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Development and Validation of Career Identity Finder (CIF) Multidimensional Career Assessment Inventory for Secondary School Students

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Abstract

Adolescence is a particularly important time in the career development process in which students investigate their interests, abilities, values, and future aspirations. The pilot development and initial psychometric testing of the Career Identity Finder (CIF) – a multidimensional career assessment inventory for secondary school students (Grades 9-12) – is reported. The CIF is a career assessment instrument that measures four constructs related to career – work values, vocational interests, personality traits, and cognitive aptitude – in one instrument, unlike many career assessment instruments that measure only a single construct related to career. The instrument was designed using Holland's RIASEC Model, the Big Five Personality Framework, and the theories of cognitive abilities. Consequently, content validity was achieved by the expert evaluation and the instrument was pilot tested with 73 secondary school students aged 14-18 years. The results of the reliability analysis showed good internal consistency (Cronbach's Alpha = 0.914 for the Work Values Scale). Results give preliminary psychometric evidence for the usefulness of the Career Identity Finder (CIF) as a comprehensive career assessment inventory. But, larger scale and more representative sampling to validate and standardize further is suggested.

INTRODUCTION

Adolescence is a sensitive period in career development where secondary school students start to consider their interests, abilities, values and future direction. With the growth of new occupations and the globalisation of society and the economy, along with technological change, career decision-making is becoming more complex (OECD 2023). The study suggests that inadequate access to formal career guidance for adolescents can cause uncertainties to choose academic streams, as many adolescents tend to select academic streams based on their parents' expectations, peers' influence, or social prestige rather than their abilities and interests (Kim & Park, 2022; Nguyen & Le, 2023). Career aptitude tests help students recognize their talents and possibilities for career exploration, but many current tests are based on one aspect, for example interests or abilities. Recent research emphasizes the importance of multidimensional career assessments that incorporate psychological, cognitive, and motivational factors that affect career development and career decision making (Savickas & Guichard, 2022; Hirschi, 2022). To meet this need, the present study describes the pilot development and preliminary psychometric assessment of the Career Identity Finder (CIF), a multidimensional career assessment inventory combining work values, vocational interests, personality characteristics and cognitive aptitude for secondary school students. The instrument is meant to assist secondary school students in recognizing their features as they relate to a career and deciding on education and career options.

LITERATURE REVIEW

Adolescence is equally becoming a critical period in career development studies in which identity exploration, as well as vocational preparation occurs. According to career construction theory, human beings build their career paths through the synthesis of personal attributes and opportunities that the surrounding provides to them (Savickas and Guichard, 2022). Recently, it has been demonstrated that career exploration and formal guidance at an early stage are

exceptionally advantageous to academic motivation, career readiness, and self-efficacy in decision making (Hirschi, 2022; Kim and Park, 2022). The career testing also results in the increase of the teenage knowledge of their competencies and interests and leads to the better educational planning and increased clarity of the career interest (Nguyen and Le, 2023).

Vocational interests continue to be one of the most popular predictors of career choice. The RIASEC model, which is described by Holland, has six types of interests, these are realistic, investigative, artistic, social, enterprising, and conventional personality types. The empirical evidence provides preliminary evidence of the applicability of this framework to the career assessment and has reported substantial correlations between RIASEC interest profiles and job satisfaction and that they can predict career choices of adolescents successfully (Su, Tay, and Liao, 2022; Tracey and Sodano, 2023). Along with the interests, personality traits have their role to play in developing the career. Big Five personality has been trendy in the context of unwinding the contribution of traits in work behaviour and career planning and long-term job success. Studies have shown that the close connection between such traits as conscientiousness and openness and proactive career behaviours and career adaptability (Rudolph et al., 2022; Spurk and Volmer, 2023).

Cognitive abilities also appear as an important component of career aptitude because analytical abilities, numeracy, verbal literacy and the spatial capacity to visualize are great predictors of both academic performance and work performance. It is already known that cognitive ability is among the most effective predictors of education and performance in the fields of science, technology, engineering, and mathematics (Kuncel and Sackett, 2023; Schneider and Preckel, 2022). Besides, work values are the aspirations of individuals about what they consider as significant in their working environment including achievement, independence, creativity, service to society, and work-life balance. According to the majority of the surveys conducted recently, it seems that younger individuals are starting to care more about meaningful working conditions that allow them to develop personally, in a more flexible and socially responsible way (Lyons and Schweitzer, 2023).

