

Association between RIASEC Personality Types and Intended Academic Majors among High School Students

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Abstract

This study investigates the association between RIASEC personality types and intended academic majors among high school students, addressing the limited studies on personality–major congruence during adolescence. Data were collected using a quantitative design from 100 Grade 10 male students attending an international secondary school in Riyadh, Saudi Arabia. Respondents completed an RIASEC standardized personality inventory that detailed their intended academic major, and these were divided into STEM, business, social sciences, humanities, arts, and health sciences. We used descriptive statistics to assess the frequency of dominant RIASEC personality types, and employed cross-tabulations and chi-square test of independence to examine the correlation between RIASEC personality type and intended academic major. Investigative and Social personality types appeared in the sample the most among individuals. Descriptive patterns indicated that there was an alignment between Investigative traits with academic fields, especially Humanities and STEM-oriented majors, and about social traits with Health Sciences. But the chi-square analysis showed no significant relationship between the dominant RIASEC personality type and planned course of study. These results imply that personality characteristics alone may not be sufficient to predict academic intentions during early adolescence. The findings emphasise how personality-based assessments should be combined with contextual and developmental factors in guidance practice and suggest that longitudinal and culturally diverse samples should be used for future study.

Keywords: RIASEC Personality Types, Saudi Arabia, Intended Academic Major, High School Students

Introduction

Educational systems are increasingly compelling adolescents to express their academic goals at earlier stages of their education, often before their interests, self-perceptions, and career preferences have fully developed. While decisions regarding academic majors are formally made in postsecondary education, they are frequently anticipated during secondary schooling through course selections, academic tracking, and informal commitments to particular fields of study. Consequently, early academic intentions significantly influence

students' educational paths, access to postsecondary opportunities, and long-term career outcomes (Lent & Brown, 2019).

From a developmental standpoint, adolescence is a critical phase marked by identity exploration, evolving beliefs about competence, and the gradual alignment of personal interests with perceived opportunities and limitations (Eccles & Wigfield, 2020). During this period, students start to translate their developing self-concepts into academic ambitions; however, these aspirations are often shaped within contexts that favor external indicators—such as grades and institutional expectations—over thoughtful consideration of individual differences. Research indicates that when academic choices lack sufficient fit with personal attributes and educational environments, students may experience reduced motivation and disengagement from academics, leading to shifts in major or field of study (Allen & Robbins, 2010; Krumrei-Mancuso et al., 2013).

Despite the importance of this developmental journey, academic counseling at the secondary level often prioritizes achievement over individual needs. Advising practices typically focus on academic performance metrics and perceived labor market demands while providing not enough support for self-exploration based on personality traits and motivational factors (Hirschi, 2018). As a result, numerous adolescents may pursue academically rigorous or socially esteemed fields that do not go along with their true liking, therefore heightening the risk of dissatisfaction and instability throughout higher education pathways. (Tinto, 2012).

These dynamics are especially pronounced in sociocultural settings where educational pathways are rigorously structured and socially regulated. In Saudi Arabia specifically, secondary education features centralized curricula alongside institutional tracking and strong societal pressures regarding prestigious academic disciplines deemed economically valuable. The formation of academic intentions during this stage is frequently influenced by national development priorities as well as family expectations and cultural perceptions; this can occur even before stable interests or articulated self-concepts have been established (Maayah, 2025). Although these contextual influences significantly shape educational decision-making processes, there remains a scarcity of empirical research examining how individual psychological characteristics interact with such structures at the secondary level.

Within the existing literature on academic and career choices, personality-environment fit has emerged as a crucial mechanism linking individual variances to educational outcomes. Holland's RIASEC model categorizes individuals into six personality types—Realistic, Investigative, Artistic, Social, Enterprising—and Conventional—and has been widely employed to investigate alignment between personal dispositions and corresponding academic or vocational environments (Holland, 1997). Empirical studies focusing predominantly on university students demonstrate that greater alignment between an individual's personality type and chosen major correlates with heightened satisfaction levels as well as persistence and performance in their studies (Nye et al., 2017; Lent & Brown, 2019).

