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RESEARCH ARTICLE

Exploring Holland's Hexagonal Model in a Collectivistic Culture: Career Interests and Occupational Daydreams of Indonesian High School Students

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ABSTRACT

This study looks at the relevance of Holland's Hexagonal Model of vocational interests within a collectivistic cultural context by examining the alignment between RIASEC personality types and occupational daydreams among Indonesian high school students. Informed by a mixed-methods approach, 649 students completed the Self-Directed Search (SDS), with a subset participating in follow-up interviews. Quantitative analyzes supported the model's structural validity, showing significant correlations between adjacent RIASEC types and a moderate fit to the hexagonal structure, as indicated by Mardia's Configuration Validity Index. The C-Index revealed moderate congruence between students' personality profiles and their career aspirations. Qualitative findings emphasized the strong influence of family expectations, peer dynamics, and sociocultural norms on students' vocational imaginings. Although Holland's model remains theoretically sound, its practical application in collectivist settings may require adaptation to account for external social influences. The findings advocate the need for culturally responsive career guidance that balances individual interests with collective expectations, offering valuable insights for educators, counselors, and policymakers in similar sociocultural contexts.

1 | Introduction

Holland's vocational choice theory, introduced over 40 years ago, remains a foundational model in career counseling due to its practical application and ease of use (Hansen and Wiernik 2018; Herr et al. 2004; Nauta 2010, 2020). The theory posits that individuals are more satisfied and productive in careers that align with their personality types, classified into six categories: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC) (Prediger 1982). Research supports this, with studies showing that a good match between personality and work environment leads to greater job satisfaction and career stability (Spokane 1985).

Despite its widespread use, the theory's applicability across diverse cultural contexts has been questioned. Research by Watson et al. (1998) revealed that the interest structure of black South African adolescents did not conform to Holland's hexagonal model, suggesting that cultural and demographic factors may limit its generalizability. Studies in various countries, including the US (Soh and Leong 2001), China (Wong and Wong 2006), Germany (Etzel et al. 2016), Greece (Sidiropoulou-

[Correction added on 10 August 2025, after first online publication: Acknowledgment and Funding Information has been added.]

Summary

- This study confirms the applicability of Holland's hexagonal model in Indonesia, showing strong correlations between specific career interest types.
- Students' career choices are significantly influenced by their parents and environment, often resulting in a mismatch with their personal interests.
- Career counseling programs should be culturally sensitive to help students balance their personal aspirations with external expectations.

Dimakakou et al. 2008), Serbia (Hedrih 2008), Belgium (Wille et al. 2014), Southland Africa (Morgan et al. 2015; Morgan and de Bruin 2018), Asian Americans, Middle-Eastern Americans and Native Americans (Kantamneni 2014) have tested the model's structural validity, with mixed results. This highlights the need for further exploration of the model's suitability in non-Western and collectivistic cultures, such as Indonesia.

A growing body of research advocates that vocational behavior is not solely a product of individual personality traits or personal interests, but is also shaped often profoundly by the sociocultural environment in which individuals are embedded. In the field of cross-cultural career psychology, scholars have increasingly recognized that models developed in Western, individualistic societies may not fully capture the complexities of vocational decision-making in collectivist cultures (Leong and Pearce 2011). This literature urges a shift from purely intrapsychic models of career development to frameworks that integrate the cultural meanings, social roles, and relational expectations that guide career behavior in non-Western contexts.

In collectivist societies such as Indonesia, career decisions are often deeply interwoven with relational obligations, communal expectations, and interdependent self-construals (Markus and Kitayama 1991; Leong and Hardin 2002). Within such cultural contexts, career aspirations are frequently framed not as expressions of individual identity or self-fulfillment, but as acts of duty to family, lineage, and community (Oyserman et al. 2002). The cultural imperatives of filial piety, pursuit of prestigious or "respectable" careers, and collective approval function not only as social norms but as moral imperatives, shaping vocational aspirations from early adolescence.

This sociocultural framing introduces a layer of complexity that is often overlooked in dominant Western theories such as Holland's person–environment fit model, which presumes a level of autonomy and individual volition that may not reflect the lived realities of youth in collectivist contexts. For many adolescents in Indonesia, career choices are less about maximizing individual interest congruence and more about sustaining family cohesion, economic security, and social legitimacy. As a result, vocational goals may reflect externalized motivations, such as bringing honor to the family or fulfilling parental expectations rather than internalized vocational identities.

Crucially, this cultural orientation can result in what appears to be surface-level career compliance, where adolescents outwardly pursue careers that align with family values but lack deep personal engagement or identity integration. This raises important theoretical and practical questions: How are constructs such as "interest," "fit," or "choice" defined and experienced in collectivist societies? To what extent do adolescents internalize or resist these sociocultural expectations? And how can career development models be adapted to account for these cultural variations?

The qualitative data in this study offer an important opportunity to explore these dynamics in depth. By foregrounding the voices of Indonesian adolescents and their families, we can begin to articulate a more nuanced, culturally situated understanding of vocational development. Rather than viewing culture as a background variable, we propose treating it as a central lens through which vocational behavior must be interpreted and understood. This cultural reframing not only enriches our theoretical model but also holds implications for more context-sensitive career guidance practices.

Therefore, applying Holland's theory within collectivist contexts necessitates more than mere psychometric validation; it demands conceptual recalibration. In such cultural settings, vocational decision-making is seldom a wholly individual endeavor. Instead, it is filtered through multiple layers of familial authority, communal expectations, and collective aspirations. As a result, the notion of congruence, a cornerstone of Holland's model, may take on a different form. Rather than representing a pure, unmediated alignment between individual personality traits and occupational environments, congruence in collectivist contexts may emerge as a negotiated synthesis: a dynamic balancing act between personal interests and culturally endorsed roles or responsibilities. This reframing invites scholars and practitioners to consider not only what individuals choose, but also why and for whom those choices are made, thereby situating vocational behavior within its rightful sociocultural context.

This study aims to explore the validity of Holland's hexagonal model within the Indonesian cultural context and investigate the alignment between Indonesian high school students' career interests and aspirations. Additionally, it seeks to assess the congruence between students' career daydreams and their personality types, as identified through the self-directed search (SDS). Occupational daydreams often reflect students' hidden aspirations and desires for a particular career, which can be an important clue in career guidance (Pisarik and Currie 2015; Touchton and Magoon 1977). Career choice is one of the critical phases in the life of high school students, where they are faced with decisions that will affect their educational path and professional life in the future (Zhang et al. 2022). This study is based on the premise that vocational interests play a crucial role in predicting career choices (Volodina and Nagy 2016). We propose that Indonesian high school students whose RIASEC personality types align with their occupational daydreams will demonstrate clearer occupational daydreams. Furthermore, we hypothesize that cultural factors, including familial and societal expectations, may influence this alignment, moderating the relationship between personality type congruence and occupational daydreams.