Research Gap

Current career assessment tools tend to focus on only one or two psychological factors (e.g. career interests, personality, cognitive functioning etc.) and do not provide a detailed assessment of career identity. Also, the number of multidimensional career assessment inventories is significantly limited which have been specially designed for secondary school students in India. There was no literature review that found an instrument that integrated work values, vocational interests, personality characteristics and cognitive aptitude as a single assessment. Thus, the present study aimed to fill this gap by creating a multidimensional career assessment inventory for adolescents, called Career Identity Finder (CIF).

Objectives of the Study

The study aimed to:

1. Design a career aptitude test that is multidimensional among the Grades 9-12 students.
2. Establish significant psychological and cognitive domains of concern in the adolescent career development
3. Determine the content validity of the instrument by evaluating experts.
4. Test internal consistency reliability.
5. Assess the practicality of using the tool to provide career advice at the secondary level school.

Research Questions

RQ1. What are the key psychological and cognitive dimensions that should be included in a multidimensional career aptitude test for secondary school students in Grades 9–12?

RQ2. How effectively does the Career Identity Finder (CIF) measure students' work values, vocational interests, personality traits, and cognitive abilities?

RQ3. Does the CIF demonstrate acceptable internal consistency reliability across its different dimensions?

RQ4. To what extent can the CIF serve as a useful tool for supporting career guidance and educational decision-making among secondary school students?

METHODOLOGY

Research Design

This study adopted the pilot instrument development and preliminary psychometric validation research design. The development of this study instrument was in the form of a multidimensional career assessment inventory for secondary school students, which is called Career Identity Finder (CIF). The development process was carried out in four phases. A comprehensive literature review and existing theory were used to determine key dimensions of adolescent career development. From this review, items were created in four areas of interest: work values, vocational interests, personality characteristics, and cognitive aptitude. Second, experts in education and psychology, and career counselling, reviewed the preliminary items to ensure that they are relevant, understandable, and age-appropriate. Third, the instrument was revised after the feedback from the experts and pre-tested with secondary school students to check the comprehensibility and feasibility of the instrument. Last, statistical analysis was performed for

the reliability and preliminary construct validity of the instrument.

Instrument Development

The Career Identity Finder (CIF) was developed as a four-dimensional career assessment inventory with the following four main domains: Work Values, Vocational Interests, Personality Traits and Cognitive Aptitude. All factors impacting on career decision making of adolescents have been measured by the instrument. Theories for the development of items are Holland's RIASEC Model, the Big Five Personality Framework, and contemporary models of cognitive aptitude. A total of 124 items were grouped in the four domains in the final instrument.

Work Values Scale

A total of 33 items were included on the Work Values Scale to measure the students' preferences for the various work values and career aspirations. Achievement, recognition, autonomy, creativity, social contribution, collaboration, personal growth, work-life balance and security were all measured on this scale. A three-point scale was used to record the responses: 1 (Not Important), 2 (Not Very Important) and 3 (Important). Those with a score higher than this endorsed the specific work values more.

Vocational Interest Scale

The Vocational Interest Scale was comprised of 42 items of Holland's RIASEC model. Six Vocational Interest Dimensions assessed: Realistic, Investigative, Artistic, Social, Enterprising, Conventional. Items were presented in a yes-no format for the students to answer on activities, preferences and occupational interests. The scale was developed to identify the key interest patterns to serve as a guide to education and/or career counseling.

Personality Scale

There were 10 items that were developed for the Personality Scale based on the Big Five Personality Model. The scale assessed general personality traits that are related to career development such as openness, conscientiousness, extraversion, agreeableness, and emotional stability. This was answered on a 5 point Likert scale from Strongly Disagree (1) to Strongly Agree (5). Reverse-scored items were done before analysis of negatively worded items.

Cognitive Aptitude Test

The Cognitive Aptitude Test (CAT) comprised 39 items to measure cognitive skills that are important for school and/or work. The logical-mathematical reasoning, linguistic ability, spatial reasoning, analytical thinking, creativity, adaptability, interpersonal understanding, and intrapersonal awareness items were assessed in the test. The various domains of aptitude were added so that a bird's eye view of strengths and career prospects of the students will be obtained.

