

SOME PERSONAL AND CONTEXTUAL DETERMINANTS OF CONGRUENCE BETWEEN VOCATIONAL INTERESTS AND EDUCATIONAL PROFILE OF ADOLESCENTS

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Abstract

Vocational high schools prepare students for specific career with limited opportunities for horizontal mobility, making it crucial for students to attend schools that align with their interests and support their career development. In other words, it is essential for students' interests to match the educational programs they pursue to achieve congruence, which, according to Holland, is a key determinant of positive career outcomes such as job satisfaction and success. The aim of this study was to examine the congruence between vocational interests and educational profiles among vocational high school students and to explore the role of personality traits and parental behaviors in achieving this alignment. The study included 335 second-year vocational high school students from various fields across several Croatian cities. Participants completed the HEXACO-60 personality inventory, the PGI-Short vocational interests questionnaire, the Parental Career-Related Behaviors Scale, and a general sociodemographic questionnaire. Congruence between interests and educational profiles was assessed using profile correlations, the Iachan M index, and the Brown and Gore C index. Results indicate that students achieve moderately high levels of congruence between their interests and educational profiles. Significant positive correlations were found between congruence and extraversion, conscientiousness, and parental support, while significant negative correlations were observed with emotionality, openness, parental interference, and lack of parental involvement. Personality traits and parental behaviors together explained up to 20% of the total variance in congruence, with emotionality, openness, and parental interference identified as significant predictors. Higher levels of congruence were observed in students who were less emotional, less open, and whose parents interfered less in their career decisions. These findings highlight the important role of both personality traits and parental behaviors in achieving alignment between students' interests and educational profiles.

Keywords: *Congruence, vocational interests, educational profile, personality traits, parental behaviors, vocational high schools.*

1. Introduction

Career interests begin to form in childhood, often as idealized visions of future professions. In Croatia, the first major career decision occurs when choosing a high school. Ideally, this choice should align with students' interests to ensure satisfaction with their education and future career success (Holland, 1997). However, at 14–15 years old, students may not yet possess the maturity required to make well-informed decisions. Career maturity refers to an individual's readiness to make educational and career choices appropriate to their age and development (Savickas, 1984). Research suggests that eighth-grade students lack sufficient knowledge about the labour market, indicating a need for greater focus on career decision factors (Babarović & Šverko, 2011). Career guidance is crucial in addressing inadequate vocational maturity. Social and family pressures, along with insufficient or misleading information, can hinder informed decision-making. Due to the challenge of making important career decisions at an early age, it is essential to examine the congruence between students' vocational interests and their educational paths. Beyond vocational interests, other intrinsic factors, such as personality traits, and extrinsic influences, including parental behaviours, may significantly impact these career decisions.

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One of the most well-known career choice theories is Holland's RIASEC model, which categorizes professional interests and work environments into six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (Holland, 1997). This theory suggests that individuals seek work environments that match their skills and preferences, leading to higher job satisfaction and career success (Ohler & Levinson, 2012). Research indicates that while congruence between career interests and work environments contributes to positive professional outcomes, the relationship remains complex (Assouline & Mier, 1987; Nye et al., 2017). Studies on Croatian students show variability in the alignment between interests and academic programs. Research on first-year university students suggests moderate congruence levels, with significant individual differences (Černja Rajter et al., 2019; Černja Rajter, 2022). High school students with strong Investigative, Artistic, and Enterprising interests tend to enrol in gymnasium programs, while those with Social, Realistic, and Conventional interests are more likely to choose vocational schools (Usslepp et al., 2020). These findings highlight the importance of vocational interests in educational choices and suggest that career counselling could improve alignment between student preferences and their chosen fields of study.

Personality traits significantly influence vocational interests and career choices. The HEXACO personality model, which includes Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness, is particularly relevant for examining career-related decisions (Ashton & Lee, 2007). Research has shown that Openness is positively associated with Investigative and Artistic interests, while Extraversion and Agreeableness correlate with Social interests (McKay & Tokar, 2012; Šverko & Babarović, 2016). Additionally, Neuroticism is negatively linked to Realistic and Investigative interests, suggesting that personality traits may shape students' career decisions. Studies indicate that personality not only influences professional interests but also impacts career adaptability and decision-making confidence (Di Fabio et al., 2015; Vashist et al., 2021). While some research suggests that personality plays a minor role in high school choice (Usslepp et al., 2020), other studies highlight its significant effect on long-term career development (Wille & De Fruyt, 2014). Examining the relationship between personality and career choice can provide valuable insights for career counselling and education planning.