These hypotheses aim to fill a gap in the existing literature by incorporating both individual and cultural elements in the process of career decision-making. The study's findings are

expected to provide valuable insights for enhancing career guidance practices in Indonesian schools, helping to design interventions that consider both personal interests and cultural influences. By explicitly examining how cultural dynamics moderate the formation and expression of vocational interests, this study contributes to bridging the gap between universalist career development models and the culturally embedded realities of collectivist societies. It places emphasis on the need to contextualize vocational theory within diverse cultural frameworks, thereby advancing a more globally inclusive understanding of career development.

To investigate the applicability of Holland's theory in Indonesia, we focused on high school students at a critical juncture in their educational journey—an age when they face increasing pressure to make career choices. This group is particularly relevant because they must reconcile personal aspirations with external pressures, such as the expectations of their families and society. The decision-making process during this period is influenced not only by emerging individual preferences but also by deep-rooted cultural norms, which may lead to tensions between personal desires and external expectations. This context provides a unique opportunity to explore how cultural influences shape vocational behavior and career decision-making, particularly through the lens of occupational daydreams.

This study directly aligns with the applied mission of *Psychology in the Schools*, which prioritizes the translation of psychological research into evidence-based practices that support student development within educational systems. By examining the congruence between personality types and occupational daydreams among high school students in Indonesia, a context shaped by strong collectivist norms, this study extends vocational theory into a culturally distinct educational environment. It provides timely insights that can help bridge the gap between abstract vocational models and the lived realities of students in collectivist societies.

The findings carry clear implications for school counselors, career educators, and educational policymakers, particularly those working in Indonesia and similar sociocultural contexts. First, the study highlights the importance of acknowledging family expectations, community values, and cultural scripts in the career development process. School counselors can use this understanding to design interventions that incorporate discussions of parental influence, communal roles, and students' internalized aspirations, rather than focusing exclusively on individual interests in isolation.

Second, the integration of occupational daydreams, a typically underutilized dimension of career exploration, offers a practical tool for counselors to uncover students' implicit hopes, values, and identity narratives. Structured classroom activities or one-on-one counseling sessions that invite students to articulate and reflect on their daydreams can facilitate more meaningful conversations about career direction, especially when balanced with tools like RIASEC assessments.

Third, for educational policymakers, the study supports the development of career guidance programs that are not only psychometrically valid but also culturally congruent. This may involve training school counselors to recognize cultural variation in how students express career preferences, or embedding career education within a broader framework of family engagement and community dialog. These efforts can contribute to more equitable and contextually relevant support systems for student career development.

To conclude, by offering a culturally grounded understanding of vocational identity formation, this study provides actionable guidance for professionals working in school settings. It responds to the journal's emphasis on applied research by outlining how psychological theory can inform culturally responsive, developmentally appropriate, and institutionally feasible practices within school.

2 | Theoretical Framework

2.1 | RIASEC Personality Types From Holland

Helping individuals make informed career decisions has been a core focus of counseling psychology since its inception and remains central to its identity today (Gelso and Fretz 2001). Holland's theory of vocational personality and work environments has played a pivotal role in shaping the field, contributing significantly to the understanding of career development, assessment, and practice. Holland's most notable work, developed over several decades (Holland 1973, 1997), posits that individuals' career choices are influenced by a combination of six personality types: RIASEC. Each personality type is defined by a set of interests, values, abilities, and preferences, and individuals are typically described using a combination of RIASEC types, often expressed as Holland codes.

2.2 | Hexagonal Model From Holland

Holland (1997) iconic hexagon represents the underlying structure of the RIASEC personality types, illustrating how these types are related to each other. Three key constructs are central to this model: consistency, differentiation, and identity. Consistency refers to the internal coherence of an individual's or environment's type scores, with greater proximity on the hexagon indicating stronger similarity between types. Differentiation describes how distinctly a person or environment resembles certain RIASEC types, which helps clarify vocational choices. Identity refers to the clarity of one's goals, interests, and talents or, in the case of environments, the extent to which a workplace has clear, stable goals and tasks over time.

Individuals who exhibit high consistency and differentiation are thought to have a clearer vocational identity, which helps them make career decisions with greater ease. As a result, these individuals are more likely to perform effectively, experience job satisfaction, and engage in appropriate social and educational behavior. Similarly, environments with high consistency and differentiation are expected to foster greater employee satisfaction, stability, and productivity, as they align more clearly with workers' personal traits.

Research on Holland's RIASEC model has generally supported the *calculus* hypothesis, which posits that adjacent types within

the hexagonal structure are more strongly related than non-adjacent types (Armstrong et al. 2003). This pattern of relationships has been consistently found in studies conducted in Western contexts, reinforcing the theoretical assumption of a structured cognitive organization of vocational interests. However, cultural studies have drawn attention to meaningful deviations in this configuration when the model is applied in non-Western settings, suggesting that the spatial organization of interest types may be influenced not only by individual dispositions but also by prevailing cultural schemas and socio-normative expectations (Tracey 2002; Leong and Serafica 2001). These findings underscore the need for culturally responsive interpretations of the model. Furthermore, although the hexagonal framework assumes equidistant spacing among the six interest types, empirical analyzes often reveal asymmetries in the distances between certain pairs. This has led some scholars (e.g., Armstrong and Rounds 2008) to advocate for the use of the term "circumplex" rather than "hexagon," reflecting a more flexible and empirically accurate representation of the interest space.

2.3 | The Interest Type Instrument Refers to the Holland Concept

Holland's development of assessment instruments to evaluate both individuals and environments in relation to RIASEC types has significantly influenced career counseling. Key tools include the Vocational Preference Inventory (VPI) (Holland 1994) and the SDS (Holland et al. 1994), which both assess an individual's RIASEC personality type. The Position Classification Inventory (PCI) (Gottfredson and Holland 1991) is used to classify work environments, while the Environmental Assessment Technique (EAT) (Astin and Holland 1961) categorizes educational environments. Other notable instruments include the Vocational Decision Difficulties Scale (Holland and Holland 1977) and the My Vocational Situations (MVS) (Holland et al. 1980), which assess vocational identity, as well as the Career Attitudes and Strategies Inventory (Holland and Gottfredson 1994), which explores clients' beliefs and factors influencing their career choices.

