

**Using Polytomous Item Response Analysis in Constructing a Career Themes Inventory
for Filipino High School Students**

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Abstract

This study examined the results of item analysis using the Graded Response Model (GRM) and the Generalized Partial Credit Model (GPCM) for constructing a Career Themes Inventory for Filipino high school students (CTI-HS). Grade 9 students of selected public high schools in Quezon City responded to the inventory measuring career interests, preferred activities, potential abilities, values, and self-concept based on the Holland's six work personality and environment types (RIASEC)— Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (Swanson & Fouad, 2010). The GRM and GPCM were applied to each of the RIASEC codes, creating six separate tests for analyses.

The GRM and GPCM analyses produced similar results in all codes. The information functions generated by GRMs had fluctuations across the range of trait levels while those of the GPCMs were smoother and tended to have one peak. GRMs had slightly better fit on the data for all codes. It is suggested that a complementary relationship between models exists in the selection of items similar to a complementary relationship between CTT and IRT approaches. They may have similar results but may give different information about the items.

Recommended items for selection had high a -parameter estimates, OCCs reflecting response patterns aligned with the trait continuum, and information functions indicating good reliability. The GRM is preferred due to the slightly better fit on the data, the slightly wider range of trait levels covered, and the more practical significance of the interpretation of b -parameter estimates. Further study should be done on differences in scoring using the models and on exploring the dimensionality of RIASEC codes as measurable constructs among Filipino high school students.