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Pictorial assessment of interests: Development and evaluation of Pictorial and Descriptive Interest Inventory

Iva Šverko *, Toni Babarović, Vanja Međugorac

The Ivo Pilar Institute of Social Sciences, Marulićev trg 19, 10000 Zagreb, Croatia

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ABSTRACT

The Pictorial and Descriptive Interest Inventory (PDII) is a new measure of RIASEC interest types. In PDII respondents evaluate liking and competence in 48 different occupations, which are represented with photographs of people involved in typical job activities, job titles and short job descriptions. After completing the questionnaire the system provides career advice to clients, with regard to their obtained RIASEC scores. The instrument is available on-line at www.careerassessment.eu (English version) and www.karijera.hr (Croatian version). In order to evaluate the new PDII measure we collected responses from 528 elementary school students (15 years old), 641 high school students (18 years old), and 776 university students (21 years old). The results showed good reliability of all RIASEC scales in all subsamples. Structural validity was also verified as the presence of circular structure of RIASEC types and *people–things* and *data–ideas* underlying dimensions was confirmed. Moreover, relations to PGI RIASEC scales and gender mean differences in interest also confirm construct validity of PDII. At last, respondents reported high satisfaction with PDII and the given e-advice. Therefore our results show that PDII is reliable and a valid RIASEC measure that can be used as an Internet-based self-evaluation tool, which can be helpful in the process of making career decisions.

1. Introduction

Verbal interest inventories are the most common approach to interest assessment. Some of the best known and most widely used verbal interest inventories, like Self-Directed Search (SDS; Holland, 1994), Strong Interest Inventory (SII; Harmon, Hansen, Borgen, & Hammer, 1994), Campbell Interest and Skill Survey (CISS; Campbell, Hyne, & Nilsen, 1992) and the new Personal Globe Inventory (PGI; Tracey, 2002), have shown good psychometric properties and firm cross-cultural validity. In Croatia we translated Holland's SDS (Šverko & Babarović, 2006) and Tracey's PGI (Šverko, 2008; Šverko & Babarović, 2008) and confirmed good psychometric properties of both instruments. Now we want to provide a new measure of interests based on pictorial stimuli. Here we will present the new measure of RIASEC types, the Pictorial and Descriptive Interest Inventory. Before introducing the new measure we will briefly present the historical development of pictorial assessment of vocational interests and its advantages and disadvantages.

1.1. Development and application of nonverbal interest assessment

The first pictorial interest inventory was created by Geist in 1959 because he believed that "pictures are closer to real life and therefore should elicit preference responses closer to real life" (p.413). The Geist Picture Interest Inventory (GPII; Geist, 1959)

* Corresponding author.
E-mail addresses: iva.sverko@pilar.hr (I. Šverko), toni.babarovic@pilar.hr (T. Babarović), vanja.medugorac@pilar.hr (V. Međugorac).

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was self-administering and consisted of 44 picture triads depicting a person engaged in major vocational and avocational activities. The clients were asked to indicate the most appealing activity of the triad. Vacha-Haase and Enke (2009) believe that GPII is outdated because many of the depicted occupations no longer exist and because GPII is organized by Kuder types which are today mostly replaced with Holland's interest typology.

After Geist's first attempt other forms of pictorial inventories were designed for career guidance. Historically, pictorial interest inventories were used to assess interests of those with special needs. Today they are mostly used for populations that, for whatever reason, have trouble with reading (reduced vocabularies due to lower education level, different kinds of disabilities, deaf people who use sign language, or simply because the language which inventory is using is not the respondent's native language). On the other hand, Tétreau and Trahan (1983) designed the Tétreau–Trahan Visual Interest Test (TTVIT) for interest assessment of the general population. TTVIT has good internal and test–retest reliability and was validated against psychometrically sound verbal interest inventories. Today, there are several pictorial interest inventories available on the market (e.g. R-FVII: 2 — Reading-Free Vocational Interest Inventory: 2 and Pictorial Inventory of Careers Work Interest Assessment) but scientific studies which aim to confirm their validity are scarce.