Sample

The study focused on 73 learners, aged 14-18 and studying in Grades 9 - 12. Convenience sampling was used for the schools and those who agreed for the study were chosen for the sampling. The students were from various grades and hence some preliminary indications of the instrument's applicability with the students of secondary school was provided.

Procedure

The instrument was administered via google forms with standardized conditions after getting permission from the participants and parents. The purpose for the study was explained and students were informed that they would not be recognized by their answers and that everyone would receive a grade based on their own answers. It took about 50 minutes to administer the process. Questionnaires were retrieved and tabulated digitally after completed.

Data Analysis

The data were analysed using descriptive statistics, by item analysis, reliability analysis and exploratory factor analysis. The descriptive statistics were used to summarize respondents' characteristic and items' response. The Cronbach's alpha test was used to test internal consistency reliability with the results obtained more than 0.70 which is acceptable for Research (Hair et al., 2022). Principal Axis Factoring (PAF**)** was used to explore the factor structure of the instrument and some preliminary evidence of its construct validity. Statistic SPSS software was used for data analysis.

RESULTS

A total of 73 participants completed Career Identity Finder (CIF). The students in the sample included 75.3% of those from Grades 11-12, 13.7% of those from Grades 8-10 and 11.0% of those entering the undergraduate program for the first time.

The Work Values Scale consisted of 33 items that showed good internal consistency with Cronbach's alpha of 0.914 (Cronbach's alpha based on the standardized items was 0.916). The scale was found to be multidimensional through preliminary construct validation with Principal Axis Factoring (PAF) analysis, which indicated the construct validity of the scale.

Descriptive findings showed relatively high preferences for work values of achievement, security, integrity, personal growth, advancement, and equality and comparatively low preferences were found in the work values of power, status, and risk-taking.

The Vocational Interest Scale included 42 items related to Holland's six RIASEC domains. Descriptive analyses showed sufficient response variation within the six vocational interest domains, providing evidence of the scale measuring a variety of career interests within the pilot sample. In this pilot study, however, reliability and construct validation analyses for the various scales could not be performed at the domain level.

The Personality Scale consisted of 10 items from the Big Five personality framework. Preliminary analyses revealed acceptable response variation for all the personality items, thus confirming that the scale is applicable to measuring adolescent career-relevant personality traits. Further psychometric evaluation is recommended, with a larger and more representative sample.

The Cognitive Aptitude Scale contained 39 questions that evaluated logical-mathematical, linguistic, spatial, analytical, creative, interpersonal and intrapersonal skills. The pattern of items answered supported the feasibility of the aptitude component for SS students; it was evident that there was appropriate variation in items across the cognitive domains.

The results of the pilot study are broadly supportive of the reliability of the Career Identity Finder (CIF); a multidimensional design was employed. The factor structure should be further validated with larger and more diverse samples to confirm, establish further psychometric properties, and to develop standardized norms.

DISCUSSION

The results showed that the respondents' performance level in logical-mathematical, linguistic, spatial, naturalistic, interpersonal, and intrapersonal aptitude was satisfactory. Students' engagement in educational and career planning is also evident in their high interest in information about courses, colleges and entrance examinations. It was found that the Work Values Scale was very reliable (Cronbach's alpha = 0.914), which indicates the consistency of the instrument. Results of the descriptive statistics indicated that the values placed on achievement, security, learning and personal development were high. The multi-dimensional structure of the Career Identity Finder (CIF) is congruent with the existing theories, such as Holland model (RIASEC), Big Five personality model, and recent cognitive aptitude theories. The CIF provides a more holistic view of adolescents' career development by incorporating four aspects of career development in one assessment: work values, vocational interests, personality traits, and cognitive aptitude, as compared to many career assessment instruments, which have tended to focus on a single construct. The present results present preliminary psychometric support for this multidimensional approach. However, more validation with larger and more representative samples is needed to make the instrument fully standardized.