However, the relevance of these findings for adolescents is still uncertain. Most RIASEC-based research concentrates on declared or completed majors without considering the developmental phase when academic intentions first arise. This oversight holds theoretical importance since developmental models stress that early intentions can model later choices

by influencing self-efficacy beliefs alongside expectancy judgments regarding fit within educational contexts (Eccles & Wigfield,, 2020). Without evidence-based insights into personality-major congruence during secondary education phases, it becomes challenging to discover whether patterns observed in postsecondary populations stem from initial alignment processes or result from subsequent adjustments.

Thus, a substantial gap exists in understanding how personality traits relate to intended academic majors during adolescence—particularly in non-Western societies characterized by highly structured educational structure. Addressing this gap is crucial for enhancing person-environment fit models, extending the developmental validity of the RIASEC framework, and refining evidence-based guidance practices aimed at supporting adolescents earlier in their educational paths.

The current study seeks to fill this gap by investigating the relationship between RIASEC personality types and intended majors among high school students within an international school setting located in Riyadh, Saudi Arabia. By concentrating on Grade 10 students while analyzing intended fields including STEM, business, social sciences, humanities, arts, and health sciences, this research provides empirical insights into how personality-based alignments begin influencing decisions prior to entering postsecondary education. In doing so, it contributes valuable perspectives both theoretically and practically regarding adolescent decision-making related to academics while promoting more proactive individualized guidance interventions throughout secondary schooling. In line with these goals, we aim to answer the research questions below:

Research Questions

1. What RIASEC personality types are most prevalent among high school students?
2. To what extent are RIASEC personality types associated with high school students' intended academic majors?

Literature Review

The discussion on how RIASEC personality type has influenced the choice of academic major has been considered in educational counseling and career development. Holland's model—who proposed RIASEC for individuals—Realistic, Investigative, Artistic, Social, Enterprising, and Conventional have been foundational for people understanding preferences and academic settings for many years (Zainudin et al., 2024; Nauta, 2020).

Since the mid-twentieth century, Holland's theory has matured by highlighting person-environment congruence, and argues that congruence between academic major and personality predicts students' adjustment, performance, and satisfaction in college (Holland & Nichols, 1964). This issue is exacerbated by the continuing gender and racial bias in the major selection, especially if one belongs to STEM profession, that defines career progression and socioeconomic status (Porter & Umbach, 2006; Chen & Simpson, 2015). Indeed, empirical results suggest that Investigative personality types pursue STEM paths while Social and Conventional types are motivated to fields matching the interpersonal, or organizational activities (Usslepp et al., 2020). These findings demonstrate the utility of the use of personality measures throughout academic advising in promoting informed, fulfilling educational decisions (Husain & Faize, 2024; Reardon & Bertoch, 2011).

Notwithstanding the extensive literature, critical gaps include assessing the extent to which RIASEC personality and interest profiles generalize across sociocultural and educational domains, as well as to empirical predictors of academic major choice. Congruence between person and environment is unclear: meta-analytic reviews indicate that congruence predicts positive learning outcomes, like satisfaction, but results were found to be mixed, dependent on measures and operationalizations used and not consistently robust (Spokane et al., 2000; Tsabari et al., 2005). Wider quantitative syntheses suggest that vocational interests are also associated with educational and performance consequences, although the associations are sensitive to measurement methods, outcome measures, and contextual conditions (Nye et al., 2012).

As we transition from early childhood to adolescence, this intent is influenced by individual differences and contextual supports and constraints (e.g., availability of opportunity structures, institutional pressure, family and social influence), and can moderate or redirect the process of connecting these interests into the application in specific educational behavior (i.e., academic intentions), which may be shaped by the impact of such individual differences as individual differences and the social context supports or constraints, particularly in families or individuals, on students' intentions to engage academically (Lent et al., 1994; Nauta, 2010). Therefore, lack of fit between student interest or personality profiles and educational contexts can possibly reduce engagement and job satisfaction. However its level of effect and magnitude will vary depending on how person-environment fit is conceptualized and examined (Spokane et al., 2000; Tsabari et al., 2005).

