

The Individual Differences of Indonesian High School Students' Academic Interest in English as a Foreign Language

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Abstract: This study aims to examine individual differences, using gender as the exploratory variable and age as the covariate on academic interest among Indonesian high school students learning English. The research used a quantitative method. Data were collected virtually using an online questionnaire from 324 learners in four private urban high schools. The instrument used was the Academic Interest Scale for Adolescents (AISA). The process of data analysis consisted of confirmatory factor analysis, calculating Cronbach's alpha, descriptive statistics, MANOVA, and MANCOVA. Four constructs were found valid and reliable: emotion, value, knowledge, and engagement. After validating the interest scale, data analysis disclosed the following results. Firstly, among the four constructs of academic interest, the value dimension was the highest and the knowledge factor the lowest, whereas emotion and engagement were in the middle position. Secondly, student gender differentiated significantly only in engagement. Thirdly, only the correlation between age and engagement was significant and positive in academic interest and student age. Lastly, considering student age, all the constructs except knowledge were differentiated by gender, where girls outperformed boys. These findings are valuable inputs for teachers, policymakers, and educational researchers in dealing with student language learning in Indonesian high schools.

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Introduction

The Covid outbreak in 2019 resulted in changes to foreign language education (Kaluge, 2020; Svensson et al., 2022). Both students and teachers had to adjust their teaching and learning activities online (Moorhouse, 2020). Indirectly, this transition affected student motivation (Svensson et al., 2022). Interest, as one of the motivational aspects of foreign language learning, significantly affects student academic performance and learning outcomes (Svensson et al., 2022). Interest, as one of the motivational aspects of foreign language learning, significantly affects student academic performance and learning outcomes (Luo, Dang, & Xu, 2019; Mappadang et al., 2022). A study in America found that during the pandemic, students with high numeracy abilities experienced a decrease in their math interests (Svensson et al., 2022). However, very few studies have been related to the diversity of students' interest in foreign languages in Indonesia, especially during the pandemic. Teachers need to understand this to make appropriate teaching adjustments, either online or offline.

Differences in interests between male and female students can also occur during learning. It is easier for male adolescent students to experience a decline in their academic interests (Dotterer, McHale, & Crouter, 2009). Declining could happen due to the student's increasing academic demand in the class (Hu & McGeown, 2020). Also, stereotypes could be



one of the reasons that sometimes female students have a higher interest in learning a language (Plante et al., 2019).

Academic interest in this paper refers to the psychological, cognitive concept defined as an individual's tendency to continue to be motivated, curious, and enjoy work that enhances their intellectual and academic abilities (Hidi & Renninger, 2006; Lee & Durksen, 2021). Students with high interest tend to have better academic performance (Mappadang et al., 2022). Interest affects the type of information and material that students can apprehend and understand and is closely related to the course content (Neitzel, Alexander, & Johnson, 2016). Students with high academic interests would strive to enhance their knowledge in the academic field they are interested in (Mappadang et al., 2022).

The definition of interest used in this paper is based on the Person-Object Interest (POI) theory (Hidi & Renninger, 2006) which divides interest into situational interests and individual interests (Luo, Dang, & Xu, 2019). According to the POI theory, interest is a psychological relationship between individuals with topics, events, objects, and experiences that are meaningful and generate their curiosity and pleasure (Neitzel, Alexander, & Johnson, 2016). Situational interest is environment-affected and does not last long (Luo, Dang, & Xu, 2019). On the other hand, individual interest is based on internal motivation and is the result of long-lasting situational interest (Luo, Dang, & Xu, 2019). As one of the motivational concepts, interest can be identified through several things, such as the time spent and the level of involvement of a person in certain activities (Neitzel, Alexander, & Johnson, 2016). In this concept, affective and cognitive are considered two different systems that interact, and the interest itself is the result of interaction between a person and other objects/content (Hidi & Renninger, 2006).