Elksnin and Elksnin (1993) did a review of six commercially available and frequently administered pictorial interest inventories[1] used at the beginning of the 90s. By reviewing their reliability and validity and the adequacy of the norms they concluded that many of them are technically inadequate and therefore advise their usage with caution. In addition, they suggest that results obtained with pictorial inventories should be confirmed with other vocational assessment approaches (Elksnin & Elksnin, 1993). More recently, Enke (2009) developed a pictorial version of six RIASEC scales based on the Personal Globe Inventory (Tracey, 2002), which showed strong internal and test–retest reliability, high correlations between the matching pictorial and verbal scales, and good structural validity of RIASEC types.

In the field of personality psychology there have also been some attempts to create non-verbal measures of personality. Recently, the Five-Factor Nonverbal Personality Questionnaire (FF-NPQ; Paunonen, Ashton, & Jackson, 2001) was developed. The FF-NPQ showed good convergent validity with regard to the standard Big Five verbal personality questionnaires (Hong, Paunonen, & Slade, 2008; Moore, Schermer, Paunonen, & Vernon, 2010; Paunonen, 2003; Paunonen et al., 2001). Good concurrent validity was also approved, as similar relationships of FF-NPQ factors and verbal Big Five measures with different criterion variables were observed (Hong et al., 2008; Paunonen, 2003; Paunonen et al., 2001).

1.2. Advantages and disadvantages of pictorial interest assessment

Using pictorial stimuli for interest assessment has its advantages and disadvantages. In addition to elimination of reading demands, which makes pictorial interest inventories applicable to specific populations, pictorial stimuli also offer additional information about different occupations that could not be elicited with textual description of occupations. In particular, they provide information about working environments and activities associated with certain occupation. In addition, no requirement for translation makes pictorial inventories easy for adaptation to different cultures or language groups and eliminates the possibility of attributing the observed cultural differences to the bad translation (Paunonen, Jackson, & Keinonen, 1990). However, people and their living and working environments can look very different in different cultures, and that poses additional challenge on cross-cultural universality of pictorial measures. Pictorial instruments can likely be applicable in similar cultures, but in very different cultures they can hardly be usable. Therefore pictorial instruments need thorough cross-cultural evaluation prior application in new cultures, same as all other instruments.

Further, different information provided by pictorial stimuli creates space for individual interpretation and potentially increases ambiguity. The examinee might direct attention to the stimuli in the picture on which the authors did not intend him/her to put focus on. To remedy ambiguity related to pictorial stimuli some inventories used arrows that point to appropriate stimulus in the picture that the person should focus attention to (e.g. GPII-R; Geist, 1988), while others used descriptions of activity in pictures.

Another disadvantage refers to the difficulty of creating the pictorial versions of certain questionnaire items that should portray hardly observable domains of behavior. For example, it is much more difficult to visually display studying and conducting research of various phenomena which present the essence of the investigative type, than usage of different objects, tools and machines, and the development of manual skills which present the essence of the realistic type.

Further problem with pictorial items is the unintended effect of the person who is presented in the photograph or picture. Some people could prefer some items over the others due to the characteristics of the depicted person, particularly depending on its gender or race. Therefore pictorial scales have to be balanced across these characteristics in order to achieve unbiased results. Also, physical appearance of the depicted person, as well as attractiveness of the presented environment can pose effect on given responses. Clothing styles and working environments change over time and can become outdated. Therefore, in order to grasp one's real interest in particular occupations, pictorial instruments should be kept updated and in line with changes of our everyday life and world of work.

[1] Pictorial Interest Inventories that Elksnin and Elksnin (1993) refer to are as follows: Geist Picture Interest Inventory—Revised, GPII-R; Wide-Range Interest-Opinion Test, WRIOT; The Pictorial Inventory of Careers, PIC; Reading-Free Vocational Interest Inventory—Revised, R-FVII-R; The Career Assessment Survey Exploration, CASE; Vocational Training Inventory and Exploratory Survey, VOC-TIES.