The theoretical basis of this review is based on Holland's theory on vocational choice, in which personal personality types are thought to facilitate individuals' search for similar, personality-typical types of institutions and thus, in turn, for positive academic adjustment and achievement (Nauta, 2020; Zainudin et al., 2024). This constructs-based approach integrates dimensions like personality type, person-environment fit, and major choice, emphasizing their connected impact on educational performance (Armstrong & Rounds, 2010). Based on this theoretical framework, the review also enables us to explore the relationship between RIASEC types and academics and the larger psycho-linguistic and situational factors in general and their interaction.

Gaps in the Literature

Although personality-academic alignment research has been extensively addressed, some gaps remain in the literature.

First, there remains a large percentage of literature that is based on culturally homogeneous, Western-centric studies, a limitation of research that is generally absent from these studies and is likely to affect generalizability to other educational systems and social and cultural context. Cross-cultural analyses indicate that vocational interest structuring and expression and the importance of personality-environment congruence may differ across cultural norms, institutional and opportunity structures, but in RIASEC-based research they are still not sufficiently explored (Soresi et al., 2016). Such limitation seems to be especially relevant within context of Middle Eastern societies such as Saudi Arabia that feature very high-stakes academic tracking, centralized curricular processes within secondary education, and sociocultural practices that mediate educational decision-making. Research in Saudi educational settings has shown that students' schools and motivational processes are

influenced by institutional and linguistic environment, however, psychological models like RIASEC hardly apply to study the relation between personality characteristics in education and academic intentions at the secondary level (Maayah, 2025). Therefore, it is uncertain whether the pattern of personality–major alignment is applicable in Saudi high school students compared to Western population.

Second, the empirical evidence of RIASEC personality types and academic major choice's strength and stability are mixed. Although studies sometimes report a strong alignment between interests and intended disciplines, other studies report a weak or even no effect, especially among those who focus on intentions to enter an academic field with early academic intent rather than on majors declared or fully completed (Howard et al., 2021). These differences highlight the requirement for more precise operationalization of person–environment congruence and more standardized use of validated RIASEC variables on adolescence.

Third, personality models of academic choice often consider RIASEC characteristics in isolation from other psychological predictors, which are quite salient in adolescent life. Recent evidence indicates that academic decision making is influenced by personality-related aspects (i.e., academic self-concept, expectancy beliefs, and perceived constraints), rather than solely personality (Lent, Brown, & Hackett, 1994; Eccles & Wigfield, 2002; Guo et al., 2020). Yet, minimal work has been explicitly to use the constructs directly to study proposed high school-preference academic majors, which affects the ability to explain their impact (Nauta, 2010; Howard et al., 2021).

Fourth, sociocultural moderators on these outcomes are minimal in personality–major congruence research, including gender norms, socioeconomic status, and culturally embedded beliefs about academic prestige. In situations such as Saudi Arabia, in which family expectations and societal perceptions of academic ranking can elicit strong impact on students' educational aspirations, these factors may systematically restrain or override personality preference (Flores et al., 2017; Dietrich & Salmela-Aro, 2019).

Fifth, our understanding of the extent to which the congruence of personality-major prediction of downstream outcomes—academic persistence, satisfaction and performance—has not been established. While there is some evidence from longitudinal testing for the positive association between early alignment and outcomes at the adolescent level, this evidence is mixed and highlights the importance of developmentally sensitive design to monitor students and key transitions (Wille et al., 2018; Von Stumm et al., 2022). Lastly, most of the literature is carried out on cross-sectional survey research and small sample sizes not utilizing analytic instruments that can consider the dynamic and broad spectrum of academic decision making. Methodological evaluations indicate that richer designs are required to capture interaction and context-specific effects that have been largely neglected in RIASEC-based adolescent work (Makransky et al., 2021).

