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Analysis of students career interests of senior high school based on Holland's career interest theory

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ABSTRACT

This study aims to investigate and explore students' career interest tendencies based on Holland's career interest theory, which categorizes career interests into 6 types, RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). The subjects of this study were XII grade students at RK Serdang Murni Lubuk Pakam High School, Deli Serdang Regency, North Sumatra as many as 121 students. This research methodology uses a quantitative approach using a modified Holland career interest test instrument, which consists of 54 question items. Data analysis resulted in a comprehensive mapping of the participants' career preferences, with an average overall career interest score of 2.87, which was categorized as Moderate. The findings revealed that students tended to be more interested in careers related to Social and Enterprising aspects, with lower interest in Realistic and Investigative careers. The implications of this study are expected to make a significant contribution in helping schools to design more targeted interventions in fostering and guiding students' career aspirations more effectively.



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Introduction

Adolescence represents a crucial period in individual development where one of the primary tasks is selecting and preparing for a career or occupation (Havighurst, as cited in (Hurlock, 2017; Santrock, 2007). This process involves deep self-understanding, exploration of various career options, and strategic planning of steps to achieve professional goals. In this context, adolescents face the challenge of evaluating their interests, abilities, and personal values, as well as aligning them with available opportunities in the workforce. This task requires a combination of self-reflection, knowledge about various professions, and development of relevant skills. The accomplishment of this developmental task is vital in determining an appropriate career direction and preparing adolescents for a successful transition to future professional life (Hurlock, 2017; Santrock, 2013). High school students in Indonesia, Serdang Murni High School is one of the top high schools in Indonesia, at this level some students face challenges in choosing the right career, as we can see in the low readiness of students when entering the world of work. Data from the Ministry of Education and Culture (2023) shows that 40% of high school graduates in Indonesia feel confused in determining a career, which shows the importance of career interest mapping in high schools (PUTRI, 2024).

Students' career choices in Indonesia are also caused by several factors, namely cultural and social, such as parental beliefs and community norms (Febriyanty & Faizin, 2022). This makes the act of directing students to

career choices that are not in accordance with their interests and talents. Besides that, students also tend to be influenced by traditional views from society that prioritize certain careers, such as health and government, without analyzing student interests. The rapid advancement of technology has brought significant transformations to the world of work, where automation and artificial intelligence are replacing a substantial portion of human labor (Farenti et al., 2022; Fauziah et al., 2022; Mudhar et al., 2022). This disruption demands that individuals, particularly adolescents still in high school, have a strong awareness of their potential and career interests from an early age. Consequently, they can formulate realistic career goals, develop comprehensive personal development plans, and build intrinsic motivation to achieve professional success amidst increasingly fierce competition. Previous studies that also use Holland's theory in Indonesia have focused more on general subject matter and few have mapped the career interests of high school students quantitatively (HAMIDAH & Fadillah, 2023). Previous studies that also use Holland's theory in Indonesia have focused more on general subject matter and few have mapped the career interests of high school students quantitatively (Harahap et al., 2023). Therefore, this study aims to map the career interests of grade 12 students at Serdang Murni High School, which the researcher hopes can design a career guidance program that is more effective and relevant to students' needs.

Previous research (Daharnis & Iswari, 2022; Defriansyah et al., 2023; Saripah et al., 2023; Yonanda et al., 2022) has demonstrated that career guidance interventions can equip students with the necessary knowledge, attitudes, and skills to make appropriate career decisions. The career decision-making process is influenced by various internal and external factors, necessitating collaboration among students, schools, parents, and other stakeholders to ensure that career choices align with individual potential and interests while remaining relevant to workforce demands (Kasan & Ibrahim, 2022). Several other studies highlight the importance of students understanding their career interests. Research at SMA Negeri 1 Muratara showed that career interest guidance was implemented to significantly enhance students' study interests (Defriansyah et al., 2023). Another study indicated that students at SMA and SMK Budi Satria still face difficulties in selecting career interests (Harahap et al., 2023).

This research introduces the adaptation of the modified RIASEC instrument to the Indonesian context, providing a new and more relevant approach. This research aims to comprehensively map the career interest profiles of 12th-grade students at RK Serdang Murni High School Lubuk Pakam, utilizing a theoretical approach based on Holland's RIASEC model (Holland, 1997). Through quantitative analysis of the obtained data, this study seeks to generate information that can serve as a foundation for educational institutions in designing and implementing more structured and effective career development programs. The ultimate goal is to facilitate students in making more informed career decisions that align with their individual interests, talents, and potential, as well as to enhance students' readiness for the transition to higher education or the workforce (Eliason et al., 2019). The results of this study are expected to contribute significantly to the development of more adaptive and responsive career guidance strategies addressing the needs of students in the context of upper secondary education in Indonesia. Holland's theory divides career interests into six types: Realistic (orientation towards practical and technical work), Investigative (analytical and scientific), Artistic (creative and expressive), Social (interpersonal interaction), Enterprising (leadership and persuasion), and Conventional (structured and administrative) (Amalianita & Putri, 2019).

