



Exploring Speaking Anxiety Among Indonesian Arabic Language Learners: The Mediating Role of Personality Traits

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Abstract

This research investigates the determinant factors of public speaking anxiety among Indonesian university students through both pedagogical and socio-psychological lenses. Public speaking anxiety is a prevalent phenomenon in language acquisition, potentially affecting communicative competence and academic achievement, especially in the context of foreign language learning. This study explores the influence of academic motivation, intolerance of uncertainty, and the Big Five personality traits (openness, conscientiousness, agreeableness, extraversion, and neuroticism) as potential mediators in shaping speaking anxiety among Indonesian Arabic students in Islamic higher education. The research was conducted among students enrolled in Arabic Language Education programs at several state Islamic religious higher education institutions (PTKIN) in Indonesia. Structural Equation Modelling (SEM) was used to analyze the data, collected via self-report questionnaires. The results show that academic motivation does not significantly influence openness, while intolerance of uncertainty does. Of the Big Five traits, only openness and extraversion significantly affect speaking anxiety. Academic motivation influences conscientiousness, but not extraversion, while intolerance of uncertainty affects extraversion, but not agreeableness. Openness and extraversion mediate the relationship between academic motivation and speaking anxiety.

Keywords: *public speaking anxiety, academic motivation, intolerance of uncertainty*

Introduction

For foreign language learners in Indonesia, speaking in public using a foreign language is a serious problem for them (Kusumawat & Fauzia, 2019). This has become a common problem for almost student of foreign language learners in Indonesia

(Kusumawat & Fauzia, 2019). Discussions about anxiety in public speaking in the context of foreign language learning are always an interesting discourse (Mak, 2011). Since the capacity to speak in public in the context of foreign language acquisition is a crucial skill for improving language expertise and sharing it with interlocutors (Luckett et al., 2010). The phenomenon of anxiety in public speaking when learning a foreign language does not only occur in Indonesia (Anandari, 2015). However, similar things also happen in other parts of the world, for example in Finland, foreign language learners in Finland experience anxiety when speaking in public, one in three students report that public speaking is a serious problem for them (Gallego et al., 2022), then in the United States, more than 61% of students feel afraid of speaking in public (Gallego et al., 2022).

Previous researchers have conducted a lot of research on the best interventions to reduce anxiety in public speaking for foreign language learners (Allen et al., 1989). There are various methods to reduce speaking anxiety for foreign language learners (Koçak, 2010). Many references regarding anxiety in public speaking reveal that speaking anxiety can be reduced through methods adapted to individual conditions and needs (Anandari, 2015). One way to reduce anxiety about speaking in public is to carry out intensive self-skills training and self-decentration, reducing emotional responses to negative stimuli (Marshall et al., 1977). Training yourself to recognize and control emotions (emotion recognition) when communicating also reduces anxiety when speaking in public (Chen & Lee, 2011). Furthermore, cognitive and behavioral therapy can also be a way to reduce anxiety when speaking in public. However, in this study the researcher will not use the method described above as an effort to reduce anxiety about speaking like a foreign learner. In this study will measure public speaking anxiety for Arabic foreign learner: the role of academic motivation, intolerance of uncertainty, and big five personality as mediator" will test the constructs that have been theorized, in an effort to find out what factors can influence speaking anxiety for a foreign Arabic language learner among students' universities in Indonesia.

Public speaking anxiety that persists and cannot be managed well will cause a person to experience difficulties in learning a foreign language in particular and other learning in general (Hofmann et al., 1995). The ability to communicate a particular idea is important in the learning process (Ho et al., 2008), especially in the context of foreign language learning, because improving one's language skills can only be done by practicing and communicating it to others (Hunter et al., 2014). Individuals with public speaking anxiety will easily experience various symptoms in public speaking situations, including heart palpitations, sweating, indigestion, diarrhea, muscle tension, and confusion. These people may perform poorly at work or school due to anxiety and often avoid speaking up in class (Harris et al., 2002). Public speaking anxiety is the most common social fear experienced by the general public and can have far-reaching academic effects, including lower course grades and possibly even an increased risk of dropping out of college (DiBartolo & Molina, 2010). Thus, the ability to speak in public is an important thing to be discussed in research (Pull, 2012). Because in discussions about speaking anxiety, there are various factors that could be the reason (Woodrow, 2006). Psychological and environmental factors are two things that are closely related to predictors of speaking anxiety (Blöte et al., 2009). Furthermore, this research will test a

construct regarding the role of academic motivation and uncertainty intolerance as predictors of speaking anxiety which is moderated by big five personality.