Methodology

Research Design

This study adopts a quantitative, cross-sectional research design to investigate the relationship between high school students' RIASEC personality types and their intended

academic majors. A quantitative approach is suitable because it allows for systematic measurement of personality traits and clear identification of statistical patterns between those traits and students' academic interests.

Participants

A group of 100 tenth-grade high schoolers made up the study's participant pool. From this pool, individuals entered by way of convenience sampling - a method often applied in studies conducted within educational environments, where gaining access depends on what the school allows and logistically works out (Etikan et al., 2016). The selection took place at an international secondary school based in Riyadh, Saudi Arabia, where learners come from various countries and cultural roots, creating a mixed academic atmosphere under one roof (Hayden & Thompson, 2013). To join, students needed to be in Grade 10 at the time, give clear consent, finish every part of the RIASEC survey, and state which university program they were aiming for. Anyone missing answers across even one of the six RIASEC areas - or leaving out what field they planned to study - was left out, following strict rules about reliable data (Enders, 2010). Those majors stretched across areas like science, technology, engineering, math; business; human behavior; written histories; visual arts; and medical studies. Using these rules led to a full-data set with 100 people in it.

Instruments

To assess the correlation, two instruments were used for data collection. The first instrument is a standardized RIASEC personality assessment based on the Holland Code model, which measures six personality dimensions-Realistic, Investigative, Artistic, Social, Enterprising, and Conventional-using a five-point Likert scale. The response options range from 1 (Dislike), 2 (Slightly dislike), 3 (Neutral), 4 (Slightly enjoy), to 5 (Enjoy), allowing respondents to indicate the degree to which they like or enjoy the activities described in each item. Lower scores reflect weaker interest or liking, while higher scores indicate stronger personal interest. Scores for each dimension will be totaled to determine each participant's dominant personality type. The second instrument is a one-question survey that asks students to indicate their intended academic major or field of study. For analysis, these majors will be grouped into broad categories, which are STEM, business, social sciences, humanities, arts, and health sciences.

Procedure

Before data collection, approval was obtained from the participating school. Data collection was conducted over a three-week period during school-designated sessions. Students were provided with an online questionnaire administered in a school setting.

Participants first completed the RIASEC assessment, after which they were asked to indicate their intended academic major or field of study. Participation was voluntary, and informed consent was obtained from all participants before survey completion. The questionnaire required approximately 10–15 minutes to complete. Data collection continued until all eligible Grade 10 students who consented to participate had completed the questionnaire, resulting in a final sample of 100 students.

No identifying information was collected, and all responses were recorded anonymously to ensure confidentiality. Ethical standards were maintained throughout the study. Participants

were informed of their right to decline participation or withdraw at any time without penalty, and that the data would be used solely for academic research purposes. All procedures adhered to institutional and school-based ethical guidelines for research involving adolescent participants.

Data Analysis

Data are analyzed using descriptive and inferential statistical procedures. Descriptive statistics are used to summarize the distribution of RIASEC personality types across the sample and to identify the most common personality patterns among high school students. Frequencies and percentages are calculated to describe trends in intended academic majors. To examine the relationship between RIASEC personality type and intended major, cross-tabulations are created to compare patterns across academic categories. A chi-square test of independence is applied to determine whether the association between personality type and major choice is statistically significant.

Results and Discussion

Research Question one: Predominant RIASEC Personality Types Among High School Students

The first research question aimed to identify the most common RIASEC personality types among high school students. This analysis focused on determining which personality types were most frequently represented within the sample, providing an overview of students' dominant interest patterns prior to examining their relationship with intended academic majors.

To address this question, Figure 1 displays the distribution of dominant RIASEC personality types among the high school students included in the sample.