While these tools are crucial for understanding an individual's personality, Holland emphasized that assessing a person's RIASEC type alone is not sufficient without identifying a compatible work or educational environment. His third major contribution to the field was the development of a classification system for environments using the RIASEC model. This system categorizes occupations based on the personality types of the individuals who work in them, as initially described by Campbell and Holland (1972). This study culminated in the Dictionary of Holland Occupational Codes (DHOC) (Gottfredson and Holland 1996), a widely used resource for linking career options with personality types. Therefore, we propose the following hypotheses:

1. There is a relationship between RIASEC interest personality types, where adjacent interest types have a higher correlation compared to those that are farther apart.
2. There are differences in the level of congruence between RIASEC personality types and occupational daydreams across different levels of consistency (high, medium, and low).

The proposed hypotheses are theoretically anchored in Holland (1997) RIASEC theory that offers a well-established framework for understanding vocational interests. The first hypothesis posits that adjacent RIASEC personality types are more strongly correlated than those farther apart, reflecting the structural assumption of Holland's hexagonal model. This model implies psychological proximity between adjacent types—such as Realistic and Investigative—suggesting shared characteristics and overlapping interests. Prior research (e.g., Nauta 2010) supports this spatial arrangement, highlighting higher intercorrelations among neighboring types. Testing this hypothesis helps validate the theoretical coherence of the RIASEC model within a specific population or cultural context. The second hypothesis addresses the relationship between consistency—defined as the similarity between the first two RIASEC types in an individual's profile—and the congruence between personality types and occupational daydreams. Individuals with high consistency are expected to exhibit stronger congruence, as their interests are more coherent and well-defined, leading to clearer career aspirations. In contrast, low-consistency individuals may show more diffused preferences, resulting in weaker alignment with their occupational fantasies. This hypothesis draws on Holland's theory and findings from related research (e.g., Nauta 2010), offering practical implications for career guidance by emphasizing how personality structure influences career imagination and the formulation of vocational goals.

Drawing on these hypothesis justification, our research questions guiding this study are:

1. How strong is the congruence between RIASEC personality types and respondents' occupational daydreams?
2. How do cultural factors moderate the congruence between occupational daydreams and RIASEC personality types?
3. What factors influence the respondents' occupational daydreams (e.g., parental influence, peer influence, socioeconomic factors)?

The first question explores the strength of congruence between RIASEC personality types and respondents' occupational daydreams, drawing from Holland's theory which emphasizes the importance of congruence for career satisfaction and stability. Occupational daydreams offer a valuable lens into aspirational thinking and future planning, making them a relevant counterpart to formal personality assessments. The second question considers cultural factors as potential moderators of this congruence. Given that Holland's theory was developed in a Western context, its application in different cultural settings—such as collectivist societies—requires critical examination. Cultural norms, values, and expectations may influence whether individuals freely explore interests or align more with social roles. Finally, the third question addresses underlying influences shaping occupational daydreams, including parental guidance, peer expectations, and socioeconomic background. These contextual factors can shape career imagination independently of personality type, highlighting the complex

interplay between individual disposition and external environment. Collectively, these questions aim to provide a nuanced, culturally responsive understanding of how young individuals form and negotiate their vocational identities, making the findings both theoretically meaningful and practically useful for career development programs.

3 | Methods

3.1 | Research Design

This study employed both correlational and descriptive research designs to explore career interests among 11th-grade high school students. The correlational research was utilized to examine the relationship between students' career interest types based on Holland's RIASEC model and to test the validity of the hexagonal structure of the theory. By analyzing the correlations between the six personality types (realistic, investigative, artistic, social, enterprising, and conventional), the study aimed to assess how well the model fits the career interests of the students. The descriptive design, on the other hand, provided a comprehensive overview of the students' career interest profiles, offering insights into the factors influencing their ideal career choices and the reasons behind these preferences.

3.2 | Research Respondents

This study focused on 11th-grade students from a high school in Central Java, Indonesia, selected for its diverse student population, which includes individuals from different regions across the country, such as Central Java, East Java, West Java, Yogyakarta, Bali, South Sumatra, West Sumatra, East Kalimantan, Southeast Sulawesi, West Nusa Tenggara, East Nusa Tenggara, Papua, and others. Using a total sampling approach, all enrolled 11th-grade students were included in the study, resulting in a sample of 649 participants. Of these, 67.49% were male ($n = 438$) and 32.51% were female ($n = 211$), with ages ranging from 15 years and 3 months to 18 years and 6 months. This sample provides a broad representation of the student body at the school.

The participants took part in a talent and interest exploration program organized by the school to assist with the college major selection process. As part of the program, students voluntarily completed the SDS tool, and a select group participated in follow-up interviews to discuss the factors influencing their occupational daydreams.

The data collection procedure involved inviting students to take part in the study through an open call within the school. Participation was entirely voluntary, and students who agreed to join provided informed consent. The researchers did not offer any financial or material rewards for participation, ensuring that students' engagement was based solely on their interest in career exploration. If students declined to participate, no further attempts were made to persuade them, and their decision was fully respected.

The program received positive feedback from students, particularly because it included a results-sharing session and counseling involving both parents and psychologists. This holistic approach not only facilitated a deeper understanding of the students' career interests but also provided valuable insights into the external factors shaping their career decisions.

3.3 | Research Instruments

The measurement tools used in this study included demographic data and the SDS. The demographic data provided basic participant information such as age and gender. The SDS is a career interest inventory that helps participants identify their interests and career potential based on the six RIASEC personality types: RIASEC. The test typically takes 35–45 min to complete.

The psychometric properties of the 6th edition of the SDS were evaluated by Holland and Messer (2013), showing strong internal consistency for all RIASEC subscales, with values above 0.70, except for the lower self-estimates subscale. For convergent validity, SDS scores were compared with those from the Strong Interest Inventory (SII) and the O*NET Interest Profiler, yielding RIASEC correlations ranging from 0.24 to 0.80. Additionally, correlations between the print version, desktop software, and internet versions of the SDS ranged from 0.85 to 0.98, suggesting minimal differences across formats.

3.4 | Data Collection Procedure

Data collection for this study was conducted offline at the school following a structured procedure to ensure ethical standards and consistency. The process began with obtaining informed consent from the parents or guardians of the students, ensuring their understanding and agreement to participate in the test activities. The SDS was administered within the school environment under the direct supervision of both the research team and school staff to maintain a controlled and supportive setting.

To protect participants' privacy, all data obtained were kept confidential, and the anonymity of the students was ensured throughout the study. Information bias was minimized by using the reliable and valid 6th edition of the SDS as the assessment tool. Additionally, training was provided to the test administrators to ensure consistent and accurate delivery of instructions to all participants. The study also included interviews as a secondary data collection method. After completing the SDS, 15 selected students were interviewed to explore the reasons behind their career interest choices. These students were specifically chosen because they demonstrated exceptionally strong occupational daydreams and a high willingness to share their experiences. These interviews helped gain deeper insights into the factors influencing occupational daydreams, complementing the quantitative data obtained from the SDS.