Besides personality, external factors like parental influence play a crucial role in shaping students' career interests and choices. Parents contribute to career development through financial support, role modelling, and educational encouragement (Bryant, Zvonkovic & Reynolds, 2006). Research shows that parental encouragement of STEM-related activities increases students' interest in STEM careers more effectively than personal traits alone (Šimunović & Babarović, 2021; Tey et al., 2020). However, excessive parental interference can lead to career indecision and anxiety (Dietrich & Kracke, 2009; Šimunović, Šverko & Babarović, 2020). Additionally, perceived parental support is a stronger predictor of students' career confidence than objective parental behaviours (Ginevra, Nota & Ferrari, 2015).

Given the lack of research on factors affecting career congruence, it is essential to examine whether students choose the high school based on their vocational interests, and how personality and parental behaviours, due to their demonstrated significance in career decision-making, shape these choices.

2. Objectives

The objective of this study is to examine the level of congruence between vocational interests and educational profiles of high school students and to explore the role of personality traits and parental behaviors in achieving this congruence.

3. Methods

3.1. Participants

The study included 335 second-year high school students (aged 15 to 16) attending 16 different vocational programs. The sample consisted of both genders, with 142 male and 193 female students.

3.2. Instruments

Vocational interests were assessed using the Personal Globe Inventory-Short (PGI-S) (Tracey, 2010), which includes 40 career-related activities grouped into 10 interest scales. Participants rated their interest on a 7-point Likert scale. These scales were used to determine RIASEC personality types. Congruence between vocational interests and educational profiles was measured using three indices: Brown and Gore's C Index, Iachan's M Index, and Profile Correlation, each assessing different aspects of alignment between individual interests and educational environments. Personality traits were measured using the HEXACO-60 questionnaire (Ashton & Lee, 2009), which assesses six personality dimensions:

Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness. It consists of 60 statements rated on a 5-point Likert scale. Parental influence was evaluated with the Perceived Parental Career-Related Behavior Scale (Dietrich & Kracke, 2009), which measures parental support, interference, and disengagement using 15 items rated on a 5-point Likert scale. Additionally, a demographic questionnaire collected data on age, gender, school type, and parental socioeconomic and educational background.

3.3. Procedure

Prior to data collection, approvals were obtained from the Ministry of Science and Education, the Ethics Committee of the Ivo Pilar Institute, and school principals. Written consent was gathered from students and their parents. The study was conducted in school computer labs using the Career Path platform. The participation was voluntary and students could withdraw at any time. Completion took less than one school period, and responses were anonymized to ensure confidentiality.

4. Results

Table 1 presents the descriptive statistics of the three congruence indices. Profile Correlation measures the alignment between individual interests and educational profiles, where 1 indicates high congruence, -1 indicates complete mismatch, and 0 no correlation. Compared to previous findings ($M=0.30$, $SD=0.42$; Černja Rajter, 2022), the results in this study ($M=0.21$, $SD=0.47$) indicate lower but still positive congruence with high variability. The Iachan M Index ($M=13.36$, $SD=9.28$) suggests low congruence with high variability. According to Iachan (1984), scores below 13 indicate mismatch, while scores above 26 suggest high congruence. The results of this study point to a relative mismatch. The Brown & Gore C Index ($M=9.99$, $SD=3.61$) suggest moderate congruence with moderate variability.

Table 1. Descriptive Statistics of Congruence Measures ($N=330$).