The development of career interest theory has been significantly influenced by the contributions of Donald Super and John Holland, recognized as pioneers in the field of career development and choice (Sharf, 2017). Super developed a career interest theory based on the life-span concept, emphasizing the central role of self-concept evolving in tandem with psychosocial development and social expectations (Niles & Harris, 2008). Meanwhile, Holland proposed a theory of personality and work environment typology, classifying individuals and occupations into six RIASEC types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) (Amalianita & Putri, 2019; Holland, 1997). Holland's theory posits that optimal career satisfaction and stability are achieved when there is congruence between an individual's personality type and their work environment (Nauta, 2010). The integration of these two perspectives has provided a comprehensive framework for understanding the dynamics of career interest development, facilitating more effective career guidance practices, and promoting further research in the field of vocational psychology (Savickas, 1997; Savickas & Porfeli, 2012).

Furthermore, John Holland proposed a theory of personality and work environment typology that classifies career interests into six main types, known as RIASEC: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (Eliason et al., 2019; Gottfredson, 1999; Reardon & Lenz, 1999). Each type has distinctive characteristics: Realistic is oriented towards the manipulation of objects and systems; Investigative tends towards analytical and scientific activities; Artistic leans towards creative expression; Social focuses on interpersonal interactions; Enterprising emphasizes leadership and persuasion; while Conventional relates to structured and administrative activities (Holland, 1997). This theory asserts that an individual's career interest profile is

multidimensional, reflecting a unique combination of various RIASEC types with varying intensities (Nauta, 2010). This concept illustrates the complexity of career preferences, where each interest type correlates with others, forming patterns that influence career choices and satisfaction (Spokane et al., 2000). Holland's approach has had a significant impact on the development of career assessments and vocational guidance interventions, providing a comprehensive framework for understanding the congruence between individual characteristics and work environments (Eliason et al., 2019). The implications of this theory extend to various aspects of vocational psychology, including career development, job satisfaction, and occupational stability (Savickas & Porfeli, 2012).

Holland's career interest theory, which classifies individuals into six RIASEC vocational personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional), remains an influential framework in career guidance in Indonesia (Mudhar et al., 2020; Suryadi et al., 2020). Each type has unique characteristics that reflect individual preferences and tendencies in the context of work: Realistic encompasses individuals who tend towards practical and technical activities, often involving manipulation of physical objects or machines (Suryadi et al., 2020). Investigative includes those interested in analytical and scientific activities, with a critical and systematic approach to problem-solving (Farhan & Biran, 2022). Artistic comprises people who value creative expression and aesthetics, tending to have a more flexible and innovative work approach (Sawitri & Creed, 2017). Social involves individuals who enjoy interpersonal interactions and helping activities, with strong communication skills (Fitrianingsih et al., 2024). Enterprising describes individuals who prefer leadership and persuasion, often oriented towards achieving organizational goals (Mudhar et al., 2023). Conventional includes those who favor structured environments and tasks involving systematic data manipulation (Suryadi et al., 2020).

In vocational personality theory, Holland asserts that an individual's career interest profile is generally not limited to a single type, but rather is a complex configuration consisting of a combination of several or all vocational personality types. The intensity of each type in an individual's profile can vary, creating a unique and multidimensional pattern. This pattern plays a significant role in shaping and influencing the career preferences and decisions made by the individual (Nulhusni et al., 2021).

Method

This study utilized a quantitative survey research design (Nardi, 2018), adopting a modified version of Holland's career interest test instrument (RIASEC) (Holland, 1997). This design is used to systematically obtain and collect data regarding career interests across the population. The instrument consists of 54 question items designed to measure respondents' career interests (Mudhar et al., 2023). The researcher modified the instrument for cultural and contextual relevance for high school students, including changes in terminology and the addition of locally specific items. The modified instrument underwent expert validation by three educational psychologists to ensure content validity. This method was chosen for its ability to generate measurable data that can be statistically analyzed to determine the characteristics of career interests in the research subjects (Tuckman & Harper, 2012).

The research subjects comprise all 121 12th grade students at RK Serdang Murni High School Lubuk Pakam, Deli Serdang Regency, North Sumatra. Allowable inclusion criteria included active enrollment in grade 12, readiness to participate, and availability at the time of information collection. Exclusion criteria included incomplete answers or inability to complete the questionnaire. This population selection is based on the consideration that all 12th grade students are in the preparatory stage for entering the workforce or pursuing higher education (Santrock, John, 2013). This study employs a census approach, where all members of the population are included as research subjects (Tuckman & Harper, 2012). This approach was chosen to obtain comprehensive and representative data from the population (Creswell, 2009).

