergrift et al.'s (2006) study, participants listened to authentic material before completing the questionnaire so that they could respond to items regarding the specific listening task. In contrast, Nix (2016) asked

participants to take a short listening comprehension test after completing the questionnaire.

Therefore, based on the literature, the current study followed Nix's (2016) approach and used the questionnaire developed by Wakamoto and Rose (2021) to examine listening strategies because, as stated by Nix (2016):

> [The use of a questionnaire after a listening experience] would confound responses with state strategy use variables; that is, the participants would bias their responses toward the strategies applied to the most recent listening task, whereas … [the] instrument aims to assay experiential knowledge based on the cumulative English listening learning experiences of the population. (p. 85)

Nix (2016) added that "trait strategy use differs from state strategy use as the former represents experiential memory of habitual strategic use … while the latter is idiosyncratic with specific language tasks and often investigated in treatment studies" (p. 80). Wakamoto and Rose's (2021) questionnaire is the most recent tool for measuring L2 listening strategies, and it is short enough not to overburden participants (19 items, in contrast to the 47-item questionnaire developed by Aryadoust et al. 2012). According to Wakamoto and Rose (2021), this questionnaire should be evaluated in other contexts and with other types of learners than those who participated in their own study; hence, the present study applied the instrument in a Saudi Arabian EFL learner context. Most previous studies on listening strategies employed in Saudi Arabian contexts, such as Altuwairesh (2016) and Nasim (2022), used the MALQ questionnaire. However, Aryadoust (2015) evaluated this tool with Rasch analyses and pointed out that two subscales lacked sufficient reliability. Therefore, in the current study, I examined Saudi EFL learners' use of L2 listening strategies using Wakamoto and Rose's (2021) questionnaire. I applied this questionnaire to a new sample and context and evaluated the questionnaire's psychometric properties.

2.4 Research Questions

The research thus addressed three research questions (RQs):

RQ1: What are the most and least frequently used listening comprehension strategies based on the LCS-Q, as perceived by Saudi EFL university students?

RQ2: Which subscale of the LCS-Q is most and least frequently used by Saudi EFL university students?

RQ3: Are there significant relationships between listening test scores, age, current academic level of students, years of learning English, and listening comprehension strategies?

3. Methodology

3.1 Participnats

A total of 81 students from the Department of English Language and Translation at Qassim University answered the questionnaire, as explained in the next section. A descriptive analysis was conducted to evaluate the sociodemographic characteristics of the sample (N = 81). All participants were female native Arabic speakers with a mean age of 21 years (M = 21.25, SD = 1.45). They were all learning English and had completed an intensive course in which they studied listening, reading, writing, vocabulary, and grammar separately. The minimum age was 19 years, and the maximum age was 26 years. Almost half of the participants (43.6%) were at the fifth level of their academic studies (considered to be halfway through the second year of the program), and the remainder were students at different levels in the department. Finally, they had been learning English for an average of 5 years (M = 5.30, SD = 3.45), with a minimum of 2 years and a maximum of 13 years. (During the analysis regarding academic level, data from three participants were treated as missing data due to ambiguous responses, and regarding years of learning English, data from one participant were treated as missing data because the response was "not sure.") Regarding the listening component, the mean performance was 19 points (M = 19.28, SD = 8.24), the minimum was 6 points, and the maximum was 37 points (see Table 1 for a descriptive analysis of the listening test performance). These scores approximately indicate a range of 3–8.5, with a mean of 5.5 on the IELTS listening test. Lower-proficiency participants were included following Wakamoto and Rose's (2021) recommendation, as explained earlier.

Table 1. Frequency analysis of listening test scores

Listening test score*	Number	Percentage	Listening test score	Number	Percentage
6	3	3.8	21	3	3.8
8	4	5.1	23	4	5.1
9	4	5.1	24	5	6.3
10	3	3.8	25	5	6.3
11	4	5.1	26	5	6.3
12	3	3.8	27	3	3.8
13	1	1.3	28	1	1.3
14	5	6.3	29	1	1.3
15	3	3.8	30	1	1.3
16	5	6.3	31	2	2.5
17	2	2.5	32	1	1.3
18	2	2.5	34	1	1.3
19	2	2.5	35	1	1.3
20	2	2.5	36	1	1.3
			37	2	2.5