To control for potential bias, the study employed several strategies. Selection bias was minimized by using total sampling, where all 11th-grade students in the school were included in the study. Research by Tracey and Robbins (2005) showed that SDS scores for 8th and 10th grade students were stable and

comparable with those from higher grade levels, demonstrating consistency in career interest profiles across age groups. Moreover, gender bias was controlled as the SDS profile did not significantly vary by gender, ensuring the validity of the findings.

3.5 | Data Analysis

The collected data were analyzed using Jamovi software following a systematic procedure to ensure the validity and reliability of the findings. The analysis began with a normality test to check if the data met the assumptions of normal distribution before conducting the correlation tests. The Product Moment Correlation Test was then applied to correlate the RIASEC interest types and test the validity of Holland's hexagon theory. Additionally, descriptive analysis was performed to assess congruence between career interests and aspirations.

For congruence analysis, the study used the C-Index, a method developed as an extension of Holland's original coding system (Holland 1973). The C-Index compared the primary, secondary, and tertiary letters in a person's RIASEC code with those in the environment code, using the following scoring formula: $C = 3(X1) + 2(X2) + 1(X3)$, where X1, X2, and X3 represented the scores for each letter based on their hexagonal positions. These scores were assigned as follows: 3 for identical, 2 for closest, 1 for alternative, and 0 for opposite (Brown and Gore 1994). The congruence score for the C-Index ranged from 0 to 18, with higher scores indicating greater congruence between personal interests and occupational daydreams. In cases of ties, all possible combinations were considered and averaged.

Additionally, interview data were analyzed to provide qualitative insights into the factors influencing career choices. The interview responses were coded and analyzed thematically to identify recurring themes related to the participants' career interests and the reasons behind their aspirations. To address this study question, students were also asked, "What is your strongest daydreams? Why did you choose these ideals?" The combination of quantitative (C-Index) and qualitative (thematic analysis) approaches provided a comprehensive understanding of the congruence between the students' career interests and their chosen paths. The C-Index was considered one of Holland's most effective tools for measuring code congruence due to its sensitivity to the order of the codes and its ability to operationalize the hexagonal model (Tinsley 2000).

4 | Results

4.1 | Assumption Testing: Normality of Data

4.1.1 | Univariate and Multivariate Normality

Normality assumptions were evaluated using multiple tests. The Shapiro-Wilk ($p = 0.523$), Kolmogorov-Smirnov ($p = 0.754$), and Anderson-Darling ($p = 0.376$) tests all indicated no significant deviations from normality, thus supporting the use of parametric analysis. However, a follow-up Mardia's test indicated violations in multivariate normality. Specifically, Mardia's skewness = 14,905.14 ($p < 0.001$) and kurtosis = 309.46 ($p < 0.001$), both exceeding the ± 1.96 threshold (Mardia 1970; Cain et al. 2016). Univariate Anderson-Darling tests also showed that four out of six types had significant deviations from normality ($p < 0.05$), except for Social and Enterprising types.

Given these findings, additional analyzes such as Spearman correlation and multidimensional scaling (MDS) were conducted to account for non-normality.

4.1.2 | Dominant Interest Types Distribution

The dominant interest types among students were the Enterprising type (36.06%), followed by the Investigative type (22.03%) and the Social type (18.34%). The least represented interest type was the Conventional type, comprising only 4.31% of the students. These findings suggest that Enterprising and Investigative interests were the most prevalent among the students, while Conventional interests were relatively uncommon (Table 1).

4.1.3 | Congruence Indices

Based on the Table 2, the Social type exhibited the highest level of high congruence (41.2%), followed by the Investigative type (23.1%), Conventional type (10.7%), Enterprising type (9.4%), and the Artistic type, which had the lowest high congruence (9.3%). This indicates that individuals with a Social interest type tend to have daydreams that align more closely with their

TABLE 1 | Percentage of dominant interest types.

	Amount	Percentage
Realistic	33	5.09%
Investigation	143	22.03%
Artistic	43	6.62%
Social	119	18.34%
Enterprising	234	36.06%
Conventional	28	4.31%
Undefined	49	7.55%
Total	649	

TABLE 2 | Congruence categories of each type of RIASEC.

	N	High		Medium		Low	
Realistic	33	2	6.1%	15	45.5%	16	48.5%
Investigation	143	33	23.1%	57	37.1%	53	37.1%
Artistic	43	4	9.3%	16	37.2%	23	53.5%
Social	119	49	41.2%	61	51.3%	9	7.6%
Enterprising	234	22	9.4%	200	85.5%	12	5.1%
Conventional	28	3	10.7%	12	42.9%	13	46.4%

interests. In terms of career selection, the Social type appears to be more congruent with their preferred interests compared to other types, suggesting that Social individuals are more likely to choose jobs that reflect their inherent preferences and abilities.

4.1.4 | Analysis of Consistency Levels

Table 3 provides a visual representation of the average correlations between types, aggregated by personality pattern.

The average correlation coefficient for the closest types was the highest (0.245), followed by the average correlation coefficient for types that are one step apart (0.161), with the lowest coefficient observed for types that are far apart or opposite (0.032). Subsequently, an ANOVA test was performed to assess the significance of the differences between the categories of high consistency, medium consistency, and low consistency personality patterns.

4.1.5 | Post Hoc Comparison of Consistency Groups

An ANOVA followed by Tukey's post hoc test revealed a significant difference between High and Low Consistency groups ($p = 0.047$, Cohen's $d = 1.913$), underscoring the importance of personality pattern consistency. No significant differences were found between High–Medium ($p = 0.238$) or Medium–Low ($p = 0.422$) groups. These results highlight the role of interest-type consistency in predicting vocational alignment.

These results suggest that moderate congruence was the most prevalent pattern across all contexts, indicating a stable, albeit not perfect, alignment between personality and vocational aspirations (Table 4).

4.1.6 | Correlations Between RIASEC Types

Spearman correlations among RIASEC types are presented in Table 5. Strong positive relationships were found between types that are theoretically adjacent, such as Social–Enterprising ($r = 0.416$) and Enterprising–Conventional ($r = 0.400$). Lower correlations were observed between distant types, such as Realistic–Artistic ($r = 0.135$, $p < 0.001$) and Realistic–Social ($r = 0.042$, $p = 0.280$), aligning with Holland's hexagonal structure. Table 6 presents the coordinate positions of each RIASEC type on two dimensions derived from the Multidimensional Scaling (MDS) analysis. The Dim1 and Dim2 values represent the relative spatial locations of each type, which are used to construct the visual configuration in the MDS plot (haxagonal plot).