Interest positively affects language learning, both in second and foreign language learning (Herlina, 2016; Luo, Dang, & Xu, 2019). In English language learning, interest positively correlates with students' vocabulary mastery and reading ability (Herlina, 2016). English teachers must consider gender when selecting appropriate teaching strategies and methods (Be irovi , 2017). Dotterer, McHale, & Crouter (2009) found that in their development, adolescent students experience a decrease in interest, and male students' interest decreases more. According to research in this area thus far, there are gender differences in academic interest (Be irovi , 2017; Lee, Lee, & Bong, 2014). It was found that, in general, men have a higher interest in math and science, while women have a higher interest in English and literature (Lee, Lee, & Bong, 2014). Another research in Bosnia and Herzegovina found that female students were more motivated to learn English as a foreign language, which positively correlated with their academic achievement (Be irovi , 2017). Based on the findings from previous studies, we hypothesized that there are gender differences in the student English language interest, in which female students outperform male students.

Language teachers also need to consider age in identifying students' academic interests. Children and adults with more interest will usually pay more attention, be more involved, and acquire knowledge more pleasantly (Hidi, Berndorff, & Ainley, 2002). Based on the previous studies' findings, we proposed another hypothesis that age has a low correlation with student academic interest.

This present study aims to describe the academic interests of Indonesian high school students in English by considering gender and age differences. Therefore, in this study, four research questions have been addressed: 1) To what extent do the students have an academic interest in learning English? 2) Are there differences in interest based on student gender? 3) Is there a relationship between age and interest in learning English as a foreign language? 4)



Considering age as the covariate, are there significant differences in student interest based on gender?. Hopefully, the findings can become valuable input for educational practitioners, so that language teachers know what to consider to increase student interest. The result from this study is also the basis for consideration of maintaining facilities or learning activities in schools that are believed to enhance student interest.

Research Method

This study used a quantitative design. Three hundred twenty-four students (134 males, 190 females) from four private high schools in Malang, Indonesia, were randomly recruited and participated as respondents. The instrument used was the Academic Interest Scale for Adolescents (AISA) (Luo, Dang, & Xu, 2019) which consists of four dimensions: emotion, value, knowledge, and engagement. Emotion refers to student interest based on their happiness or the degree to which they enjoy the course. The value defines the degree to which students view the course as relevant or valuable for their future education and career. Knowledge depicts the students' confidence in their knowledge of the course. Engagement refers to the activeness or the degree to which students engage in class activities or learning.

The procedure for collecting data was as follows. First, factor analysis validated the AISA scale by calculating Cronbach's alpha. Second, after research permits were obtained from the school principals, we contacted the English language teacher in each high school. Third, the questionnaires were distributed to the high school students within one week via Google Form. Both the school and student identity remained confidential. Every stem contains an answer on a 4-point Likert scale, from strongly agree to disagree strongly. The data obtained were then processed using confirmatory factor analysis, calculating Cronbach's alpha, descriptive statistics, MANOVA and MANCOVA.

Results and Discussion

The results of the analysis were as follows. Factor analysis showed that the four dimensions of academic interest were valid and reliable, namely emotion (=.907), value (= .895), knowledge (= .891), and engagement (= .865). Table 1 reveals the descriptive statistical analysis in response to the first research question regarding students' interest in learning English in general.

Table 1. Descriptive Statistics										
	Ν	Minimum	Maximum	Mean	Std. Deviation					
Emotion	324	1.00	4.00	3.0463	.63236					
Value	324	1.25	4.00	3.4572	.52330					
Knowledge	324	1.00	4.00	2.6345	.62061					
Engagement	324	1.00	4.00	3.1076	.62032					
Valid N	324									
(listwise)										

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Overall, the students have a good interest in English, with a mean ranging from 2.6 to 3.4. Table 1 shows 'value' as the dimension with the highest mean value (mean = 3.4572) and 'knowledge' as the lowest (mean = 2.6345). The dimensions of 'emotion' (mean = 3.0463) and 'engagement' (mean = 3.1076) both have a moderate average. Students have more interest in English due to their recognition of the promising prospects of fluency in English, pleasant feelings, and a class atmosphere that supports student activity. However, they are unsure that their knowledge is sufficient to increase their interest in learning English. Furthermore, differences in interest based on student gender illustrated in Table 2 and Table 3



through multivariate analysis show a significant difference in academic interest in English between male and female students, based on the value of F (4.319) = 15.683 (Table 2).