Data gathering adhered to an organized approach which included Instrument Development, Instruments were tested on pupils from the same institution to enhance the clarity of questions and refine them. Survey Execution, Data gathering took place within school hours to enhance involvement and decrease outside disruptions. Control Strategies, Uniform instructions were given, and the researcher monitored the procedure to lessen bias and guarantee uniform responses. In mapping the career interest profile of class XII students at RK Serdang Murni Lubuk Pakam Private Senior High School, data processing of the research results was carried out using Microsoft Excel and SPSS (Statistical Package for the Social Sciences). Excel was used to tidy up the data and carry out pre-processing stages, such as detecting incomplete answers and compiling data for analysis. SPSS was used for descriptive statistical analysis (mean, standard deviation) and inferential analysis. This approach adopts an integrated data analysis methodology recommended by (Setiawan, 2023) in his study on the effectiveness of statistical software in educational research. The integration of these two applications enables

researchers to conduct comprehensive analyses, ranging from descriptive to inferential (M. Y. Matdoan et al., 2021; Sijinjak, 2024).

In mapping the career interest profiles of 12th grade students at RK Serdang Murni Private High School Lubuk Pakam, data processing of research results was conducted using Microsoft Excel and SPSS. This approach adopts an integrated data analysis methodology recommended by (Creswell, 2009). The use of Excel facilitates the management and pre-processing of raw data, while SPSS is utilized for complex statistical analyses, including factor analysis and multivariate regression, which are crucial in identifying career interest patterns (Field, 2017). The integration of these two applications allows researchers to conduct comprehensive analyses, ranging from descriptive to inferential, resulting in accurate and reliable career interest mapping, as validated in a longitudinal study by (Sawitri & Creed, 2017) on the development of students' career interests.

Results and Discussions

The descriptive analysis technique aims to elucidate the entirety of collected data by presenting, grouping, and classifying it into tables, which are then explicated based on the most dominant and weakest indicators (Paramita et al., 2021; Rachman et al., 2024). This approach enables researchers to identify patterns and trends in the data, as well as present information systematically and comprehensively (Siyoto & Sodik, 2015). The research data was obtained from respondents' answers to a series of questions, specifically their responses to questionnaire items supporting the research. In addition, information was collected using a questionnaire using the survey method to ensure the validity and accuracy of the data used in the analysis. This section presents the frequency distribution of scores for each item of interest aspect. To describe the mean value of each interest aspect in this study, criteria with class intervals obtained from the calculation are used:

$$\text{Formula for Class Interval Length} = \frac{(\text{highest weight} - \text{lowest weight})}{\text{number of classes/categories}}$$

The response score values in this study refer to a 5-point Likert scale (Sugiyono, 20022), thus the highest response value is 5 and the lowest is 1. The use of a five-point Likert scale was chosen because of its characteristics that are easy for participants to understand and can provide variations in levels of agreement with statements. The number of classes/categories used in compiling these criteria is adjusted to the scale used, namely 5 classes, resulting in a class interval of $(5-1) : 5 = 0.8$. The basis for interpreting the mean values used in this study refers to the score interpretation according to (Sujana, 2013) and as used by Mudrajad Kuncoro, (2011). Therefore, the criteria for describing the mean values obtained for each interest aspect can be described in Table 4.1 as follows:

Table 1. Basis of Interpretation of Indicator Scores in Research Variables

Average Value	Meaning Average Value
1.00 - 1.79	Very Low
1.80 - 2.59	Very Low
2.60 - 3.39	Medium
3.40 - 4.19	High
4.20 - 5.00	Very High

Source: Riduwan & Kuncoro, (2011)

The mean analysis showed that the Social dimension had the highest mean score of 3.47 (high category), while the Realistic dimension had the lowest mean score of 1.99 (low category). The frequency distribution indicates that most students fall in the Medium category for almost all dimensions, except the Realistic dimension, where the majority of students are in the Low category. The variability among respondents, as measured by standard deviation, shows that the Social dimension has less variability when compared to the other dimensions.

Profile of Career Interests of Class XII Students of SMA Serdang Murni Lubuk Pakam

The career interest aspects of students in each class were measured using 6 dimensions. Each response was assigned a value, and these response scores were then accumulated to categorize the aspects based on the average responses of the participants. The following section details the frequency distribution of respondents' reactions to the career interest aspect variables for each class and across all classes (Class XII-1 – Class XII-4) comprehensively. This is done to obtain a complete picture of the students' interests.