TABLE 3 | Mean Pearson correlations for consistency levels (for the Holland Hexagonal Model) for independent search test students ($n = 649$).

Personality patterns	R	Order of correlation values	p	Conclusion
High consistency				
R-I*	0.137	6	< 0.001	Significance
I-A	0.136	7	< 0.001	Significance
A-S	0.351	2	< 0.001	Significance
S-E	0.445	1	< 0.001	Significance
E-C	0.295	3	< 0.001	Significance
C-R	0.106	11	0.007	Significance
M (r_1)	0.245			
Middle consistency				
R-A	0.135	7	< 0.001	Significance
I-S	0.124	9	0.002	Significance
S-C	0.210	4	< 0.001	Significance
A-E	0.135	8	< 0.001	Significance
E-R	0.114	10	0.003	Significance
C-I	0.190	5	< 0.001	Significance
M (r_2)	0.161			
Low consistency				
R-S	0.042	14	0.280	Not important
I-E	0.047	13	0.234	Not important
A-C	0.105	12	0.008	Significance
M (r_3)	0.032			

*Codes for personality patterns: R, Realistic; I, Investigative; A, Artistic; S, Social; E, Enterprising; and C, Conventional.

TABLE 4 | Post Hoc Comparison.

Comparison	Mean difference	SE	Df	t	p tukey	Cohen's d
High consistency – Medium consistency	0.094	0.054	12.0	1.72	0.238	0.993
High consistency – Low consistency	0.280	0.067	12.0	2.71	0.047	1,913
Medium consistency – Low consistency	0.087	0.067	12.0	1.30	0.422	0.919

TABLE 5 | Spearman's correlation between RIASEC type.

Type pair	Spearman's correlation
R – I	0.161
I – A	0.171
A – S	0.283
S – E	0.416
E – C	0.400
C – R	0.146

TABLE 6 | MDS coordinates of RIASEC types.

Type	Dim1	Dim2
R	0.541	−0.053
I	0.193	0.097
A	−0.124	0.511
S	−0.383	0.026
E	−0.225	−0.368
C	−0.002	−0.212

4.1.7 | RIASEC Hexagonal Structure: Multidimensional Scaling (MDS)

To evaluate the spatial structure of RIASEC types, MDS analysis was employed. The two-dimensional configuration is displayed in Figure 1.

The visual configuration reveals a pattern that approximates the expected hexagonal structure, albeit with some asymmetries and deviations from the ideal form. The spatial proximity of theoretically adjacent interest types (e.g., Investigative–Artistic, Social–Enterprising) within the two-dimensional plane suggests a degree of structural coherence. This visual alignment provides preliminary support for the configuration's conformity to Holland's hexagonal model. Table 7 displays the distances between RIASEC types within the two-dimensional MDS configuration. Smaller Euclidean distance indicate greater conceptual proximity between types, in accordance with Holland's model.

The configuration approximates Holland's hexagon, where adjacent types cluster closely (e.g., I–A, S–E) and opposing types are spatially distant (e.g., R–A, R–S).

4.1.8 | Goodness of Fit and Spatial Validity

The stress value for the 2D MDS model was 0.608, indicating a poor fit according to Kruskal's criteria, which suggests that the configuration should be interpreted descriptively. However, Mardia's Configuration Validity Index was 0.619, surpassing the 0.60 threshold, suggesting a moderate but acceptable alignment with Holland's theoretical hexagon.

4.1.9 | Euclidean Distances Between RIASEC Types

These distances reinforce the expected proximity of adjacent types (e.g., S–E = 0.424; E–C = 0.273) and the divergence of opposing types (e.g., R–S = 0.928).

4.1.10 | Configuration Validity Analysis Based on Mardia's Configuration Validity Index

To assess the degree to which the MDS configuration aligns with Holland's theoretical hexagon, Mardia's Configuration Validity Index was computed. The resulting index value was 0.619.

According to Mardia (1975), a value above 0.60 suggests an acceptable level of hexagonal structure fit. Thus, this value indicates that the spatial configuration derived from MDS moderately aligns with the ideal hexagonal arrangement proposed by Holland. This supports the empirical validity of the RIASEC model structure in this sample, despite the presence of multivariate non-normality.

4.1.11 | Interview Results

Based on the results of interviews conducted with 15 high school student respondents, several factors influenced their choice of certain career paths. A common reason for selecting the police or military profession was the influence of peers who had also chosen this field, as well as family pressure—particularly from parents who worked in these sectors. In some cases, students expressed a desire to follow in their parents' footsteps, with the hope of continuing the family tradition or fulfilling parental expectations. Additionally, the police and military professions were often viewed as prestigious, offering both social status and a sense of pride. Many respondents associated these professions with masculine ideals, perceiving the uniforms as symbols of strength and power, qualities they admired. Furthermore, the professions were considered stable