							Partial
				Hypothesis			Eta
Effect		Value	F	df	Error df	Sig.	Squared
Intercep	Pillai's Trace	.979	3663.635 ^b	4.000	319.000	.000	.979
t	Wilks' Lambda	.021	3663.635 ^b	4.000	319.000	.000	.979
	Hotelling's Trace	45.939	3663.635 ^b	4.000	319.000	.000	.979
	Roy's Largest	45.939	3663.635 ^b	4.000	319.000	.000	.979
	Root						
Gender	Pillai's Trace	.164	15.683 ^b	4.000	319.000	.000	.164
	Wilks' Lambda	.836	15.683 ^b	4.000	319.000	.000	.164
	Hotelling's Trace	.197	15.683 ^b	4.000	319.000	.000	.164
	Roy's Largest	.197	15.683 ^b	4.000	319.000	.000	.164
	Root						
D ' I	() () () () () () () () () ()						

Table 2. Multivariate Test MANOVA^a

a. Design: Intercept + Gender

b. Exact statistic

Table 3 shows the results from the analysis of MANOVA. Gender had a significant effect on the three constructs, i.e. 'emotion' [F(1,322) = 15.349, p = 0.000], 'value' [F(1,322) = 29.458, p = 0.000], and 'engagement' [F(1,322) = 29.985, p = 0.000]. Male and female students had different perceptions regarding these three dimensions. The influence of 'emotion' was 4.3%, 'value' was 8.1%, and 'engagement' was 8.2%. On the other hand, there were no significant differences between male and female students on the construct of 'knowledge' [F(1,322) = 0.360, p = 0.549].

	1	able 5. Tes	is of Be	etween-Subje	cis Effects		
		Type III					Partial
	Dependent	Sum of		Mean			Eta
Source	Variable	Squares	Df	Square	F	Sig.	Squared
Corrected	emotion	5.877 ^a	1	5.877	15.349	.000	.045
Model	Value	7.414 ^b	1	7.414	29.458	.000	.084
	knowledge	.139 ^c	1	.139	.360	.549	.001
	engagemen	10.588^{d}	1	10.588	29.985	.000	.085
	t						
Intercept	emotion	2871.791	1	2871.791	7500.584	.000	.959
	value	3699.317	1	3699.317	14698.858	.000	.979
	knowledge	2175.522	1	2175.522	5637.214	.000	.946
	engagemen	2973.767	1	2973.767	8421.559	.000	.963
	t						
Gender	emotion	5.877	1	5.877	15.349	.000	.045
	value	7.414	1	7.414	29.458	.000	.084
	knowledge	.139	1	.139	.360	.549	.001
	engagemen	10.588	1	10.588	29.985	.000	.085
	t						
Error	emotion	123.286	322	.383			
	value	81.039	322	.252			
	knowledge	124.267	322	.386			
	engagemen	113.703	322	.353			
	t						

Table 3. Tests of Between-Subjects Effects



Total	emotion	3135.857	324	
	value	3960.922	324	
	knowledge	2373.122	324	
	engagemen	3253.184	324	
	t			
Corrected	emotion	129.163	323	
Total	value	88.453	323	
	knowledge	124.406	323	
	engagemen	124.291	323	
	t			

a. R Squared = .045 (Adjusted R Squared = .043)

b. R Squared = .084 (Adjusted R Squared = .081)

c. R Squared = .001 (Adjusted R Squared = -.002)

d. R Squared = .085 (Adjusted R Squared = .082)

The difference in the mean scores of male and female students is further shown in Table 4. Female students had a higher average on the four dimensions of academic interest, namely 'emotion' (mean = 3.1594), 'value' (mean = 3.5842), 'knowledge' (mean = 2.6519), and 'engagement' (mean = 3.2594). Table 4 shows that male and female students' perceptions of affective, value, and involvement differed significantly.