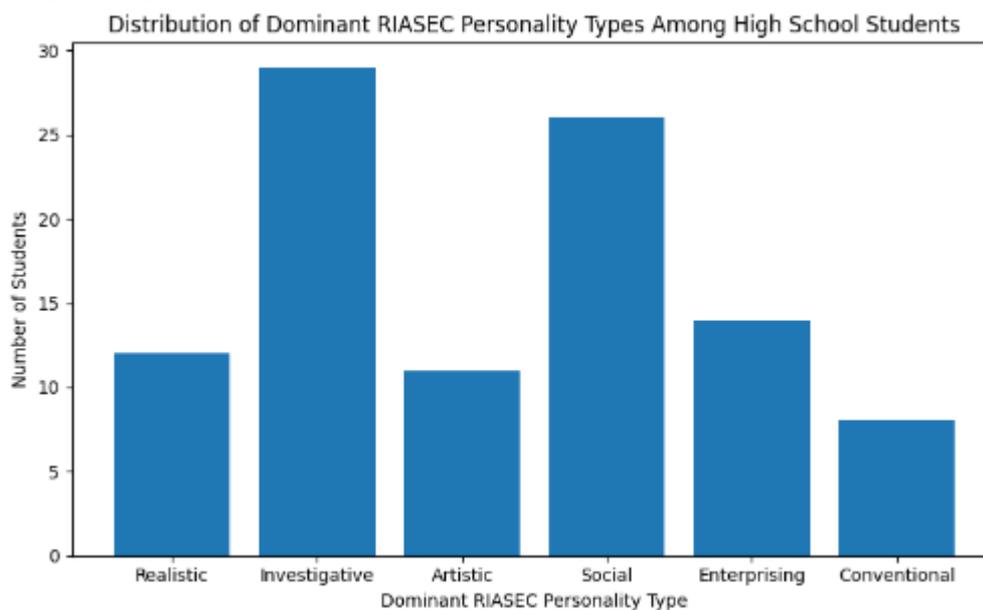


Figure 1: Distribution of Dominant RIASEC Personality Types Among High School

As shown in Figure 1, the distribution of dominant RIASEC personality types varied across the sample. The Investigative personality type was the most prevalent ($n = 29$), followed by the Social type ($n = 26$). Enterprising ($n = 14$) and Realistic ($n = 12$) personality types were fairly represented, whereas Artistic ($n = 11$) and Conventional ($n = 8$) types were the least prevalent

among the students. These results indicate that a substantial proportion of participants demonstrated dominant personality orientations associated with analytical reasoning and engagement.

From a contextual perspective, the predominance of Investigative and Social personality types maybe understood in light of both developmental stage and sociocultural setting (Holland, 1997; Nauta, 2010). As shown in Figure 1, the Investigative personality type was the most prevalent among the participants (n = 29), followed closely by the Social type (n = 26). Together, these two orientations accounted for more than half of the sample, indicating a strong concentration of interests related to analytical reasoning and interpersonal engagement (Tracey & Robbins, 2006). The participants in this study were male Grade 10 students enrolled in an international high school in Riyadh, Saudi Arabia—a context characterized by strong emphasis on academic achievement, science-oriented pathways, and socially valued professional roles (Hayden & Thompson, 2013; Al-Harthi, 2017). Developmental research suggests that during adolescence, students increasingly gravitate toward domains that support cognitive challenge and social identity formation, particularly within structured educational environments (Eccles & Wigfield, 2020). Investigative orientations, which emphasize curiosity, problem-solving, and intellectual engagement, may therefore be especially common at this stage of schooling, when students begin to conceptualize future academic and career pathways (Lent & Brown, 2019).

The high representation of the Social personality type (n = 26) may also reflect sociocultural expectations prevalent in Middle Eastern educational contexts, where interpersonal responsibility, collective orientation, and socio-cultural roles are often stressed within family and school systems (Al-Harthi, 2017; Hofstede et al., 2010). Research conducted in Arab and Gulf-region contexts indicates that adolescents frequently internalize values related to social contribution, cooperation, and interpersonal competence, which may manifest as stronger Social orientations during secondary education. The near parity between Investigative and Social personality types in the present sample suggests that students' academic self-concepts may be shaped by both cognitive abilities and socially oriented values, reflecting the dual academic and relational expectations embedded within the educational context (Eccles & Wigfield, 2020; Lent et al., 2016).