Table 2. Career Interest Profile of Class XII Students at SMA RK Serdang Murni Lubuk Pakam

Kelas	No	Aspect	Interest Level					Average	The Meaning of Average
			VH	H	M	L	VL		
Kelas XII-1	1	Realistik	f 0 % 0,0	4 13,8	4 13,8	13 44,8	8 27,6	2,14	Low
	2	Investigatif	f 0 % 0,0	1 3,4	9 31,0	11 37,9	8 27,6	2,10	Low
	3	Artistik	f 0 % 0,0	8 27,6	14 48,3	5 17,2	2 6,9	2,97	Medium
	4	Sosial	f 3 % 10,3	8 27,6	13 44,8	5 17,2	0 0,0	3,31	Medium
	5	Enterprising	f 3 % 10,3	12 41,4	10 34,5	4 13,8	0 0,0	3,48	High
	6	Konvensional	f 2 % 6,9	8 27,6	14 48,3	5 17,2	0 0,0	3,24	Medium
Kelas XII-2	1	Realistik	f 0 % 0,0	1 3,2	8 25,8	11 35,5	11 35,5	1,97	Low
	2	Investigatif	f 1 % 3,2	3 9,7	10 32,3	14 45,2	3 9,7	2,52	Low
	3	Artistik	f 4 % 12,9	3 9,7	17 54,8	6 19,4	1 3,2	3,10	Medium
	4	Sosial	f 4 % 12,9	9 29,0	15 48,4	3 9,7	0 0,0	3,45	High
	5	Enterprising	f 2 % 6,5	12 38,7	13 41,9	4 12,9	0 0,0	3,39	Medium
	6	Konvensional	f 0 % 0,0	3 9,7	22 71,0	5 16,1	1 3,2	2,87	Medium
Kelas XII-3	1	Realistik	f 3 % 9,4	1 3,1	4 12,5	14 43,8	10 31,3	2,16	Low
	2	Investigatif	f 0 % 0,0	3 9,4	12 37,5	15 46,9	2 6,3	2,50	Low
	3	Artistik	f 2 % 6,3	8 25,0	15 46,9	7 21,9	0 0,0	3,16	Medium
	4	Sosial	f 2 % 6,3	11 34,4	17 53,1	2 6,3	0 0,0	3,41	High
	5	Enterprising	f 3 % 9,4	3 9,4	23 71,9	3 9,4	0 0,0	3,19	Medium
	6	Konvensional	f 0 % 0,0	2 6,3	24 75,0	6 18,8	0 0,0	2,88	Medium
Kelas XII-4	1	Realistik	f 0 % 0,0	2 6,5	5 16,1	11 35,5	13 41,9	1,87	Low
	2	Investigatif	f 1 % 3,2	1 3,2	9 29,0	15 48,4	5 16,1	2,29	Low
	3	Artistik	f 1 % 3,2	3 9,7	24 77,4	3 9,7	0 0,0	3,06	Medium
	4	Sosial	f 2 % 6,5	14 45,2	14 45,2	1 3,2	0 0,0	3,55	High
	5	Enterprising	f 3 % 9,7	7 22,6	19 61,3	2 6,5	0 0,0	3,35	Medium
	6	Konvensional	f 0 % 0,0	4 12,9	24 77,4	3 9,7	0 0,0	3,03	Medium
Semua Kelas	1	Realistik	f 3 % 3,2	4 4,3	16 17,2	36 38,7	34 36,6	1,99	Low
	2	Investigatif	f 2 % 2,2	7 7,5	31 33,3	43 46,2	10 10,8	2,44	Low
	3	Artistik	f 7 % 7,5	14 15,1	55 59,1	16 17,2	1 1,1	3,11	Medium
	4	Sosial	f 8 % 8,6	34 36,6	45 48,4	6 6,5	0 0,0	3,47	High

Kelas	No	Aspect	Interest Level					Average	The Meaning of Average
			VH	H	M	L	VL		
5	Enterprising	f	8	21	55	9	0	3,30	Medium
		%	8,6	22,6	59,1	9,7	0,0		
6	Konvensiional	f	0	9	69	14	1	2,92	Medium
		%	0,0	9,7	74,2	15,1	1,1		