	Gender	Mean	Std. Deviation	Ν
	Male	2.8859	.64812	134
Emotion	Female	3.1594	.59725	190
	Total	3.0463	.63236	324
Value	Male	3.2771	.57566	134
	Female	3.5842	.44225	190
	Total	3.4572	.52330	324
	Male	2.6098	.67466	134
Knowledge	Female	2.6519	.58068	190
-	Total	2.6345	.62061	324
	Male	2.8923	.65229	134
Engagement	Female	3.2594	.54972	190
00	Total	3.1076	.62032	324

Table 4. Mean Differences based on Gender

The relationship between age and interest in learning English as a foreign language is shown in the correlation matrix in Table 5. Emotion had a high correlation with engagement (.818), knowledge (.785), and value (.679). The more positive students were towards the English language, the more active they were in the class activities and their efforts to increase their knowledge. Meanwhile, value moderately correlates with knowledge (.557) and engagement (.731). Knowledge has a moderate correlation with engagement (.696). Age has a low correlation with the four academic interest constructs. Moreover, there is a negative and low correlation between age and knowledge (-.025). It shows that as students age, their confidence in their English knowledge decreases. Age was only positively correlated with engagement (.135). As students got older, they showed more participation in class.

Table 5. Intercorrelation									
	Age in months	Emotion	Value	Knowledge	Engagement				
Age in months	1.000	.071	.054	025	.135				
Emotion	.071	1.000	.679	.785	.818				
Value	.054	.679	1.000	.557	.731				
Knowledge	025	.785	.557	1.000	.696				
Engagement	.135	.818	.731	.696	1.000				

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The fourth research question related to gender differences in student interest, taking into account the age factor, was answered through MANCOVA analysis presented in Table 6 and Table 7. There were significant differences in academic interest in English between male and female students, based on the value of F(4.318) = 14.931 (Table 6).

	Table 6. Multivariate Tests ^a									
				Hypothesis			Partial Eta			
Effect		Value	F	df	Error df	Sig.	Squared			
Intercept	Pillai's Trace	.095	8.355 ^b	4.000	318.000	.000	.095			
	Wilks' Lambda	.905	8.355 ^b	4.000	318.000	.000	.095			
	Hotelling's Trace	.105	8.355 ^b	4.000	318.000	.000	.095			
	Roy's Largest	.105	8.355 ^b	4.000	318.000	.000	.095			
	Root									
Birth	Pillai's Trace	.042	3.482 ^b	4.000	318.000	.008	.042			
	Wilks' Lambda	.958	3.482 ^b	4.000	318.000	.008	.042			
	Hotelling's Trace	.044	3.482 ^b	4.000	318.000	.008	.042			
	Roy's Largest	.044	3.482 ^b	4.000	318.000	.008	.042			
	Root									
Gender	Pillai's Trace	.158	14.931 ^b	4.000	318.000	.000	.158			
	Wilks' Lambda	.842	14.931 ^b	4.000	318.000	.000	.158			
	Hotelling's Trace	.188	14.931 ^b	4.000	318.000	.000	.158			
	Roy's Largest	.188	14.931 ^b	4.000	318.000	.000	.158			
	Root									

a. Design: Intercept + Birth + Gender

b. Exact statistic

Table 7 shows the result of the MANCOVA analysis. Similar to the results in Table 3, Table 7 shows that male and female students had significant differences in the three dimensions, namely 'emotion' [F(1,321) = 14,580, p = 0,000], 'value' [F(1,321) = 28,669, p = 0,000], and 'engagement' [F(1,321) = 28,111, p = 0.000]. Female students had a higher interest mean on those dimensions than male students. The influence of 'emotion' was 4.2%, 'value' was 7.9%, and 'engagement' was 9.2%. The more students involved themselves in the class, the more interest they had and vice versa. Knowledge had a negative effect of 0.4%. However, there was no significant difference between male and female students in the dimension of 'knowledge' [F(1,321) = 0.411, p = 0.522].