*Two missing data because two participants did not complete the test

3.2 Research Instrument

To answer the RQs, I used a structured questionnaire from Wakamoto and Rose's (2021) study and distributed it through the mobile-friendly online Qualtrics survey platform. The questionnaire included 19 questions on listening strategies: 6 related to cognitive strategies, 5 related to metacognitive strategies, and 8 related to self-regulation or practice-based strategies (see the next section). The participants were asked to state the frequency of their use of each listening strategy using a six-point Likert scale: 1) strongly agree, 2) agree, 3) slightly agree, 4) partly disagree, 5) disagree, and 6) strongly disagree. The questionnaire also included questions about their sociodemographic information: name, age, years of learning English, and current academic level. In addition, due to the lack of such tests in the study context, I administered a sample 40-item listening test taken from the *IELTS 16 Academic* test book (Test 2) to shed light on the participants' general listening proficiency.

3.3 Research Procedure

Through their instructors, I approached students from four selected courses with large numbers of students who had completed their language classes, thus ensuring that they had been exposed to listening in a formal EFL context. I arranged four on-site sessions according to the participants' schedules, during which I briefly explained the aims of the study and asked them to complete the questionnaire, giving honest responses to the questions. I assured them of the anonymity and confidentiality of their data and invited them to approach me if they had any questions. After all the students had submitted their completed questionnaires, I distributed the listening test and played the relevant recordings, which took approximately 65 minutes. I then marked the participants' test papers, assigned one point for each correct item, and matched each total score with the participant's questionnaire. All the participants took the test (except two who left the room after finishing their surveys, due to emergencies, but whose surveys were included in the analysis because the aim was to examine the strategies used).

3.4 Data Analysis

Using SPSS® (v. 25) software, descriptive and frequency analyses were conducted to assess the demographic characteristics of the sample; evaluate the frequencies, means, and standard deviations for all items regarding listening strategies; and identify the most and least frequently used individual strategies. Analyses were also performed on the three subscales to identify which of the three overarching strategies was used most and least frequently. To evaluate the internal consistency of the total scale (i.e., listening comprehension strategies) and each of the three subscales of the LCS-Q, an exploratory factor analysis and Cronbach's reliability analysis were conducted. A simple linear regression was performed to explore whether listening comprehension strategies were statistically significant predictors of listening test performance. Pearson's correlation analyses were also performed to detect any significant statistical relationships between the different variables (see the next section for detailed analyses).

4. Results

RQ1: What are the most and least frequently used listening comprehension strategies based on the LCS-Q, as perceived by Saudi EFL university students?

To answer this question, a descriptive analysis was conducted on all the items evaluating listening comprehension strategies to identify the most and least frequently used strategies (see Table 2). Notably, responses for all items were provided on a six-point Likert scale, ranging from one (strongly agree) to six (strongly disagree). To calculate frequency percentages for the use of listening strategies, the response options "strongly disagree" and "disagree" were coded as zero (for use of this strategy), and the response options "strongly agree" and "agree" were coded as one (for no use of this strategy). The response options "partly disagree" and "slightly agree" were not included in the calculations. All respondents reported that they used "the general idea of a text to guess the meaning of the words that were not understood" (100%) and used their "own knowledge and experience to help them understand" (100%), both of which were cognitive strategies. The least frequently used listening comprehension strategy was "having good partners in practicing listening skills" (24.2%), which was a self-regulation strategy.

Table 2. Descriptive analysis of items assessing listening comprehension strategies (N = 81)

Item	Yes % Use of strategy	No % No use of strategy	M	SD
Cognitive strategies				
1. I use the words I understand to guess the meaning of the words I don't understand.	97.1	2.9	1.72	0.97
2. I use the general idea of the text to help me guess the meaning of the words that I don't understand.	100	0	1.63	0.86
3. I try to find keywords by focusing on the words that are emphasized.	96.1	3.9	2.27	1.05
4. I try to visualize the situation from what the speaker says.	94.8	5.2	2.21	1.06
5. I don't give up listening in the middle of listening, even when I don't understand what is said.	76.5	23.5	2.84	1.50
6. When I have difficulty understanding what I hear, I repeat in my mind what I have heard.	80.7	19.3	2.48	1.44
Metacognitive strategies				
7. I use my experience and knowledge to help me understand.	100	0	1.54	0.78

