Constructing a Situation-Based Career Interest Assessment for Junior High School Students and Examining Their Interest Structure

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Outline

- Introduce existing interest assessments and their limitations

- Develop a new situation-based career interest assessment
  - Examine the reliability and validity of this new test
  - Examine the suitability of Holland's vocational interest theory of this new test
Interest assessments

- Campbell Interest and Skill Survey, (CISS)
  Campbell, Hyne & Nilsen (1992)

- Self-Directed Search, (SDS)
  Holland, Powell & Fritzshe (1997)

- Strong Interest Inventory Assessment, (SIIA)
  Strong (1935)

- Jackson Vocational Interest Survey,
  Jackson (1999)

Interest assessments are useful and important for students to
- identify interests and
- make better career decisions

Limitation(s) 1

- Most interest assessments are targeted toward
  - adults
  - students at senior high schools and universities

- Don’t have suitable instruments for students in countries that implement streaming at the early stages, eg. Taiwan
Limitation(s) 2

- Item presentation
  - Present in text format
  - **Title**: A stockbroker, advising clients on their investment (in CISS)
  - **Course**: To take a woodworking course (in SDS)
- Do not provide sufficient information for junior high school students to understand what the occupations or courses are involved with

Purpose

- It is important to **ensure** that students will be able to **fully understand** the description of each item

1. Develop a **situation-based career interest assessment (SCIA)** for junior high school students
Situation-based tests

- Can portray real-life situations through images, photographs, or 3D simulations and videotapes in conjunction with elaborated explanations regarding each occupation or course.

- Hence, we expected that the implementation of a situation-based test would be able to provide sufficient information.

Applied Holland’s vocational interest theory to develop SCIA

- Holland explained that we can characterize people by their resemblance to each six personality types:
  - Investigative: The “Thinkers”
  - Realistic: The “Do-ers”
  - Artistic: The “Creators”
  - Conventional: The “Organizers”
  - Social: The “Helpers”
  - Enterprising: The “Persuaders”
Development of the SCIA

① Content Analysis of Existing Interest Assessments

- Analysis existing interest assessments & relevant literatures
  - The test contents based on Holland’s theory could be broadly divided into three categories: activities, courses, and occupations
- Follow the same categories in our test development

② Assessment Item Design

- Invited 35 instructors to construct items (138 items)
- Examined and revised these items by vocational professionals and career counselors
  - to make sure the item presentation is clear
  - can be easily understood by junior high school students
  - to make sure that these items are correspondent with the description of Holland’s six types of personality
What does a lawyer do? What kind of work is involved?

Photographs to portray what is the job like

Interest Type: E-Lawyer

- Interpret laws, rules, and regulations for individuals
- Develop strategies and arguments in preparation for the presentation of cases
- Present evidence to defend clients in criminal or civil litigation

Show different working environments

Testlet format

- Items are presented in testlet format instead of being presented one by one
- Include six items for each personality type
- Present in a randomly order (not a RIASEC order)
⑤ Response Format & Scoring
- Combine the characteristics of graphic rating scales and ranking scales

Scores are calculated based on coordinates on this continuum

0.28 0.35 0.42 0.5 0.61 0.72

Rank or compare the items simultaneous

Continuum

⑥ Pilot-Test
- 23 testlets (138 items)
- 1072 students (457 males & 615 females)

- Apply EFA to explore the factor structure of SCIA
  - 6 factors are extracted (eigenvalue >1) which are consist to Holland’s theory
  - Some items have cross-loading or lower factor loadings (removed from our test later)

- Cronbach’s alpha for all interest types: >0.93
- Test-retest reliability for each interest type: 0.77~0.89

- SCIA has acceptable validity and reliability
Formal-Test
- 18 testlets
- 1136 students (598 males & 547 females)

CFA (with correlated trait correlated uniqueness model)

The fit indices:
- SRMR=0.07, RMSEA=0.07, CFI=0.96, NFI=0.94, NNFI=0.95, CN=294

✓ Our test items do demonstrate the six factors.

Purpose

2. Examine the suitability of Holland’s vocational-interest constructs for junior high school students in Taiwan by using the SCIA

Holland has some discoveries regarding the relationship of six types of personality
- Simple circular hypothesis
- Calculus hypothesis
- Hexagonal hypothesis

➢ Some studies supported;
➢ Some studies did not (eg. Tracey & Ronds, Jin, Tang Lokan and Taylor).
Apply Multidimensional scaling (MDS), to configure the order of
R-I-A-S-E-C

① the circular order is I-R-A-S-E-C.
② The order of R and I was swapped.
③ It is not a regular hexagon as Holland proposed.

Calculate internal correlation matrix

<table>
<thead>
<tr>
<th>Overall (N = 1,136)</th>
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<tbody>
<tr>
<td>R</td>
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The correlations of adjacent personality types are expected to be higher.
① Since R and I was swapped, the correlation between P & A and R & C became lower.
② From the results of MDS, the correlation between I & A and R & C became higher.
③ SCIA is partially consistent with Holland’s theory.
Conclusion

- SCIA has acceptable reliability and construct validity
  - EFA and CFA confirmed the existence of Holland’s six interest types
- Although some Holland’s assumptions are only partly supported, this could be due to culture-specific differences
  - Tien (1996) found I-R-A-S-E-C order for senior high school in Taiwan
  - Liu & Rounds (2003) found weaker correlation between the I-A and R-C for students in China, Hong Kong, and Taiwan
- Demonstrate the SCIA
  - http://career.ntnu.edu.tw/cit/

Thanks for your attending

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