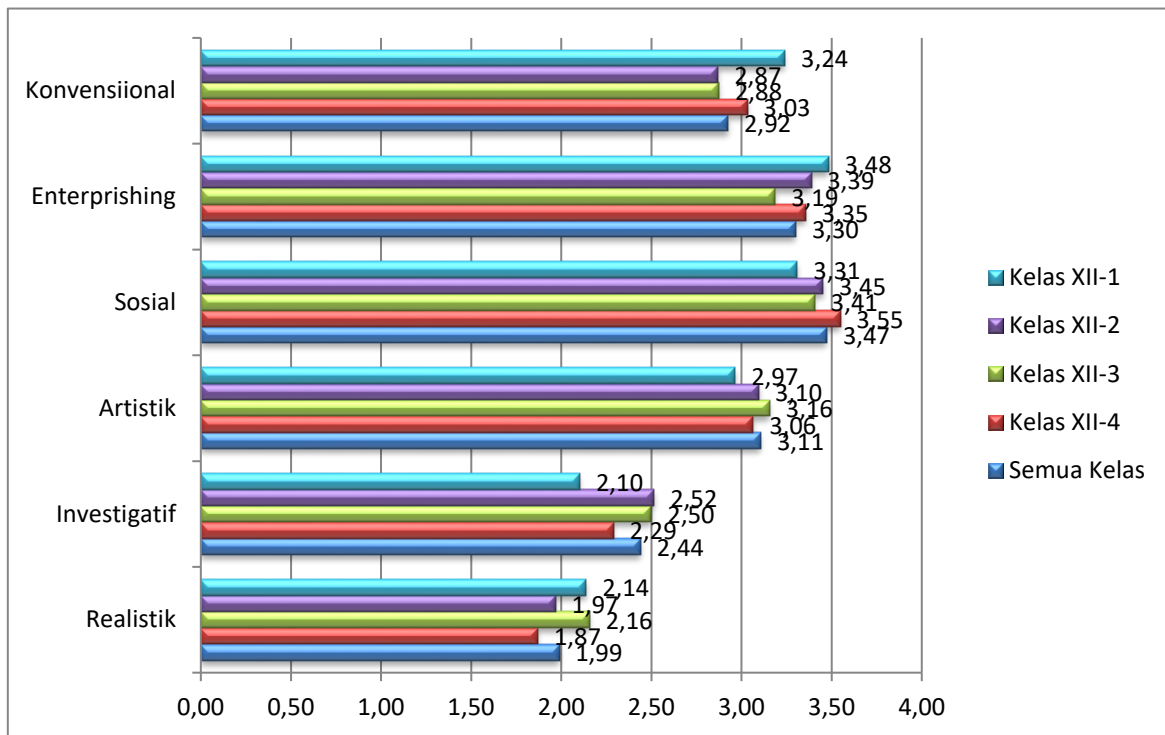


Figure 1. Profile of Career Interests of Class XII Students of SMA RK Serdang Murni Lubuk Pakam

Class XII-1, The dominant Career Interest Aspect in Class XII-1 is the fifth aspect, 'Enterprising', with the highest mean score of 3.48 (classified as High). The majority of respondents, 12 individuals (41.4%), fall into the High category for this aspect. Conversely, the weakest aspect is the second one, 'Investigative', with a mean score of 2.1, where 11 respondents (37.9%) are categorized as Low. The cumulative mean for all career interest aspects in Class XII-1 is 2.87, categorized as Medium. Class XII-2, For Class XII-2, the dominant Career Interest Aspect is the fourth aspect, 'Social', with the highest mean score of 3.45 (classified as High). Fifteen respondents (48.4%) fall into the Medium category for this aspect. The weakest aspect is the first one, 'Realistic', with a mean score of 1.97, where 11 respondents (35.5%) are categorized as Low, and another 11 (35.5%) as Very Low. The cumulative mean for all career interest aspects in Class XII-2 is 2.88, categorized as Medium.

Class XII-3, In Class XII-3, the dominant Career Interest Aspect is also 'Social', with the highest mean score of 3.41 (classified as High). Seventeen respondents (48.4%) fall into the Medium category, and 11 (34.4%) into the High category for this aspect. The weakest aspect is 'Realistic', with a mean score of 2.16 (classified as Low), where 14 respondents (43.8%) are categorized as Low, and 10 (31.3%) as Very Low. The cumulative mean for all career interest aspects in Class XII-3 is 2.88, categorized as Medium. Class XII-4, For Class XII-4, the dominant Career Interest Aspect is again 'Social', with the highest mean score of 3.55 (classified as High). Fourteen respondents (45.2%) fall into the Medium category, and another 14 (45.2%) into the High category for this aspect. The weakest aspect is 'Realistic', with a mean score of 1.87 (classified as Low), where 11 respondents (35.5%) are categorized as Low, and 13 (41.9%) as Very Low. The cumulative mean for all career interest aspects in Class XII-4 is 2.86, categorized as Medium.

Overall Analysis (Classes XII-1 to XII-4), Across all classes, the dominant Career Interest Aspect is 'Social', with the highest mean score of 3.47 (classified as High). Forty-five respondents (48.4%) fall into the Medium category, and 34 (36.6%) into the High category for this aspect. The weakest aspect overall is 'Realistic', with a mean score of 1.99 (classified as Low), where 36 respondents (38.7%) are categorized as Low, and 34 (36.6%)

as Very Low. The cumulative mean for all career interest aspects across all 12th grade classes is 2.87, categorized as Medium.