Method

Research Design

The research employed a quantitative approach, utilizing Structural Equation Modeling (SEM) as the primary analytical technique. SEM is a multivariate analysis method that integrates aspects of factor analysis/confirmatory factor analysis (CFA) and multiple regression. It enables researchers to concurrently analyze a series of interrelationships between Independent Variables (IV) that influence and Dependent Variables (DV) that are influenced, whether in the form of two latent variables or among more than two latent variables (Hair et al., 2014).

Respondents

This study included 258 students enrolled in the Arabic Language Education program at state Islamic higher education institutions (PTKIN) in Indonesia. Sampling was done by the probability sampling approach, specifically simple random sampling. This strategy was adopted to ensure that each member of the population had an equal chance of being selected as a sample member. This technique attempted to improve the sample's representativeness and the findings' applicability to the larger population.

Instruments

The data collecting instruments for this study is divided into three components. The first section comprises questions about responder identity and demographics like as gender, age, and current semester. The second section includes directions for completing the instrument as well as scale statements for the Public Speaking Anxiety, Academic Motivation, and Big Five Personality scales.

This research collected data using a Likert scale technique, in which respondents expressed their agreement or disagreement with propositions. Each item on the test has responses ranging from extremely positive to very negative. All scales employ four answer categories: "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), and "Strongly Disagree" (SD). This is done to avoid a bias towards central tendency or neutral responses. The approach incorporates both positive (favorable) and negative (unfavorable) comments. For favorable remarks, the "always" choice receives the maximum score, whereas the "never" option receives the lowest score. The "strongly agree" choice receives the lowest score for unfavorable remarks, while the "strongly disagree" option receives the highest value.

Procedures

The data collecting techniques in this research include four instruments such as:

The Public Speaking Anxiety Scale was adapted from Yaikhong and Usaha (2012). The Foreign Language Classroom Anxiety measure (FLCAS) is a three-dimensional measure with 25 items completed by participants.

The Academic Motivation Scale (2018) created Natalya and Purwanto. This measure comprises three aspects: internal, external, and determination. The participants answered a total of 30 items.

The Intolerance of Uncertainty Scale is based from Istiqomah et al. (2022). This measure contains two aspects: prospective anxiety and inhibitory anxiety, each with 12 items for participants to complete.

The Big Five Personality Inventory originated from Akhtar and Azwar (2019). This measure has five dimensions: extraversion, agreeableness, conscientiousness, emotional stability, and intelligence, with 50 items to be answered by participants.

Data Analysis

The study used a quantitative technique, namely the Structural Equation Modeling (SEM) method. SEM is a multivariate analysis technique that incorporates aspects of factor analysis/confirmatory factor analysis (CFA) and looks into a series of interrelated relationships between the independent variables (IV) that influence and dependent variables (DV) that are influenced, whether involving two or more latent variables (Hair, J.F., William, Jr.C., BlackBarry, J., Babin, R.E., & Anderson, 2014).