8. As I listen, I compare what I understand with what I know about the topic.	89.3	10.7	2.38	1.30
9. As I listen, I quickly adjust my interpretation if I realize that it is incorrect.	80.4	19.6	2.77	1.25
10. 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.	97.1	2.9	1.77	0.97
11. When I have difficulty understanding what I hear, I stop thinking about it and move on.	57.1	42.9	3.33	1.37
Practice/Self-regulation strategies				
12. I practice listening skills alongside other skills.	73.3	26.7	2.89	1.30
13. I have useful listening materials/resources for improving my listening skills.	63.3	36.7	3.16	1.49
14. I have useful practice methods for improving my listening skills.	52.5	47.5	3.41	1.356
15. I have useful tools (devices/facilities) for improving my listening skills.	72.7	27.3	2.93	1.27
16. When I listen to people (e.g., classmates) who have low proficiency in English, I have strategies to help me understand.	81.1	18.9	2.64	1.30
17. When I listen to English speakers who have a strong accent, I use strategies to help me understand.	69.6	30.4	3.00	1.50
18. I think about how I can improve my listening skills.	88.9	11.1	2.12	1.25
19. I have good partners in practicing my listening skills.	24.2	75.8	4.37	1.65

RQ2: Which subscale of the LCS-Q is most and least frequently used by Saudi EFL university students?

According to Wakamoto and Rose's (2021) LCS-Q questionnaire, the listening strategies most frequently used were cognitive strategies (90.8%), followed by metacognitive strategies (84.4%), and practice/self-regulation strategies (65.7%). On average, participants applied four out of the six cognitive strategies ($M = 4.00$, $SD = 1.26$), three out of the five metacognitive strategies ($M = 3.11$, $SD = 1.07$), and three out of the eight practice/self-regulation strategies ($M = 3.33$, $SD = 1.99$).

A principal component analysis (PCA) with varimax (orthogonal) rotation was also conducted to evaluate the internal consistency of the total LCS-Q scale and the 19 items of the scale for listening comprehension strategies. All items were reverse-scored so that higher values reflected greater use of listening comprehension strategies. Prior to the analysis, the suitability of the PCA was evaluated. The correlation matrix showed that almost all variables had at least one correlation coefficient greater than 0.3, except for items 11 ("When I have difficulty understanding what I hear, I stop thinking about that and move on") and 16 ("When I listen to people (e.g., classmates) who have low proficiency in English, I have strategies to help me understand"). Therefore, the PCA was rerun without items 11 and 16. The Kaiser–Meyer–Olkin (KMO) measure showed acceptable sampling adequacy for the analysis (KMO = 0.60). Finally, Bartlett's test of sphericity indicated that the data were factorizable ($p < .001$).

The analyses revealed six factors with eigenvalues that exceeded Kaiser's criterion of one. Based on a scree plot and the point of inflection, the first three factors were retained, which explained 19.8%, 12.6%, and 9.8% of the variance, respectively. Combined, they explained 42.3% of the variance. The first factor included items 5, 7, 8, 13, 14, 15, and 17 ($\alpha = .70$); the second factor included items 3, 4, 6, 9, 12, 18, and 19 ($\alpha = .34$); and the third factor included items 1, 2, and 10 ($\alpha = .59$). However, considering the low internal consistency of the second and third factors, a one-factor solution was used that included all the items of the scale, except for items 11 and 16 ($\alpha = .71$; see Table 3), since the items for these three factors made little conceptual sense (i.e., items for each factor related to no overarching strategy).

Table 3. Final factor solution for items assessing listening comprehension strategies (N = 81)

Item	Loadings
13. I have useful listening materials/resources for improving my listening skills.	.72
14. I have useful practice methods for improving my listening skills.	.67
7. I use my experience and knowledge to help me understand.	.53
8. As I listen, I compare what I understand with what I know about the topic.	.52
15. I have useful tools (devices/facilities) for improving my listening skills.	.50
2. I use the general idea of the text to help me guess the meaning of the words that I don't understand.	.49
17. When I listen to English speakers who have a strong accent, I use strategies to help me understand.	.47
10. 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.	.47
19. I have good partners in practicing my listening skills.	.43
9. As I listen, I quickly adjust my interpretation if I realize that it is incorrect.	.39
5. I don't give up listening in the middle of listening, even when I don't understand what is said.	.39
3. I try to find keywords by focusing on the words that are emphasized.	.35
6. When I have difficulty understanding what I hear, I repeat in my mind what I have heard.	.32
12. I practice listening skills alongside other skills.	.30
1. I use the words I understand to guess the meaning of the words I don't understand.	.28
18. I think about how I can improve my listening skills.	.15
4. I try to visualize the situation from what the speaker says.	.11