In contrast, Artistic (n = 11) and Conventional (n = 8) personality types were the least prevalent among the students. The relatively lower representation of these orientations may be interpreted within the same regional and institutional context. Prior research suggests that educational systems emphasizing standardized curricula, examination performance, and academically prestigious pathways may offer fewer opportunities for the expression of creative or highly structured vocational interests during early adolescence (Hirschi, 2018). Holland (1997) similarly notes that the distribution of personality types within educational settings is shaped not only by individual preferences but also by perceived opportunity structures and culturally valued academic trajectories. Taken together, the distribution shown in Figure 1 highlights the importance of considering gender, developmental stage, and sociocultural context when interpreting RIASEC personality patterns among high school students in non-Western educational settings (Soresi et al., 2016; Fouad et al., 2020).

Research Question Two: The Relationship between Riasec Personality Types and Intended Academic Majors

The second research question examined how high school students' RIASEC personality types relate to their intended academic majors. This analysis aimed to identify whether distinct patterns emerge between dominant personality orientations and students' reported preferences for specific academic fields, including STEM, business, social sciences, arts, and health sciences.

To address this question, Figure 2 presents the average RIASEC personality scores across intended academic majors, allowing for comparison of personality patterns within and across academic fields.

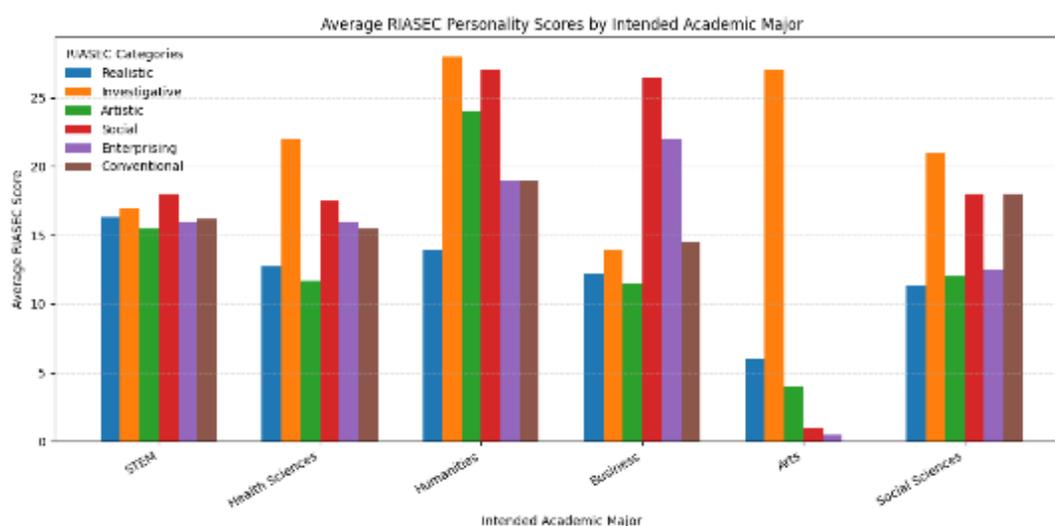


Figure 2: Average RIASEC Personality Scores by Intended Academic Major

As shown in Figure 2, clear patterns emerge in the distribution of RIASEC personality traits across intended academic majors, suggesting meaningful alignment between certain personality dimensions and specific fields of study.

Investigative Personality Type

The Investigative personality type, which is known by curiosity, analytical thinking, and problem-solving, emerged as the most common personality dimension across the sample. With an average score of 22.54, the Investigative domain exhibited the highest mean among the six RIASEC categories, indicating that analytical and intellectually oriented interests were strongly represented among the students. This finding is consistent with Holland's (1997) theoretical characterization of Investigative individuals as being drawn to environments that emphasize intellectual inquiry, abstract reasoning, and problem-centered learning (Nauta, 2010; Armstrong et al., 2018).