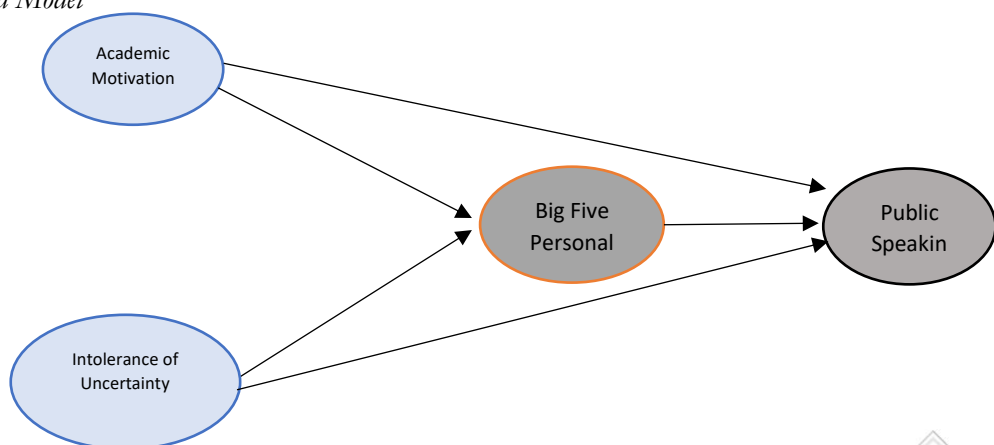
The research data methodology consisted of descriptive statistics and structural model analysis, which included: Descriptive statistical analysis is used to summarize and illustrate the most important aspects of the data obtained. The M-plus program was used for structural model analysis, which was divided into two parts.

- a. Testing the model's measurement sufficient using actual field data.
- b. Testing the hypotheses regarding structural relationships within the theoretical model to assess its fit with empirical data.

This rigorous analytical approach aimed to validate the measurement model's appropriateness and examine the structural relationships outlined in the theoretical model in light of empirical data. The statistical tools and techniques utilized ensured a comprehensive and robust investigation of the research variables and their interconnections. It allows researchers to examine interaction between independent variables (IV) and dependent variables (DV). The figure below will describe what are independent variables and dependent variables:

Figure 1

Proposed Model



Noted:

Academic motivation (X1) = Independent Variable

Intolerance of uncertainty (x2) = Independent Variable

Big Five Personality (Z) = Mediator Variable

Public Speaking Anxiety (Y) = Dependent Variable

From the figure 1 above, we figure out that independent variables (IV) are Academic Motivation, and Intolerance of Uncertainty, while dependent variable (DV) was Public Speaking Anxiety, meanwhile Big Five Personality as mediator variable. A mediator variable serves as an intervening construct that elucidates the causal mechanism between an independent and dependent variable. This approach enables the exploration of complex relationships, potentially involving latent variables (Hair et al., 2014). Structural Equation Modeling (SEM) is a powerful statistical technique that integrates path analysis and confirmatory factor analysis. It facilitates the analysis of intricate relationships among latent constructs, which are unobservable variables (Edeh et al., 2022).

The primary objective of this research is to investigate the causal impact of the independent variable on the dependent variable. Furthermore, this study aims to explore the mediating role of the mediator variable in the relationship between the independent and dependent variables. Based on this theoretical framework. The following hypothesis is proposed:

- H1 The theoretical model states that academic motivation and intolerance of uncertainty influence public speaking anxiety, with the Big Five personality traits as mediators that fit with the empirical data.
- H2 The Big Five personality traits significantly positively influence public speaking anxiety among Arabic language education students at religious universities.
- H3 Academic motivation has a significant positive influence on public speaking anxiety among Arabic language education students at religious universities.
- H4 Intolerance of uncertainty has a significant positive influence on public speaking anxiety among Arabic language education students at religious universities.
- H5 Academic motivation has a significant positive influence on public speaking anxiety among Arabic language education students at religious universities, with this relationship being mediated by the Big Five personality traits.
- H6 Intolerance of uncertainty has a significant positive influence on public speaking anxiety among Arabic language education students at religious universities, with this relationship being mediated by the Big Five personality traits.

Result and Discussion

Item Analysis

To determine the internal consistency Cronbach's Alpha (α) was used to assess the internal consistency of each variable, with a reliability level of 0.70 considered satisfactory (Nunnally, 1978).