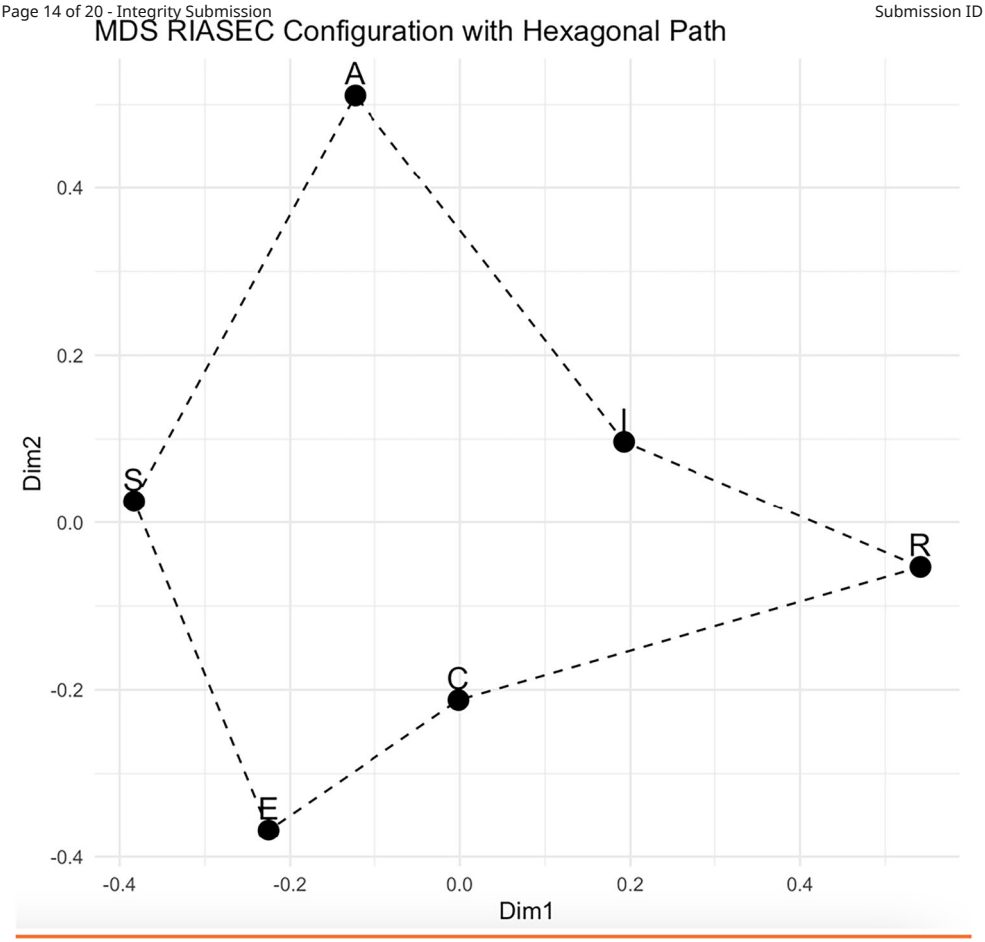

FIGURE 1 | Multidimensional RIASEC configuration with hexagonal path.

TABLE 7 | Euclidean distance table.

	R	I	A	S	E	C
R	—	0.380	0.872	0.928	0.829	0.566
I		—	0.521	0.580	0.625	0.365
A			—	0.550	0.885	0.733
S				—	0.424	0.449
E					—	0.273

and promising in terms of job security, high income potential, and clear career advancement. As a result, the police and military fields were seen not only as a means to secure a stable future but also as an avenue for establishing a respected self-image within society. The following narrative data illustrates these reasons:

> *I chose the police field because many of my friends are interested in becoming police officers. Besides, my father is a police officer and holds an important position in the police force.*
>
> (Rian, Zoom interview, September 2024)

> *I am interested in choosing to become a police officer because I think being a police officer is promising, and it elevates status and creates pride. The police are a symbol of masculinity, and by wearing a police uniform, they show strength in regulating traffic and other people, and are respected by others.*
>
> (Widi, Zomm interview, September 2024)

> *Police is my career choice because it provides economic security and is appreciated by society.*
>
> (Dani, Zoom interview, September 2024)

Respondents who chose to pursue a career in medicine expressed a strong interest in the field, citing their passion for health sciences and the belief that their intellectual abilities aligned well with the demands of the profession. Many indicated a deep desire to contribute to the well-being of others through their work in healthcare. The prestige associated with being a doctor was frequently mentioned as a motivating factor, with respondents recognizing the high regard in which the profession is held in society. In addition to personal pride, respondents felt that the medical profession earned widespread appreciation due to its essential role in maintaining public health. For some, the financial rewards were also a significant consideration, as the profession promises substantial long-term income potential and job stability. Two respondents specifically highlighted the influence of family, sharing their ambition to work in a family-owned hospital. They saw this as an

opportunity to continue a family tradition and contribute to the growth and management of the health facilities. Overall, the decision to pursue a medical career was driven by a combination of personal passion, the desire to make a positive societal impact, and the prestige and financial security the profession offers. This is reflected in the following narrative data:

> *I feel that my ability supports me to study medicine, because I like biology. And by becoming a doctor I can contribute my knowledge to heal others. In addition, my parents have a hospital, so I direct my parents to study medicine so that after graduating they can continue the hospital.*
>
> (Rudi, Zoom interview, September 2024)

> *The profession of a doctor is a prestigious profession in society. In my opinion, this profession not only gives a sense of personal pride, but also makes oneself respected by the wider community because of its important role in the health sector. This profession also offers a large income, I see that doctors are rich and have nice houses.*
>
> (Muhammad, Zoom interview, September 2024)

> *I chose medicine, so I can work in a family hospital. My parents hope I can contribute more in managing existing health facilities.*
>
> (Edo, Face to face interview, September 2024)

Most of the respondents expressed a strong interest in the actuarial field, recognizing it as a profession with significant future opportunities. They noted that actuarial science, which combines mathematics and statistics to assess and manage risks, is increasingly in demand across various industries, particularly in insurance, finance, and even government sectors. Respondents saw this field as not only intellectually challenging but also crucial in shaping key decisions related to financial security and risk management. The growing importance of data-driven analysis in modern economies further reinforced their belief that actuarial science would offer stability, career growth, and long-term prospects. This can be seen from the following narrative data:

> *The actuarial field is a relatively new field and has good future prospects. The actuarial field that focuses on risk management using mathematics and statistics—is a field that is very much needed in the insurance industry, finance, and even in the government sector. I see very broad and prospective career opportunities in this field, especially because the need for actuarial science professionals continues to increase along with the development of these sectors.*
>
> (Sari, Face to face interview, September 2024)

On the other hand, some respondents expressed a desire to become farmers, driven by their passion for developing agriculture in their local communities. They believe that agriculture has significant potential, not only to meet the basic needs of society by producing essential goods but also to strengthen the local economy. Several respondents, particularly men, emphasized their ambition to introduce innovative and modern agricultural technologies that could improve crop yields and operational efficiency in their region. Additionally, they view farming as a means to contribute directly to society while promoting environmental sustainability through responsible agricultural practices. This perspective is reflected in the following narrative data:

> *I want to develop the agricultural sector in my residential area. The agricultural sector has great potential in meeting the needs of community products, and in driving local economic progress. I want to introduce modern agricultural innovation and technology to increase yields and efficiency in this sector. For me, this profession provides a direct contribution to society and maintains environmental sustainability through sustainable agricultural practices*
>
> (Yuwana, Zoom interview, September 2024)

One respondent chose to pursue a career as a dancer due to a deep-rooted passion for the art of dance. From a young age, the respondent dedicated herself to learning and practicing dance, and over time, it became clear that this path was the most fitting way to nurture her talents and passions. For her, the profession of a dancer is not merely a job but an integral part of her identity. It provides a sense of connection to both her personal self and cultural heritage. This perspective is illustrated in the following narrative data:

> *I chose to become a dancer because of my great love for the art of dance. Since childhood, I have been studying this field and feel that this is the right path to develop my talent and passion. Being a dancer for me is not just a profession, but a part of my identity that makes me feel more connected to myself and culture.*
>
> (Rida, Zoom interview, September 2024)