RQ3: Are there significant relationships between the listening test scores, age, current academic level of student, years of learning English, and listening comprehension strategies?

A simple linear regression analysis was conducted to assess whether listening comprehension strategies statistically significantly predicted listening performance (N = 79). Regarding the assumptions required for simple linear regression, a histogram and normal P–P plot of standardized residuals displayed normally distributed data. Also, the Durbin–Watson statistic was close to 2 (d = 2.14), indicating the independence of errors. In addition, a scatterplot of the standardized residuals against the standardized predicted values displayed a linear relationship between the predictor and outcome variables and no signs of heteroscedasticity. Finally, no influential cases were identified based on the standardized residuals (all values < 2.5) and Cook's distance values (all values < 1) (Field, 2018). The analysis showed a statistically significant model ($F(1, 77)$ = 4.21, p = .044) that accounted for 4.0% of the variance in listening test performance (R^2 = .052; $R^2_{adj.}$ = .040). The use of listening comprehension strategies was, although rather weakly, a statistically significant positive predictor of listening test performance (b = 3.49, t = 2.05, p = .044), suggesting that students who used listening comprehension strategies to a greater extent were likely to perform better on listening tests (see Table 4 for regression coefficients).

Table 4. Simple linear regression with listening test performance as the outcome variable and listening comprehension strategies as the predictor variable (N = 79)

Variable	B (95% CI)	SE_B	β	t	p
(Constant)	3.77 (-11.39, 18.93)	7.61		.50	.62
Listening comprehension strategies	3.49 (0.10, 6.87)	1.70	.23	2.05	.044

Three Pearson's correlation analyses were performed to examine whether there was a statistically significant relationship between listening comprehension strategies and age (N = 81), academic level (N = 78), and/or years of learning English (N = 80). Statistically significant negative weak relationships between listening comprehension strategies and age ($r(79)$ = -.25, p = .024) and years of learning English ($r(79)$ = -.24, p = .029) were identified, indicating that older individuals and individuals who had been learning English for a long time used listening comprehension strategies to a lesser extent. However, no statistically significant relationship between listening comprehension strategies and academic level was observed ($r(77)$ = -.21, p = .069; see Table 5 for correlation coefficients).

Table 5. Relationship of listening comprehension strategies with age, academic level, and years of learning English

	1	2	3
1. Listening comprehension strategies	1		
2. Age	-.25*	1	
3. Academic level	-.21	.70**	1
4. Years of learning English	-.24*	.42**	.29*

* p < .05; ** p < .01

Additionally, three Pearson's correlation analyses were conducted to assess whether there was a statistically significant relationship between listening test performance (N= 79) and age (N = 81), academic level (N = 78), and/or years of learning English (N = 80). A statistically significant positive relationship of moderate strength between years of learning English and listening test performance was identified ($r(76)$ = .32, p = .004), indicating that individuals who had been learning English for a long time performed better on listening tests. However, no statistically significant relationship of listening test performance with age ($r(77)$ = -.064, p = .58) or academic level was observed ($r(74)$ = -.11, p = .33; see Table 6 for correlation coefficients).

Table 6. Relationship of listening test performance with age, academic level, and years of learning English

	1	2	3
1. Listening comprehension strategies	1		
2. Age	-.064	1	
3. Academic level	-.11	.70**	1
4. Years of learning English	.33**	.42**	.29*

* p < .05; ** p < .01

5. Discussion

In general, based on the perceptions of the students in this study, the results indicated that the students used cognitive, metacognitive, and self-regulation listening strategies to different degrees. However, strategic self-regulation behavior was reported less frequently, which aligns with Al-Seghyer's (2021) argument that students are not encouraged by their English language teachers to seek opportunities to practice their listening skills, inside or outside class, and are not taught to practice with both native and non-native English speakers, despite findings regarding the importance of self-regulation, Global Englishes, and English as a lingua franca emphasizing that this type of strategy is vital for successful listening comprehension (Wakamoto & Rose, 2021).