IMPLICATIONS

The study has implications for educational institutions, career counselling and policy makers. The results can be used to guide the creation of individualized career counseling programs for students to match their skills and work preferences to appropriate educational and career options. Aptitude and work value assessment as an integral part of career counselling in schools can assist students in making informed decisions regarding their academic and career choices and develop important skill areas like critical thinking, communication, emotional intelligence and lifelong learning

LIMITATIONS

Although the study yielded useful information, there are some limitations. The sample was relatively small (N = 73) and could not be generalized to other samples or populations. The study used mainly self-reported answers and aptitude tests which can be subject to interpretation, response bias, or testing conditions. Moreover, the participants' higher secondary education backgrounds were the major group, and other educational groups were not well represented. The cross-sectional study design also limits the study's ability to look at change in intelligence profile and work values over time.

Preliminary Norm Development

In the present study, the following norms were established from the responses of the participants, the secondary school students. The following norms were developed as preliminary pilot norms from the responses of the secondary school students who participated in the present study. The norms are not meant to serve as standardized population norms and are to be used as an exploratory interpretation in the pilot phase. Future research will include further research with larger and more representative samples of children to establish age and grade norms and to finalize the Career Identity Finder (CIF) for use in future.

CONCLUSION

This study offers preliminary psychometric evidence for the development of the Career Identity Finder (CIF) as a multidimensional career assessment inventory for secondary school students. The Work Values Scale demonstrated excellent internal consistency, indicating

its reliability for assessing students' work values, while further validation of the complete Career Identity Finder (CIF) is recommended. Overall, the findings present preliminary psychometric support for CIF for its multidimensional approach. These results highlight the importance of embedding a comprehensive career assessment and guidance practices in school education to support informed career planning and all-encompassing student development.

REFERENCES

1. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2022). Multivariate data analysis (9th ed.). Cengage Learning.
2. Hirschi, A. (2022). Career development in adolescence: Integrating interests, competencies, and identity. Journal of Vocational Behaviour, 135, 103712. https://doi.org/10.1016/j.jvb.2022.103712
3. Kim, H., & Park, S. (2022). The impact of structured career guidance programs on career decision-making self-efficacy among secondary school students. Career Development Quarterly, 70(3), 210-224. https://doi.org/10.1002/cdq.12312
4. Kuncel, N. R., & Sackett, P. R. (2023). Cognitive ability and educational achievement: New evidence and implications for assessment. Psychological Science in the Public Interest, 24(1), 3-34. https://doi.org/10.1177/15291006221147166
5. Lyons, S. T., & Schweitzer, L. (2023). A review of generational differences in work values and attitudes. Human Resource Management Review, 33(2), 100928. https://doi.org/10.1016/j.hrmr.2022.100928
6. Nguyen, T., & Le, H. (2023). Career assessment and educational planning among adolescents: The role of career guidance programs. International Journal for Educational and Vocational Guidance, 23(2), 357-374. https://doi.org/10.1007/s10775-022-09544-7
7. OECD. (2023). Career readiness in the changing world of work. OECD Publishing. https://doi.org/10.1787/career_readiness
8. Rudolph, C. W., Lavigne, K. N., Katz, I. M., & Zacher, H. (2022). Linking personality traits with career adaptability: A meta-analysis. Journal of Vocational Behaviour, 131, 103662. https://doi.org/10.1016/j.jvb.2021.103662
9. Savickas, M. L., & Guichard, J. (2022). Career construction theory: Life design for a changing world. Journal of Career Development, 49(4), 717-730. https://doi.org/10.1177/08948453211065227
10. Schneider, M., & Preckel, F. (2022). Variables associated with achievement in higher education: A systematic review of meta-analyses. Psychological Bulletin, 148(5), 429-470. https://doi.org/10.1037/bul00003580
11. Spurk, D., & Volmer, J. (2023). Personality and career success: A longitudinal perspective. Journal of Organizational Behaviour, 44(2), 197-214. https://doi.org/10.1002/job.2593
12. Su, R., Tay, L., & Liao, H. (2022). RIASEC interests and job satisfaction: A meta-analytic review. Journal of Vocational Behaviour, 132, 103683. https://doi.org/10.1016/j.jvb.2021.103683
13. Tracey, T. J. G., & Sodano, S. M. (2023). Stability and predictive validity of vocational interests during adolescence. Journal of Career Assessment, 31(1), 50-66. https://doi.org/10.1177/10690727221089425