Examination of Figure 2 shows that the highest average Investigative scores were observed among students intending to major in Humanities, followed by students in Arts, and then by those intending to pursue STEM and Social Sciences majors. This pattern illustrates that Investigative traits are not restricted to technical or scientific disciplines but are also highly widespread in academically oriented fields that stress critical thinking, theoretical reasoning, interpretation, and persistent intellectual engagement. Humanities disciplines, in particular, require advanced analytical thinking, conceptual formation, and interpretive problem-

solving, all of which align closely with the dimension of the Investigative Personality type (Rounds & Su, 2014; Wille et al., 2018).

These findings are consistent with research suggesting that Investigative individuals may be attracted to a wide range of environments that require strong intellectual ability, including both scientific and humanistic domains. Schoon et al. (2020) note that individuals high in Investigative traits are inclined toward fields requiring deep cognitive engagement and abstract reasoning, regardless of whether these fields are classified as STEM or non-STEM. Similarly, Gottfredson (2016) emphasizes that personality orientations guide individuals toward environments that match their cognitive preferences, including disciplines centered on conceptual analysis and intellectual rigor. The results of the present study therefore extend literature by demonstrating that Investigative traits are most strongly associated with Humanities fields within this adolescent sample, while remaining noticeable across multiple academically demanding majors.

Social Personality Type

The Social personality type was the dimension that was second most widespread across the sample, with an average score of 20.38. Social individuals are characterized by preferences for interpersonal interaction, cooperation, empathy, and helping-oriented activities. These characteristics align closely with academic fields that emphasize direct engagement with others, collaborative work, and service-oriented roles (Holland, 1997; Lent et al., 2016).

As shown in Figure 2, students intending to pursue Health Sciences majors exhibited the highest average Social scores among all academic fields. This pattern indicates a strong correspondence between Social personality traits and health-related academic interests. Health Sciences disciplines require sustained interpersonal engagement, effective communication, and sensitivity to others' needs, making them a natural fit for individuals with strong Social orientations (Fouad et al., 2020).

This association is consistent with Gottfredson's (2002) theory of career circumscription, which proposes that individuals are more likely to pursue academic and occupational paths aligned with their social interests and perceived interpersonal interactions. Empirical research further supports this relationship. Simmons et al. (2019) found that students pursuing healthcare careers often demonstrate elevated social and emotional competencies that facilitate effective interaction in clinical and collaborative settings. Likewise, Fryer et al. (2020) reported that individuals with Social personality profiles are more likely to pursue careers in healthcare and education due to intrinsic motivations to support and assist others. The findings of the present study align with this literature, underscoring the role of interpersonal traits in shaping academic preferences within socially oriented fields (Howard et al., 2021).

Other Personality Types

Although Investigative and Social traits were the most prominent overall, the remaining RIASEC personality dimensions—Artistic, Enterprising, Realistic, and Conventional—displayed more variable patterns across intended academic majors.

The Artistic personality type, associated with creativity, self-expression, and a preference for open-ended environments, recorded a lower overall average score (13.15). However, Figure

2 indicates that Artistic traits were more pronounced among students intending to pursue Humanities and Arts majors compared to other fields. This suggests that while fewer students exhibited dominant Artistic orientations overall, those who did were more likely to express interest in academic fields that value creative thinking, interpretation, and expressive work. This pattern is consistent with Holland's (1997) framework, which links Artistic orientations to environments that encourage originality and nonconformity (Silvia & Nusbaum, 2011).

The Realistic personality type, characterized by hands-on engagement, practical problem-solving, and technical interests, was most evident among students intending to pursue STEM fields. This shows the applied and technical components of many STEM disciplines, such as engineering and computer science, which emphasize working with tools, systems, and physical outcomes. This distribution aligns with Holland's (1997) assertion that Realistic individuals are drawn to environments involving concrete tasks and technical problem-solving (Tracey & Robbins, 2006).