The results revealed that the use of listening comprehension strategies was linked to better listening test performance (i.e., participants who used strategies frequently generally performed better, whereas those who used strategies less frequently did not). However, the 4% of the variance explained by listening strategies in listening test performance was a rather low percentage compared to the 13% of the variance explained by metacognition in Vandergrift et al.'s (2006) study. Moreover, the 4% variance partially aligned with Wakamoto and Rose's (2021) finding that only self-regulation, but not metacognitive and cognitive factors, was a significant predictor of listening performance. One should interpret these results cautiously since the statistical significance that emerged was probably due to the large sample size. However, recent studies by Wallace (2022) and Wang and Treffers-Daller (2017) found that listening strategies may indirectly impact L2 listening success, and other factors, such as (but not limited to) vocabulary knowledge, may predict listening

comprehension.

In addition, it was clear that younger individuals and individuals who had been learning English for only a short period were more likely to use listening comprehension strategies, perhaps because they used listening strategies to compensate for listening problems (Vandergrift & Goh, 2012). Finally, individuals who had been learning English for a long time performed better on listening tests, which resembled Nix's (2016) finding that the length of L2 language study predicted the strength of the listening strategic trait.

Nevertheless, it is important to note that in the present study, the items assessing listening comprehension strategies lacked internal consistency and had problematic subscales when using Wakamoto and Rose's (2021) three factors (i.e., their factors did not emerge in this study's dataset, and the factors that did emerge made little conceptual sense). However, sample size and the different sociodemographic characteristics of the participants could account for this discrepancy. Consequently, the use of subscales could have led to different conclusions; hence, further research is required to assess the psychometric properties of Wakamoto and Rose's (2021) listening comprehension strategies scale using more complex statistical analyses (e.g., SEM) than were used in this study, which employed SPSS®. This would enable more confident inferences to be made about the relationship between listening comprehension strategic traits and listening test performance.

6. Conclusion

This study considered the listening comprehension strategies that are most and least frequently deployed by Saudi EFL university students. The findings suggest that English language teachers in Saudi Arabia should particularly encourage their students to use English as a lingua franca and adopt practice-based self-regulation strategies, such as using devices, tools, and online resources to improve their listening outside the classroom, speaking to native speakers, and exposing themselves to different accents, which represents a more learner-focused approach to listening that promoted by researchers such as Ngo (2019) and Wakamoto and Rose (2021). Of course, listening teachers should also explicitly teach students cognitive and metacognitive listening strategies (alongside self-regulation) as noted by Vandergrift and Tafaghodtari (2010), who show the effectiveness of listening strategy instruction, especially for students with low-proficiency listening skills. Additionally, as recommended by Nix (2016) and Wakamoto and Rose (2021), existing listening questionnaires—such as the one used in this study—could serve as inventories during listening instruction to help students think about their own learning and what occurs in their minds when listening. Furthermore, rather than simply asking students to listen and answer follow-up questions on comprehension (i.e., testing listening), listening teachers (whether at schools or preparatory language programs at the tertiary level) should recognize the listening construct's complexities and strategies as well as the emerging global need to teach students authentic listening processes and strategies as urged by Al-Seghayer (2021).

Inevitably, this study has some limitations. In particular, the use of a single research instrument was a limitation, which could be overcome by using more qualitative retrospective and introspective methods (e.g., stimulated recall and diaries), especially for such a complex, invisible construct as listening. It is unclear to what extent the students in this study employed these strategies competently (e.g., did their use of lexical guessing as a strategy result in correct guesses for words they did not understand?) Bensoussan and Laufer (1984), albeit talking about polysemous words in L2 reading, found that guessing the meanings of words from the context, and using lexical guessing strategies, often resulted in inaccurate guesses. For further research, I echo Wallace (2022), who stated that "to date, few studies have examined how core and peripheral variables independently and in combination with each other predict L2 listening" (p. 14); that is, a more componential approach to examining interrelated factors (e.g., vocabulary knowledge, syntactic knowledge, strategic knowledge, working memory) in L2 listening should be conducted.

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