Two respondents expressed a strong interest in becoming IT developers, driven by their recognition of the vast potential in the technology sector. They noted that the information technology industry is rapidly evolving, offering numerous career opportunities. With technology continuously advancing, they see the field as providing job stability and the potential for working with global companies. The respondents feel that a career in IT not only promises long-term growth but also opens doors to innovative and impactful work in an increasingly digital world. This can be seen from the following narrative data:

> *A career in the technology sector has very bright prospects in the future. I realize that the information technology industry continues to grow rapidly, creating many promising career opportunities.*
>
> (Andri, face-to-face interview, September 2024)

> *Given the rapid advancement of technology, I feel that this field offers job stability as well as career opportunities in global companies and technology startups.*
>
> (Khair, face-to-face interview, September 2024)

Some respondents chose business management majors due to the promising prospects they see in this field. They expressed an interest in learning how to effectively manage and develop a business, with aspirations of holding managerial positions that offer opportunities to influence organizations significantly. Respondents also view business management as a versatile discipline, offering a broad range of career paths across various industries. They believe that the skills gained in this field can lead to diverse roles in both established companies and entrepreneurial ventures, making it an attractive option for those seeking dynamic career opportunities.

> *I decided to major in business management because I saw the great potential in this field. I am interested in learning various methods in managing and developing a business, and I want to have a career in a managerial position that allows me to make a big impact on the organization. Business management is a very flexible field and offers a variety of career opportunities in various industry sectors.*
>
> (Ibnu, Live interview, September 2024)

Some respondents chose law or medicine as career paths because they aspired to hold officer positions or higher roles within government or military organizations. They viewed law and medicine as fields that could lead to positions of authority, where they could exercise greater influence and responsibility in their respective areas. For those interested in law, the goal was often to contribute to law enforcement and uphold justice, while those leaning toward medicine aimed to make a significant impact on public health services. Both fields were seen as pathways to professions that would allow them to serve the community while holding prestigious positions.

> *I chose the legal field because I wanted to continue my career in leadership or achieve a higher position in a government or military organization. The legal field provides an opportunity to achieve an officer position, especially in law enforcement.*
>
> (Rino, Zoom interview, September 2024)

> *I aspire to study medicine, to develop a career in the health sector, especially in government organizations. Medicine is considered a possible path to an officer position, where one can hold greater responsibility in terms of health services.*
>
> (Seto, Zoom interview, September 2024)

Other respondents chose to become lawyers because of their personal background, especially related to family conflicts they had experienced. Respondents felt that by becoming lawyers, they would be able to better understand the legal system and, could help others who might face similar legal problems. This profession became a way for respondents to fight for justice, both for themselves and for others who needed defense.

> *I am interested in becoming a lawyer because of my personal experience related to family conflicts that I have experienced. By becoming a lawyer, I can better understand the legal system and, more importantly, provide assistance to those who face similar legal problems. This profession is a place for me to fight for justice, both for myself and for others who need defense.*
>
> (Sekar, Zoom interview, September 2024)

Overall, these career choices highlight that each respondent considered not only the long-term career prospects but also the depth of their personal interest, experiences, and the desire to contribute to society through their chosen profession. The reasons cited for these choices contributed to varying levels of congruence with their interest types. For instance, motivations such as passion, genuine interest, and personal affinity for the field led to high congruence, as they aligned closely with the individuals' RIASEC types. However, some respondents were influenced by external factors such as parental expectations, the potential for high income, the desire to continue a family business, or the lure of large career opportunities without a deep personal interest. These factors resulted in lower congruence, as they did not reflect a true alignment with the respondents' intrinsic interests.

4.1.12 | Congruence Between Interest Types and First, Second, or Third Level Occupational Daydreams

The analysis of congruence between RIASEC types and occupational daydreams revealed moderate congruence as the most common pattern. For the most recent daydreams, 59.8% of participants showed moderate congruence, while 19.0% displayed high congruence, and 21.3% had low congruence. Similar patterns emerged in the second daydreams, with moderate congruence at 61.3%, high congruence at 15.4%, and low congruence at 23.3%. In the third daydreams, moderate congruence persisted as the majority (58.7%), with low congruence rising to 25.4% and high congruence slightly increasing to 15.9%. These results indicate a consistent trend of moderate alignment between personality types and occupational daydreams across different contexts. Similar proportions were observed in the second and third daydreams, with moderate congruence being the most prevalent.

5 | Discussion

The study's results generally align with the theoretical structure of Holland's Hexagonal Model, confirming the practical relevance of significant correlations between adjacent interest types. Consistent with Holland's premise, opposing types such as Realistic (R) and Social (S) exhibit weaker correlations due to their distinct characteristics. This pattern suggests that individuals with adjacent interests may be more likely to pursue stable, satisfying careers. Additionally, the observed consistency levels between adjacent and opposing types align with previous research, indicating that proximity within the vocational interest structure may influence career decision-making (Atitsogbe et al. 2018).

The correlation analysis provided moderate empirical support for Holland's hexagonal model. Significant positive correlations

were most prominent between adjacent types (e.g., Social–Enterprising, Artistic–Social), while distant types (e.g., Realistic–Social) showed weaker or nonsignificant relationships. These findings are consistent with Holland's theoretical expectation that psychological similarity is greatest among adjacent interest types (Spokane 1985). The mean correlation values across theoretical distances further substantiated the model's internal logic, supporting the assumption of a psychological continuum.

The MDS analysis visually approximated Holland's hexagonal structure, although the configuration lacked geometric precision. The stress value of 0.608 exceeded the optimal range, indicating substantial distortion; however, the Mardia's Configuration Validity Index of 0.619 met the acceptable threshold for hexagonal congruence (Mardia 1975). These findings suggest that while the spatial arrangement of interest types aligns moderately with theoretical expectations, cultural or contextual variability may influence the clarity of this structure, indicating fit between the empirical data and the theoretical circular configuration of RIASEC types (Tracey and Rounds 1996). Prior research in collectivist societies has similarly observed that familial expectations and societal prestige can blur rigid vocational boundaries (Morgan et al. 2015).

One notable finding is the moderate congruence between students' occupational daydreams and their RIASEC profiles, suggesting that career interests evolve as students approach graduation. This aligns with John Holland's theory of career orientations, which advises individuals to select careers that are congruent with their personalities to achieve satisfaction and stability (Sheldon et al. 2019). The observed developmental shift is also consistent with Basler and Kriesi's (2019) research, which highlights the dynamic nature of occupational daydreams, shaped by both personal interests and external pressures. To support this evolving process, offering opportunities for career exploration may help students refine their aspirations over time.