The Enterprising personality type showed its highest average scores among students intending to pursue Business majors. Enterprising traits, including leadership, persuasion, and organizational skills, are well aligned with academic fields focused on management, entrepreneurship, and strategic decision-making. This finding is consistent with Savickas's (2015) view that Enterprising individuals are attracted to environments that allow them to influence others, assume leadership roles, and engage in goal-directed activities (Leung et al., 2020).

Finally, the Conventional personality type, defined by preferences for order, organization, and detail-focused tasks, exhibited moderate average scores across the sample, with stronger representation among students intending to pursue Business and STEM majors. These fields often require systematic planning, precision, and sticking to structured processes, which align closely with Conventional personality characteristics. This pattern further supports Holland's (1997) framework linking Conventional orientations to structured academic and occupational environments (Päßler & Hell, 2012).

Chi-Square Test Results: Lack of Significant Relationship

Descriptive patterns between RIASEC personality types and students' intended academic majors were observed, but the chi-square test of independence indicated a p-value of 0.5498, which suggested that the association between RIASEC personality types and students' intended academic majors was not statistically significant. This indicates that dominant RIASEC personality type was not a statistically significant predictor of intended academic major in the present sample. The lack of a significant relationship, however, does not mean that personality is irrelevant for the academic decisions of students but rather that personality alone is not enough to explain the major decisions students are considering at this time.

Previous work has documented that teens' educational choices are a function of personal interests as well as external forces (e.g., family expectations, cultural norms, and perceived career prospects) (Leung & Li, 2020). These influences may dull the evident link between personality style and school preference, especially when first steps are taken in educational decision-making. Moreover, some aspects of the sample could have affected the statistical

result. It was performed in a single international school setting, which may constrain the diversity of contextual influences that influence personality-based decision-making.

Savickas (2015) emphasizes that career development processes are part of social and contextual systems, implying that different patterns of association could be obtained in broader and more diverse samples. As such, the chi-square result that did not significantly differ should be treated cautiously and within the parameters of the sample of the study.

Conclusion and Implications

In Riyadh, Saudi Arabia, this study is the first to empirically analyze RIASEC personality type distribution and its relation to high school students' intended majors at an international school in Riyadh. While previous research has focused on post-secondary or tertiary education, the current study provides new insight into a critical gap in the career development literature by targeting Grade 10 students, despite an increasing body of evidence that academic interests and educational intentions first coalesce in adolescence (Nauta, 2010; Eccles & Wigfield, 2020). This developmental stage also noted the importance of analytical reasoning and interpersonal participation, with descriptive results showing Investigative and Social personality types as most prevalent.

Descriptive patterns were meaningful across RIASEC dimensions across intended academic majors. Investigative characteristics were high among students planning to study Humanities, followed by Arts and STEM fields, and Social traits were mostly strong among students interested in Health Sciences. Conceptually, these patterns align with Holland's (1997) vocational personalities and work contexts theory, and with modern perspectives that point out the multiple dimensions of person–environment fit in academic decision making (Lent & Brown, 2019).

Notwithstanding such descriptive tendencies, inferential analysis and chi-square test of independence revealed no significant relationship of dominant RIASEC personality type and intended major. This result indicates that individual personality traits may not reliably serve as predictors of academic intentions in early adolescence, and that they may be subjected to influential factors including but not limited to family expectations, cultural norms, and perceived opportunity structures that shape this decision (Hirschi, 2018; Leung & Li, 2020). The results are potentially relevant to academic and career guidance. A person's characteristics and personality frameworks like RIASEC, in themselves, may be useful for self-exploration, but these should be supported with a developmentally and contextually sensitive guidance perspective that acknowledges both intrinsic preferences and external influences (Savickas, 2015; Lent & Brown, 2019).

Longitudinal designs and more diverse samples should be used in future studies looking at the nature of the relationship between personality and academic alignment to examine the long-term evolution of the factors that influence academic alignment across different sociocultural contexts. In conclusion, this study broadens the focus of the RIASEC model to adolescents and highlights the value of early, evidence-based support in the development of informed academic decision-making.

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