Table 1. The Cronbach's Alpha values for each measurement instrument are as follows:

No	Scales	α	Information
1	Academic Motivation	0.83	Adequate reliability

2	Intolerance of Uncertainty	0.81	Adequate reliability
3	Big Five Personality	0.90	Adequate reliability
4	Public Speaking Anxiety	0.84	Adequate reliability

Confirmatory Factor Analysis (CFA)

To assess the reliability and validity of the assessment tools utilized in this study, Confirmatory Factor Analysis (CFA) was performed. This method was used to determine the unidimensionality of each scale, guaranteeing that each item measured just one underlying concept. All variables in this study are unidimensional, with the exception of the big five personality traits, which have been demonstrated to be multidimensional. CFA also looks at how well a suggested theoretical model, which includes latent components and observable variables, fits empirical data (Raykov & Marcoulides, 2004). CFA helps to validate theoretical ideas by measuring the fit of the proposed model to the real data. If the model fits well, it validates the latent constructs. The results of the CFA for the one-factor models applied to each measurement instrument are presented in Table 2

Table 2. The Result for Each Measurements Instruments

No	Scales	RMSEA	P-Value	Total item dropped
1	Academic Motivation	0.60	0.000	6 dropped
2	Intolerance of Uncertainty	0.52	0.000	All items are valid
3	Big Five Personality	0.52	0.000	4 dropped
4	Public Speaking Anxiety	0.59	0.000	18 dropped

Preliminary analysis and descriptive statistic

To assess the psychometric properties of the measurement instruments, Confirmatory Factor Analysis (CFA) was conducted for each of the latent variables: academic motivation, intolerance of uncertainty, big five personality, and public speaking anxiety. All items loaded significantly onto their respective latent factors, with factor loadings exceeding 0.40. The final measurement model exhibited adequate fit, confirming the unidimensionality of each variable and an RMSEA value below 0.060 (Bauldry, 2015).

Table 3. Means, standard deviations, and zero-order bivariate correlation

No	Variable	Mean	SD	1	2	3	4
1	Academic Motivation	27.620	7.123	1.000			
2	Intolerance of Uncertainty	29.726	3.433	0.419	1.000		
3	Big Five Personality	43.414	6.325	0.1334	0.172	1.000	
4	Public Speaking Anxiety	30.119	5.125	0.344	0.339	0.136	1.000

Table 3 illustrates the correlation among the variables in this study, revealing an overall positive relationship. The academic motivation variable shows a mean score of 27.620 with a standard deviation (SD) of 7.123. Intolerance of uncertainty is characterized by a mean of 29.726 and an SD of 3.433. The Big Five personality traits have a mean score

of 43.414 and an SD of 6.325, whereas public speaking anxiety records a mean value of 30.119 with an SD of 5.125.

Fitting Model

The fitting model results indicate an RMSEA value of 0.050, a CFI of 0.920, and a TLI of 0.910. Since the RMSEA value is below 0.060 and the CFI and TLI values are close to 1, it can be concluded that the model demonstrates a good fit, indicating compatibility between the data and the proposed model. This allows for interpretation of the proposed model. Details on model fitting are provided in Table 4.

Regarding the mediation effects of the Big Five personality traits in the relationships among academic motivation, intolerance of uncertainty, and public speaking anxiety, the model fit results reveal an RMSEA value of 0.050, a CFI of 0.920, and a TLI of 0.910. The RMSEA value being less than 0.060 and the CFI and TLI values nearing 1 confirm that the model is a good fit, demonstrating alignment between the data and the proposed model.

Hypothesis Analysis

Structural Equation Modeling (SEM) was employed to examine the proposed theoretical model. A key advantage of covariance-based SEM lies in its ability to assess direct, indirect, and total effects between latent constructs. As a confirmatory technique, SEM necessitates the specification of the entire theoretical model prior to data analysis, making it well-suited for testing established theories (Astrachan et al., 2014; Rigdon et al., 2017). The subsequent SEM analysis yielded the following results:

Multidimensional Model of the Big Five Personality Traits

Based on the results of fitting the model to the analyzed data, it is known that the RMSEA value = 0.028 (< 0.060), CFI value = 0.533 and TLI = 0.462. This shows that the model in this study is fit. Information on how to fit the research model will be presented below.