Measure	Min	Max	M	SD	Skewness	Kurtosis
Profile Correlation	-0.95	0.96	0.21	0.47	-0.42	-0.86
Iachan M Index	0	36	13.36	9.28	0.39	-0.84
Brown & Gore C Index	0	18	9.99	3.61	-0.32	-0.01

Table 2 shows that all three congruence indices correlate significantly, positively, and strongly (ranging from .708 to .776), with the highest correlation between the Iachan M index, and the C index. An analysis of the correlation between congruence indices and personality traits reveals weak but significant negative correlations with emotionality. The Profile Correlation and Iachan M indices are weakly but positively correlated with extraversion, while the C index is not. Conscientiousness shows weak but significant positive correlations with all indices. Openness is moderately and significantly negatively correlated with all indices, suggesting that students with higher congruence between professional interests and educational profiles tend to have lower openness, which is an unexpected result. Honesty and agreeableness show no significant correlations with congruence. Correlations between congruence indices and parental career-related behaviors show that the C index is not significantly related to any parental behavior. The Profile Correlation and Iachan M are weakly but positively correlated with parental support, and weakly but negatively correlated with parental interference and disengagement. Although the correlations are low, these findings align with the expectations.

Table 2. Correlations Between Congruence Measures, Personality Traits and Parental Behaviours.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Profile Correlation	1										
2. Iachan M Index	,708**	1									
3. B&G C Index	,757**	,776**	1								
4. Honesty-Humility	,064	-,033	-,006	1							
5. Emotionality	-,135*	-,115*	-,142*	,143*	1						
6. Extraversion	,121*	,075	,121*	,106	-,084	1					
7. Agreeableness	,072	,018	,035	,425**	-,043	,019	1				
8. Conscientiousness	,172**	,126*	,161**	,245**	-,095	,362**	,157**	1			
9. Openness	-,332**	-,295**	-,264**	,022	,036	-,051	,069	,020	1		
10. Parental Support	,147**	,101	,151**	,108	,125*	,212**	,086	,215**	-,153**	1	
11. Parental interference	-,240**	-,108	-,187**	-,218**	-,001	-,200**	-,165**	-,217**	,141*	-,275**	1
12. Parental Disengagement	-,177**	-,099	-,194**	-,190**	-,088	-,311**	-,104	-,267**	,194**	-,519**	,457**

* $p<.05$; ** $p<.01$

Table 3. Hierarchical Regression Analysis with Profile Correlation as the Criterion (N=330).

	Step 1	Step 2
	β	β
Honesty-Humility	,024	,004
Emotionality	-,108**	-,117**
Extraversion	,041	,015
Agreeableness	,057	,040
Conscientiousness	,139**	,113
Openness	-,334**	-,305**
Parental Support		,043
Parental interference		-,152**
Parental Disengagement		,004
<i>R</i>	,400	,429
<i>R</i> ²	,160**	,184**
ΔR^2	,160**	,024**
<i>F for the model</i>	9,727	7,588

Note: ** $p < .01$

The study also examined the relationship between personality traits and congruence. Findings revealed significant negative correlations between congruence and emotionality and openness, and positive correlations with conscientiousness and extraversion. Specifically, students with higher levels of emotionality and openness displayed lower congruence, while those with higher conscientiousness and extraversion had higher congruence. The results were largely consistent with previous research, except for the openness trait, where findings diverged. High openness might lead students to have a wide array of interests, making it difficult for them to align their educational path with their professional interests. The study found that parental support was positively associated with congruence, while parental interference and lack of involvement were negatively associated. These findings align with research suggesting that supportive parents positively influence professional adaptability, while overbearing or uninvolved parents hinder career alignment. Personality traits, especially emotionality and openness, and parental interference were significant predictors of congruence, with higher emotionality, openness, and parental interference leading to lower congruence. Personality traits, particularly openness, emerged as the most significant predictor.

The study had limitations such as incomplete responses and voluntary participation, which may influence the sample characteristics. Additionally, since only second-year high school students were included, the results may not be generalizable to other grades. Future research should focus on more diverse sample of students, while longitudinal studies could provide insights into how dynamics between interests, personality traits, and parental behaviours evolve over time.

5. Conclusion

The results of this study highlight the importance of career guidance in aligning students' educational choices with their interests. Schools should enhance career counselling and make tools like career self-assessment available to students. Additionally, parental support plays a crucial role in this process, and parents should be educated on how to assist without over-influencing their children's decisions. The study also emphasizes the need for continued research on the factors affecting career congruence and professional development in adolescents.

Acknowledgements

This study was conducted as part of the project titles Free Career Choice that is fully supported by the Croatian Science Foundation under the grant number IP-2019-04-7537.

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