Table 7. Tests of Between-Subjects Effects

		Type III			0			
	Dependent	Sum of			Mean			Partial Eta
Source	Variable	Squares		Df	Square	F	Sig.	Squared
Corrected	Emotion	6.232 ^a	2		3.116	8.137	.000	.048
Model	Value	7.485 ^b	2		3.743	14.838	.000	.085
	knowledge	.235 ^c	2		.118	.304	.738	.002
	engagement	12.092 ^d	2		6.046	17.298	.000	.097
Intercept	Emotion	2.845	1		2.845	7.429	.007	.023
	Value	5.399	1		5.399	21.403	.000	.063
	knowledge	5.275	1		5.275	13.636	.000	.041
	engagement	1.204	1		1.204	3.445	.064	.011
Birth	Emotion	.355	1		.355	.928	.336	.003
	Value	.071	1		.071	.283	.595	.001
	knowledge	.096	1		.096	.249	.618	.001
	engagement	1.504	1		1.504	4.302	.039	.013
Gender	Emotion	5.584	1		5.584	14.580	.000	.043



	Value	7.231	1	7.231	28.669	.000	.082
	knowledge	.159	1	.159	.411	.522	.001
	engagement	9.826	1	9.826	28.111	.000	.081
Error	Emotion	122.930	321	.383			
	Value	80.968	321	.252			
	knowledge	124.170	321	.387			
	engagement	112.199	321	.350			
Total	Emotion	3135.857	324				
	Value	3960.922	324				
	knowledge	2373.122	324				
	engagement	3253.184	324				
Corrected	Emotion	129.163	323				
Total	Value	88.453	323				
	knowledge	124.406	323				
	engagement	124.291	323				
o D Squarad	-0.48 (Adjusto	d D Squarad -	042)				

a. R Squared = .048 (Adjusted R Squared = .042)

b. R Squared = .085 (Adjusted R Squared = .079)

c. R Squared = .002 (Adjusted R Squared = -.004)

d. R Squared = .097 (Adjusted R Squared = .092)

Our hypothesis is partially affirmed based on the results of the MANOVA and MANCOVA analysis. There are significant gender differences in three constructs of interest, namely 'emotion', 'value,' and 'engagement.' However, male and female students do not differ significantly in their perspective of 'knowledge'.

Discussion

The diversity of student characteristics in a language class is inevitable. It is the task of the teacher to acknowledge and understand this diversity to adjust the way of delivering material and activities to cater for these differences. Based on the results of the analysis, it is known that, in general, Indonesian private high school students' interest in English as a foreign language is good. Age did not result in significant differences between students. A small correlation was found between age and the four constructs of academic interest. Thus, the interest between first, second, and third-year high school students in this study was not significantly different. On the other hand, another variable, namely gender, was more robust in showing interest differences. It was found that there were significant differences in academic interests between male and female students.

Among the four dimensions of academic interests, namely emotion, value, knowledge, and engagement, the aspect of 'value' was the students' main concern regarding their interest in the English language, as shown in the mean with the highest score. The findings of this study confirm the study by Lee, Lee, & Bong (2014) which showed differences in interest by gender. In this case, the results of this study also support previous research that revealed that female students had a higher interest in learning English than male students (Harthy, 2017). Previous research conducted in differences and language backgrounds showed the same findings; thus, these differences are not new. Results from this study are beneficial to confirm the previous study findings and contribute to the perspective from the Indonesian cultural background.

Several factors could be the cause of these findings. First, male students' writing interests tend to be more influenced by situational interests (Hidi, Berndorff, & Ainley, 2002). Thus, the learning environment was more likely to influence their academic interest. With a more conducive and meaningful experience, their interest could be as high as that of