Table 1 *Fitting Model*

MODEL FIT INFORMATION		
RMSEA (Root Mean Square Error of Approximation)		
Estimate	0.028	
90 Percent C.I.	0.196	0.262
Probability RMSEA $\leq .05$	0.000	
CFI/TLI		
CFI	0.533	
TLI	0.462	
Chi-Square Test of Model Fit for the Baseline Model		
Value	313.539	
Degrees of Freedom	27	
P-Value	0.0000	
SRMR (Standardized Root Mean Square Residual)		
Value	0.151	

Mediation Analysis

To further investigate the mediating role of big five personality in the relationships between academic motivation, intolerance of uncertainty, and public speaking anxiety, additional analyses were conducted. A detailed representation of the specific mediation model can be found in Figure 2.

Figure 2

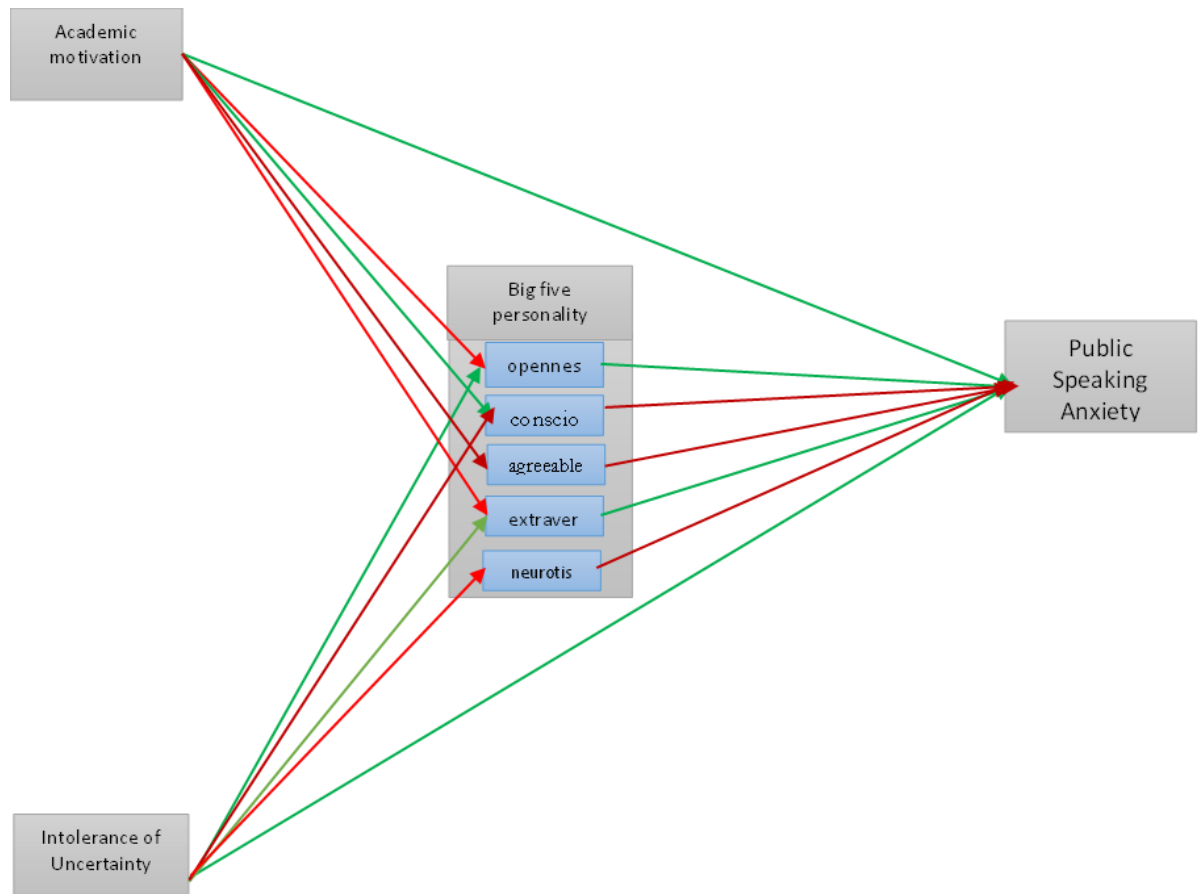


Figure 2. Final Model

Note: Green Line: Significant, Red Line: Not Significant

The academic motivation variable is not significantly influencing openness personality, where the t -value is 0.995 ($t < 1.96$) with a significance value (p) of 0.319. This finding aligns with previous research indicating that openness is more closely linked to intrinsic curiosity and cognitive flexibility rather than goal-directed academic motivation (Xu et al., 2022). The intolerance of uncertainty variable significantly influences openness personality, with a t -value of 2.315 ($t > 1.96$) and a significance value (p) of 0.021. The positive t -value indicates the direction of the relationship between variables, meaning that the higher the intolerance of uncertainty, the greater the openness personality, and vice versa. Examining the relationships among the five dimensions of the Big Five Personality (openness, conscientiousness, agreeableness,

extraversion, and neuroticism), it is found that only openness and extraversion variables significantly influence the speaking anxiety variable. The openness variable has a t-value of 2.751 ($t > 1.96$) with a significance value (P) of 0.006. This implies that openness personality is a strong predictor of an individual's speaking anxiety. Furthermore, besides openness, extraversion personality also proves to be a strong predictor of speaking anxiety, with a t-value of 3.483 ($t > 1.96$) and a significance of 0.000.