Correlation Between Career Interests and Student Gender

It is hypothesized that student gender may be associated with one or more aspects of career interest. To test this hypothesis, the following presents the results of statistical hypothesis testing using chi-square analysis to examine the relationship between student gender and career interest aspects.

Table 3. Correlation Results between Gender and Students' Career Interest Aspects

Corelation	Chi-Square	p-value	Explanation
Realistik with Gender	15,528	0,000	Significant
Investigatif with Gender	0,631	0,427	Not Significant
Artistik with Gender	7,269	0,007	Significant
Sosial with Gender	4,590	0,032	Significant
Enterprishing with Gender	0,090	0,765	Not Significant
Convensional with Gender	1,475	0,225	Not Significant

A chi-square examination revealed a significant relationship between Social aspects and gender ($\chi^2 = 15.53$, $p < 0.05$). This indicates that female students are significantly more likely to show high interest in the Social aspect compared to male students. However, no significant relationship was detected between gender and Enterprising aspect ($\chi^2 = 0.09$, $p > 0.05$), indicating that the gender factor may have less influence on this aspect.

Correlation Between Career Interests and Student Gender: Analysis of Chi-Square Results

Based on the chi-square analysis presented in Table 3, significant associations were found between several types of career interests and student gender. The "Realistic," "Artistic," and "Social" interests demonstrated significant relationships with p-values of 0.000, 0.007, and 0.032, respectively (probability of error / p-value < 0.05 = significant). This indicates substantial differences between male and female students in their interest preferences for these aspects, suggesting a significant correlation between gender and students' career interest tendencies in the "Realistic," "Artistic," and "Social" domains.

Conversely, "Investigative," "Enterprising," and "Conventional" interests did not exhibit significant associations with gender, with p-values of 0.427, 0.765, and 0.225, respectively. This suggests no meaningful differences between male and female students in these interest areas. To assess significant differences related to gender, a t-test analysis was conducted. The findings indicated a significant difference in the Realistic aspect between male and female students ($t = 4.26$, $p < 0.05$). Men showed higher mean scores in this aspect than women. In contrast, in the Artistic aspect, females had a significantly higher mean score than males ($t = -3.89$, $p < 0.05$). The results are in line with Holland's theory that students' career interests are influenced by their character. For example, the high interest in the Social dimension among female students is in line with the theory's prediction that socially oriented individuals tend to be interested in interpersonal activities. However, the low interest in the Realistic dimension among female students suggests that there are cultural factors that influence career choices, such as strong gender stereotypes in Indonesia.

Interpretation of Significant Results

The significant result in the "Realistic" aspect indicates a clear preference difference between males and females in career interests related to physical activities, manual work, or practices involving tools and technology. These career interests are often preferred by male students, possibly due to traditional gender stereotypes associating physical and technical activities with males. The "Artistic" aspect also showed significant gender differences. Interests in this domain are typically associated with creativity, arts, and self-expression. Gender stereotypes may influence this result, as females are often more encouraged or given space to explore artistic fields and creative expression compared to males, who may experience social pressure to pursue more "technical" or "rational" interests. Career interests in the "Social" dimension, encompassing interpersonal interaction, social work, and activities oriented towards helping others, are often influenced by gender role constructs formed from an early age. Females are generally associated with characteristics of empathy and social orientation, while males are more directed towards developing independent and competitive attitudes. This phenomenon reflects differences in social expectations based on gender norms instilled since childhood.

Non-Significant Results

The absence of significant differences in "Investigative," "Enterprising," and "Conventional" interests suggests that preferences for these interests may be more influenced by factors such as education, environment, or individual experiences rather than gender. For instance, "Investigative" interests involving research and problem-solving may not be strongly affected by gender roles as they can develop from similar learning experiences in school.

Overall Implications

The association between gender and student interests indicates the influence of social and cultural norms on individual interest development, where gender plays a crucial role in shaping preferences for certain activities. This understanding is important for supporting more inclusive and equitable education, where each student is encouraged to explore various types of interests without being bound by traditional gender stereotypes.

Methodological Approach

To analyze the significant relationships between gender and student interests, researchers employed cross-tabulation to illustrate the distribution of student choices in specific aspects. This method allows researchers to identify patterns and tendencies that might not be visible in univariate analysis, presenting data in a two-dimensional matrix format that displays frequencies or percentages of combinations of gender variables and student interest aspects. Through this approach, differences in preferences or tendencies between male and female students across various aspects studied can be revealed, providing deeper insights into how gender factors may influence students' academic or extracurricular interests and choices. The results of this cross-tabulation can serve as a basis for further statistical analysis, such as chi-square tests, to determine the statistical significance of observed relationships between gender and the studied aspects of student interests.