The qualitative findings add further depth by indicating that students often prioritize careers perceived as prestigious or aligned with family expectations over personal interests. Professions such as law enforcement and medicine, valued for their societal respect and stability, tend to be favored, reflecting the interplay between external pressures and personal preferences. This trend aligns with findings that parental authority over their children is highly predictive of their career choices (Alboliteeh et al. 2022; El-Hassan and Ghalayini (2019).). However, it is important to interpret these findings with caution, as the qualitative data suggest associations rather than definitive causal relationships. While familial and societal expectations appear to influence occupational daydreams, the study's correlational design limits the ability to establish direct causality.

While the hexagonal model remains structurally valid, the moderate congruence observed suggests that career interests among Indonesian youth may not fully translate into corresponding occupational aspirations. This can be understood through the lens of collectivistic cultural values, where vocational decisions are often guided by social expectations, family prestige, and communal obligations rather than by individual preference alone (Ott-Holland et al. 2013; Hughes and Thomas 2005). For instance, participants who aspired to careers in law enforcement or medicine frequently cited family traditions and societal respect as primary motivators, rather than intrinsic passion.

This supports previous research suggesting that collectivist individuals may internalize goals that serve group harmony and family honor, potentially creating a disconnect between self-directed interests (as captured by the SDS) and idealized professions (as reflected in daydreams) (Damas and Kurniawati 2025). In such contexts, congruence must be understood not simply as a match between personality and occupation, but as a balance between internal aspirations and externally imposed ideals.

Furthermore, several female participants reported aligning their choices with perceived “acceptable” roles in healthcare or education—professions culturally associated with nurturance and social respectability. This gendered expectation embedded within collectivist norms may influence how students imagine and narrate their vocational futures, often aligning more with gender-role conformity than personal interest type.

To address this limitation, a more integrated discussion of the quantitative and qualitative findings could provide additional nuance. For instance, linking statistical patterns with interview data may yield a more comprehensive understanding of how cultural factors interact with vocational interests. Theoretically, while Holland's model remains robust, its predictive accuracy in collectivist contexts might be enhanced by incorporating metrics that capture external expectations such as familial influence and societal prestige.

Practically, these findings underscore the importance of culturally sensitive career counseling interventions. Indonesian schools could consider organizing workshops that involve parents, helping to mediate between societal expectations and students' personal interests. Training career counselors to navigate the tension between individual aspirations and external pressures may also support balanced, well-informed career decisions. Furthermore, career exploration activities such as internships and role-playing exercises could help students gain clarity about their vocational interests and refine their aspirations.

Furthermore, role models play a critical role in shaping vocational imagination. As emphasized by Neuenschwander et al. (2018), individuals who serve as career role models must recognize their influence on students' decision-making processes. They bear a responsibility to transparently reflect how their own career goals were formed and negotiated, thereby modeling pathways that integrate personal values with external demands. Making these processes visible can help students gain realistic insight into career development and foster more informed, aspirational, yet contextually grounded career choices.

By integrating both personal and cultural influences into career guidance practices, this study offers a more holistic approach to vocational development, particularly within collectivist societies.

6 | Conclusion

This study reinforces the relevance of Holland's Hexagonal Model in understanding career interests and decision-making within a collectivistic cultural context. By examining the dynamic interaction between personal aspirations and external influences, such as familial expectations and societal norms, it provides critical insights into how vocational preferences are shaped beyond individual traits. The findings highlight that while Holland's model remains a valuable framework, its application in non-Western settings requires consideration of cultural factors that influence career congruence and occupational choices.

A key theoretical contribution of this study lies in demonstrating how collectivistic values shape vocational interests, particularly through the prioritization of careers aligned with social expectations and familial influence. Unlike in individualistic cultures, where career choices are often guided by personal passion and intrinsic motivation, students in collectivistic contexts may encounter additional layers of external pressure when making career decisions. This highlights the importance of expanding career development theories to incorporate cultural dimensions, ensuring broader applicability across diverse cultural contexts. From a practical perspective, the findings emphasize the need for culturally responsive career counseling. Schools and educators should implement career guidance programs that acknowledge the influence of family and societal expectations while also encouraging students to explore their intrinsic interests. Parent-inclusive workshops, mentorship programs, and career exploration activities such as internships and role-playing exercises could provide opportunities for students to reconcile personal aspirations with external pressures, ultimately leading to more informed and satisfying career choices.

However, it is essential to interpret these findings with caution. The study's correlational design limits the ability to draw definitive conclusions about causal relationships between cultural influences and career congruence. While the qualitative data offer insights into the impact of familial and societal pressures, they do not establish a direct causal link with students' occupational daydreams. Future research could adopt longitudinal or mixed-methods approaches to explore these dynamics more thoroughly and investigate how career interests evolve over time in response to changing cultural and personal factors. Additionally, the integration of quantitative and qualitative findings could be further refined. A deeper analysis that connects statistical patterns with interview data would enhance our understanding of the complex interplay between cultural influences and vocational preferences. Future studies might also examine the role of additional contextual factors, such as socioeconomic status, educational access, and gender norms, to provide a more holistic picture of career decision-making in collectivist settings. By acknowledging these limitations and proposing directions for future research, this study aims to contribute to ongoing discussions about the applicability of Holland's model in diverse cultural contexts while advocating for more inclusive and culturally sensitive career development frameworks.

7 | Research Limitations and Recommendations for Further Research

This study has several limitations that may affect the generalizability and accuracy of its findings. First, the sample population is relatively narrow, as it primarily consists of high school students from a specific region. This lack of diversity limits the broader applicability of the results to other age groups, educational levels, or cultural contexts. Second, the reliance on self-reported data introduces potential biases, such as social desirability, which may influence participants' responses and affect the validity of the findings. Third, the cross-sectional design captures career interests at a single point in time, failing to account for the evolving nature of career decision-making over time. To address these limitations, future research should consider including a more diverse sample encompassing students from various educational backgrounds, age groups, and geographical regions. Longitudinal studies would provide valuable insights into how occupational daydreams develop and change over time, offering a more comprehensive understanding of career decision-making processes. Additionally, incorporating mixed-methods approaches—combining quantitative surveys with qualitative interviews—could help uncover deeper insights into the factors influencing career choices. Further research should also examine additional variables such as personality traits, socioeconomic status, and environmental influences to provide a more holistic perspective on career congruence. Moreover, investigating vocational behavior in other collectivistic societies would refine and expand existing career development theories, ensuring their applicability across different cultural contexts. By integrating cultural perspectives, future studies can contribute to the development of more effective career counseling strategies that balance personal aspirations with external expectations, ultimately supporting students in making well-informed and fulfilling career choices.

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Conflicts of Interest

The authors declare no conflicts of interest.

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