The findings indicate that while how driven someone academically affects their learning, it doesn't necessarily connect with personality aspects like openness. Openness, which involves imagination and curiosity and is generally stable, seems to stem from deeper cognitive and emotional processes rather than the goal-oriented drive seen in academic motivation. Surprisingly, a link between being uncomfortable with uncertainty and being open was found. Usually, open people are seen as liking new and unclear situations. However, this study suggests that those who dislike uncertainty might actively seek out new information and viewpoints (which are part of openness) to feel more secure. This idea fits with current thinking that openness can sometimes be a way to cope, not just a personality trait. Furthermore, only openness and extraversion significantly predicted speaking anxiety. Highly open individuals might feel more anxious when speaking because they are more aware of subtle social judgments. Despite being outgoing, extroverts might get anxious in pressured speaking situations because they are sensitive to how they perform and what others think. These results highlight how complex personality is and how it affects emotions and communication. Therefore, when helping people with speaking anxiety, it's important to consider their personality, especially openness and extraversion, to create more personalized coping strategies.

Moreover, when exploring the relationships between the five dimensions of the Big Five Personality (openness, conscientiousness, agreeableness, extraversion, and neuroticism) and speaking anxiety, it was found that only openness and extraversion exerted a statistically significant influence. Openness to experience yielded a t-value of 2.751 ($t > 1.96$) with a significance level of 0.006, while extraversion exhibited a t-value of 3.483 ($t > 1.96$) and a significance level of 0.000. This indicates that these two dimensions are strong predictors of speaking anxiety. Individuals with high levels of openness may be more sensitive to various possibilities when speaking in public, thereby inducing anxiety, even though they tend to be flexible and receptive to such experiences. Meanwhile, individuals with high levels of extraversion may experience lower anxiety due to their tendency to be confident, expressive, and comfortable in social situations. These findings contribute to the existing literature by highlighting how personality characteristics can play a crucial role in the context of communication and anxiety, and demonstrate that not only internal factors such as academic motivation, but also personality dynamics and tolerance of uncertainty shape an individual's psychological experiences.