Corelation between Realistic, Artistic, and Social Aspects and Gender of Student

Pearson correlation analysis revealed a significant positive relationship between the Artistic and Social dimensions ($r = 0.65$, $p < 0.05$). On the other hand, the relationship between Realistic and Social dimensions showed no significance ($r = -0.12$, $p > 0.05$). This finding indicates that students who have high interest in art usually also have high social interest, but it is not related to the realistic dimension. The low interest in Realistic aspects among women can be deciphered through existing social norms in Indonesia that tend not to encourage women to participate in technical professions. Gender stereotypes also play a crucial role, where technical work is generally seen as more of a male domain, while women are geared towards social and artistic areas. This cultural principle hinders students' career pursuits and results in gender inequality in career interests.

Table 4. Corelation between Realistic, Artistic, and Social Aspects with Gender Student

Cross Tabulation			Gender		Total
			Male	Female	
Realistic	High	f	23	9	32
		%	71,9%	28,1%	26,0%
	Low	f	29	62	91
		%	31,9%	68,1%	74,0%
Total		f	52	71	123
		%	42,3%	57,7%	100,0%
Artistic	High	f	36	63	99
		%	36,4%	63,6%	80,5%
	Low	f	16	8	24
		%	66,7%	33,3%	19,5%
Total		f	52	71	123
		%	42,3%	57,7%	100,0%
Social	High	f	44	68	112
		%	39,3%	60,7%	91,1%
	Low	f	8	3	11
		%	72,7%	27,3%	8,9%
Total		f	52	71	123
		%	42,3%	57,7%	100,0%

Significant Corelation between Realistic Aspect and Gender of Student

The correlation between Realistic career interests and student gender reveals a significant disparity in preferences among high school students. Analysis of data from 123 respondents demonstrates a pronounced gender-based distribution in Realistic career interests, with 71.9% of male students exhibiting high interest compared to only 31.9% of female students. This stark contrast is further emphasized by the prevalence of low interest in Realistic careers among female students, with 68.1% falling into this category. These findings align with previous research, including studies by Sawitri & Creed, 2015) and (Su et al., 2009), which consistently report higher scores in Realistic interests among male students across various cultural contexts, including Indonesia.

The observed gender differences can be attributed to a complex interplay of social, cultural, and educational factors. (Puspitawati, 2022) suggests that strong gender stereotypes and socialization processes in Indonesian

society contribute significantly to this phenomenon, with technical and physical work often associated with masculinity. This perspective is further supported by (Mudhar et al., 2023), who confirm the persistent influence of gender stereotypes on students' career choices, particularly in fields perceived as masculine. From a theoretical standpoint, (Sawitri & Creed, 2015) emphasize the role of social-cognitive factors, such as outcome expectations and social support, in shaping career interests. These factors likely interact with broader cultural and educational systems to reinforce gender-based preferences. Chandra et al., (2017) highlight how secondary school curricula and teaching practices often perpetuate gender stereotypes in career choices, directing male students towards engineering and sciences while steering female students towards social sciences and humanities.

The implications of these findings are significant for educational policy and practice. They underscore the need for gender-responsive interventions aimed at broadening students' career perspectives and reducing gender gaps in vocational interests, particularly in the Realistic domain. Future research and policy initiatives should focus on developing strategies to mitigate the impact of gender stereotypes on career choices and promote equal opportunities across all fields, regardless of gender. This may involve revising educational curricula, implementing targeted career guidance programs, and addressing societal norms that contribute to gender-based career preferences.

Significant correlation between Artistic Aspect and Gender of Student

Correlation between Artistic career interests and student gender, as illustrated in Table 4, reveals a significant gender-based disparity. Analysis of the data demonstrates a pronounced preference for Artistic careers among female students, with 63 out of 99 students (63.6%) exhibiting high interest in this domain. Conversely, male students show a lower inclination towards Artistic careers, with 16 out of 24 students (66.7%) demonstrating low interest in this aspect. This notable difference in Artistic career interest tendencies between male and female students aligns with several previous studies conducted in the Indonesian context. Research by Mudhar et al., (2022) and Chandra et al., (2017) consistently found that female students display higher interest in Artistic fields compared to their male counterparts. These findings are corroborated by Widyani et al., (2023), who emphasized the persistent role of gender stereotypes in shaping career interests among Indonesian adolescents, with females being more encouraged to explore artistic and creative expression domains.

The observed gender disparity in Artistic career interests can be attributed to various factors, including socialization processes and societal expectations. Rahayu, (2024) underscored the influence of socio-cultural factors in maintaining traditional perceptions of gender roles in career selection. These societal norms tend to direct males towards fields perceived as more "technical" or "rational," while females are often guided towards areas involving creativity and self-expression. This trend is further supported by earlier research conducted by Wulandari et al., (2016) on high school students in Jakarta, which revealed significantly higher interest in Artistic fields among female students compared to males. These findings highlight the complex interplay between gender, societal norms, and career interests, particularly in the Artistic domain. The persistence of such gender-based differences in career preferences underscores the need for educational interventions and policy initiatives aimed at broadening career perspectives for all students, regardless of gender. Future research should focus on developing strategies to mitigate the impact of gender stereotypes on career choices and promote equal opportunities across all fields, including those traditionally associated with specific genders.