the female students. Second, previous studies found that men are more interested in objects in STEM studies, while women are more interested in humans (Su, Rounds, & Armstrong, 2009). Although this study did not analyze interest in STEM, the learning material and class activities used in the class could affect interest. If more materials and activities are related to objects, it might also enhance male students' interest. Third, differences in interest between male and female students can occur due to differences in learning styles (Dotterer, McHale, & Crouter, 2009). Some students prefer studying alone, while others prefer studying in groups (Dantas & Cunha, 2020). Thus, learning activities could also affect student interest. Fourth, socioeconomic backgrounds, such as parents' educational and occupational backgrounds, could determine students' interests. For example, students with parents from a higher educational background, such as academics and professionals, could have different degrees of interest in the foreign language compared to students with parents with businessrelated jobs. Also, how parents are involved and encourage their children to study English could be a potential background for these results. Based on the aforementioned previous studies, we conclude that the results in this paper could be due to these reasons. Fifth, differences might persist due to the hardships students encounter during learning, either online or offline (Svensson et al., 2022). It is essential for language teachers to identify the difficulties students have and support them to learn not for short-term goals but for long-term goals, e.g. work position and future career. Regarding these reasons, the researchers argue that all potential reasons are relevant in Indonesia. The same situation could likely occur in the private high schools participating in this study.

Nevertheless, other aspects still need to be taken into consideration. The aspect of 'value' is not the only thing that determines students' degree of interest but also the experiences they have and will go through (Gearing, 2019; Junina et al., 2022; Tin, 2013). Learners with unpleasant experiences in their last year or previous classes could have a lower positive interest in the upcoming English sessions (Freiermuth & Ito, 2020; Zuo et al., 2019). In other words, the degree of enjoyment of the previous English classes could lead to lower or higher interest. Therefore, teachers need to consider class activities and interactions that can foster student interest (Liu & Chiang, 2019; Tin, 2013).

This research showed that Indonesian high school student interest is good but has yet to reach the maximum score. Thus, several things must be considered to increase student interest in English. First, language teachers could consider preparing material more tailored to students' interests (Casey & Ganley, 2021; Getie & Popescu, 2020). Second, consideration could be made to allow parent intervention in emphasizing the importance of learning certain subjects for students' (Casey & Ganley, 2021). Third, teachers can provide helpful feedback to increase students' attention to the material, and through the positive effect that the teachers give, students' interest can increase Teachers must avoid giving intimidating feedback as it could lead to unpleasant learning experiences because a positive classroom atmosphere is essential to enhance student engagement (Mappadang et al., 2022; Ryan & Henderson, 2018). Fourth, the school infrastructure could be evaluated to ensure that the institution supports student learning activities to maximize student learning quality (Mappadang et al., 2022).

The limitations of this study lie in several respects. First, some variables were not involved, even though they should have been considered. It includes teacher gender, student SES background, and the influence of the covid outbreak on student psychological factors because some adjustments had to be made so that the students could study online. Further, teachers and students had to adapt to the changes in the new curriculum imposed by the government. Every class is different, and thus, teachers need to adjust their approaches to cater to individual differences. In this case, policy maker and curriculum developers would be



expected to give teachers some flexibility in adjusting their teaching practices. The variable teacher's approach was not used as a control in this study, even though other studies have shown that it influences student interest. Xu, Coats, & Davidson (2012) found that students will be interested if the teacher is also interested in the subject. In conceptual implications, this study showed that students possessed all four dimensions of academic interests. As for the practical implications, this study showed the importance of teachers considering their interest in designing teaching material and choosing the appropriate teaching method.

Conclusion

In conclusion, interest is one of the motivational variables that must be considered for any language class. There are differences found between male and female students. Female students tend to have higher interests, especially in the dimension of 'emotion', 'value', and 'engagement'. Thus, teachers must consider the instruction and feedback that could enhance students' interests equally.

Recommendation

This research's strength lies in using several statistical analyses to reveal the differences between boys and girls in the academic interest of learning English. Some of the weaknesses of this research did not include some relevant variables, and the analysis results may not necessarily be generalizable to different educational levels and research contexts. Research conducted in different regions in Indonesia with different cultures could result in different findings due to the influence of local beliefs. Further research could be done using qualitative and multi-method research designs to strengthen the findings of this research or to reveal different results. It is recommended for teachers to increase positive feedback, learning environment or atmosphere to enhance student interest in learning English, especially in post-pandemic education. Policy makers and foreign language curriculum developers should allow teachers' flexibility in modifying teaching materials to promote students' interest in learning English. It is hoped that students would be more willing to participate in class based on those approaches.

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