Examining the Big Five personality traits more closely shows that only openness and extraversion significantly predict speaking anxiety, illustrating the intricate relationship between personality and how we communicate. Interestingly, higher openness is associated with increased speaking anxiety ($t = 2.751$, $p = 0.006$). While open individuals are typically seen as curious and flexible, their heightened awareness of

social evaluation might paradoxically make them more anxious in performance situations like public speaking. They may be prone to overanalyzing their words and potential audience reactions, thus amplifying their anxiety. In contrast, higher extraversion is significantly linked to lower speaking anxiety ($t = 3.483$, $p = 0.000$), consistent with prior research. Extraverted individuals, characterized by their assertiveness and comfort in social settings, often find speaking less daunting. Their natural sociability and positive disposition likely buffer them against the stress of public speaking, perhaps even allowing them to enjoy it. This supports the well-established link between extraversion and lower anxiety in social contexts. These findings underscore that speaking anxiety is not solely determined by external factors or a lack of proficiency but is deeply rooted in personality structures and emotional predispositions. They also highlight that our experience of communication apprehension is shaped by both internal motivational factors and stable personality traits, as well as our emotional responses to uncertainty. This implies that interventions for speaking anxiety, whether in educational or therapeutic settings, should be tailored to individual personality profiles to be more effective.

The academic motivation variable significantly influences conscientiousness personality with a t-value of 7.767 ($t > 1.96$) and a significance value (p) of 0.000. The intolerance of uncertainty variable does not significantly influence conscientiousness personality, where the obtained t-value is 0.753 ($t < 1.96$) with a significance value (P) of 0.451. Examining the results based on the academic motivation variable, it is found that it does not significantly influence extraversion personality, where the obtained t-value is 0.450 ($t < 1.96$) with a significance value (p) of 0.652. consistent with prior research that links academic motivation with organized and goal-oriented behavior (Siroky et al., 2023). The intolerance of uncertainty variable significantly influences extraversion personality, with a t-value greater than 1.96, specifically 3.320, and a significance value (P) of 0.001. The academic motivation variable significantly influences agreeableness personality with a t-value of 6.467 and a significance value (P) of 0.000. The intolerance of uncertainty variable is not proven to significantly influence agreeableness personality, where the t-value is 1.513 ($t < 1.96$) and the significance value is 0.130. Observing the direct relationship between academic motivation and intolerance of uncertainty variables concerning neurotic personality, it is noted that both variables do not significantly influence neurotic personality, as the t-values for each variable are less than 1.96.

It is found that only openness and extraversion variables are proven to be significant as mediating variables between academic motivation and the variable of speaking anxiety in public. The t-value for the effect of openness on academic motivation and speaking anxiety is 3.914 ($t > 1.96$) with a significance value (P) of 0.031. The t-value for the effect of extraversion on academic motivation and speaking anxiety is 2.455 ($t > 1.96$) with a significance of 0.049. The major personality traits of openness and extraversion play a role as mediators between academic motivation and speaking anxiety in public. These results corroborate findings by (Nanamori et al., 2023) who found that individuals high in openness and extraversion tend to experience less speaking anxiety due to their sociability and cognitive flexibility.

Conclusion

Upon examining the table presenting the results of the analysis in this research model, to observe the influence between the variable of intolerance of uncertainty on the variable of speaking anxiety in public (speaking anxiety) mediated by the five dimensions of the multidimensional Big Five Personality, the following results are obtained:

It is established that only openness and extraversion variables are proven to be significant as mediating variables between academic motivation and the variable of speaking anxiety in public. The t-value for the influence of openness on intolerance of uncertainty and speaking anxiety in public is 2.843 ($t > 1.96$) with a significance value (P) of 0.035. Additionally, the t-value for the influence of extraversion personality on intolerance of uncertainty and speaking anxiety in public is 2.421 ($t > 1.96$) with a significance of 0.015. The personality traits of openness and extraversion are identified as mediators between intolerance of uncertainty and speaking anxiety in public

In conclusion, the research identifies openness and extraversion as key mediators between academic motivation and speaking anxiety among Arabic foreign language learners. The findings contribute to understanding the complex dynamics of public speaking anxiety and provide insights for educators and researchers in developing targeted interventions for language learners. This study also adds to the growing body of research on language anxiety and personality by identifying openness and extraversion as key factors that explain how academic motivation and intolerance of uncertainty relate to public speaking anxiety. These findings suggest practical implications for educators, indicating that language learning environments should foster traits like openness and extraversion to help learners manage their anxiety. Future research could explore longitudinal studies or intervention programs to assess how personality-focused approaches can boost learners' confidence in public speaking situations.

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