Significant Correlation between Social Aspects and Gender of Student

The relationship between Social career interests and student gender, as depicted in Table 4, reveals a significant gender-based disparity. Analysis of cross-tabulation data from 123 respondents demonstrates a pronounced preference for Social careers among female students, with 68 out of 112 students (60.7%) exhibiting high interest in this domain. Conversely, male students show a lower inclination towards Social careers, with 8 out of 11 students (72.7%) demonstrating low interest in this aspect.

This notable difference in Social career interest tendencies between male and female students aligns with several studies conducted in the Indonesian context. Research by Riswani & Hermansyah, (2015) suggests that the Social aspect, often associated with activities involving interpersonal interaction, empathy, cooperation, and helping others, appears more attractive to female students. This phenomenon can be scientifically explained through the different social roles and nurturing experiences received by males and females from an early age. Female children are often encouraged to develop interpersonal skills, sensitivity to others' feelings, and behaviors that support social cohesion, while male children may be more directed towards competition and independence (Chandra et al., 2017; Rahayu, 2024).

Studies conducted in Indonesia reveal interesting trends related to career interests based on Holland's theory. Findings indicate that the social aspect in this theory attracts more interest from females compared to males (Wahyuni et al., 2019; Wulandari, 2016). This social dimension encompasses occupations that emphasize interpersonal interactions and efforts to help others (Amalianita & Putri, 2019; Mudhar et al., 2023), including

professions in education, healthcare, and social services. Research suggests that females tend to prefer such career paths, which appears closely related to their greater inclination towards human relations and the desire to make a positive impact on society (Budiman et al., 2020). These findings highlight the complex interplay between gender, societal norms, and career interests, particularly in the Social domain. The persistence of such gender-based differences in career preferences underscores the need for educational interventions and policy initiatives aimed at broadening career perspectives for all students, regardless of gender. Future research should focus on developing strategies to mitigate the impact of gender stereotypes on career choices and promote equal opportunities across all fields, including those traditionally associated with specific genders.

Teachers and counselors can use these results to design a more comprehensive career guidance program. For example, a program to reinforce interest in the Realistic category for female students could include technical job exploration activities through career fairs or industry visits. In addition, for students who have a high interest in the Social and Artistic categories, guidance modules can be developed that support career opportunities in the education, arts, and community service sectors. This study suffers from the limitation of having a uniform population of students from one educational institution. Extrapolation of the results to a larger population may not be entirely appropriate. Future research is recommended to include a number of schools with different socio-cultural variations to test the external validity of these results. In addition, a long-term analysis could be conducted to observe fluctuations in students' career interests over time.

Conclusions

The results of the analysis show variations in students' career interest in the six aspects of RIASEC, namely the Social Aspect shows the highest average of 3.47 (high category), the Enterprising Aspect is ranked second with an average value of 3.30 (medium category). The Artistic aspect with a mean value of 3.11 (medium category). Conventional Aspects with a mean of 2.92 (medium category). Investigative Aspects ranked fifth with a mean of 2.44 (low category). The Realistic aspect shows the lowest mean of 1.99 (low category). Overall, the mean career interest across all aspects was 2.87, falling into the moderate category. This conclusion illustrates that students tend to be more interested in careers related to social and enterprising aspects, while interest in realistic and investigative careers is relatively low. This finding can be the basis for developing career guidance programs that are more targeted and in accordance with the tendency of students' interests. The results of this study indicate a strong social bias towards students' career choices. This analysis provides valuable insight into the career preferences of the student population, highlighting a clear inclination towards social and entrepreneurial fields. The clear interest towards social careers is in line with previous research showing a growing trend towards service-oriented professions among the younger generation. A strong interest in the entrepreneurial field indicates a potential inclination towards entrepreneurship or leadership roles.

This study revealed a strong relationship between gender and career choice according to RIASEC categories. Male students generally showed greater interest in the Realistic dimension, while female students excelled in the Social and Artistic dimensions. The results of this study corroborate Holland's theory which states that career inclinations are influenced by the interaction between an individual's character and his or her social context. The findings have significant implications for school program development. Data-based career guidance programs can be developed to support students in exploring their career interests in more depth. For example, schools can create interdisciplinary learning modules that integrate social and technical aspects, so that students with social interests can understand how technology plays a role in their chosen profession. In addition, initiatives to reduce gender stereotypes in career education can be implemented through teacher training and inclusive learning materials.

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