

Research Summary No. 70
Development of Intrinsic Motivation Scale

by

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The purposes of this study were (1) to construct and develop valid and reliable intrinsic motivation scale, (2) to analyze factors of intrinsic motivation, (3) to compare gender and age differences in intrinsic motivation, and (4) to establish norms of intrinsic motivation scale.

The sample consisted of 573 teachers, 685 7th (M.S.1) 432 9th (M.S.3) grade students, and 510 upper secondary students (M.S.5 and M.S.6) from secondary schools under the Department of General Education, Ministry of Education in the Bangkok Metropolis in 1997 - 1998 academic year.

The major instrument was intrinsic motivation scale (student form and adult form). Both student and adult forms were identical in contents, yet there were some little contextual differences. The intrinsic motivation scale contained 45 items for full version and 30 items for short version on a five - point scale, from 1 = never true of me to 5 = always true of me. Besides, there were other measures of similar and different constructs from the intrinsic motivation scale used in order to examine the construct validity of intrinsic motivation scale. These measures were acceptable in validity and reliability. Questionnaires and inventories were administrated for collecting data. The program SPSS was used to analyze descriptive statistics, reliability coefficients, t - test, correlations, factor analysis, analysis of variance, and multivariate analysis of variance. The program AMOS was also employed to conduct confirmatory factor analysis.

The findings were summarized as follows :

1. Intrinsic motivation scale had ability to differentiate high and low scorers on this scale. The items had adequate to high discriminating powers. The homogeneous set of items were also found.

2. The intrinsic motivation scale should consist of 5 dimensions or factors. These five factors accounted for 33.14 and 42.81 percent of the total variance in intrinsic motivation for student and adult samples, respectively.

3. The five factor model (challenging, interest-enjoyment, autonomy, need of competence, and determination) fitted empirical data at acceptable levels for students and adults. The results showed that the intrinsic motivation scale was consistent with its theoretical framework indicating the construct validity.

4. The intrinsic motivation scale was positively correlated with Picture Motivation Scale, internal locus of control, self - esteem, creativity, and thinking personality. In fact, the positive correlations among related constructs support convergent validity of intrinsic motivation scale. The intrinsic motivation scale was negatively correlated with depression and anxiety. The correlations among introvert-extrovert personality, sense - perceiving personality, and intrinsic motivation were not found, suggesting that there was discriminant validity of the intrinsic motivation scale. Moreover, the intrinsic motivation scale was unbiased because it was independent from social desirability.

5. The internal consistency reliability of the intrinsic motivation scale showed Cronbach's alpha of .83 for the student form and .93 for the adult form. The test - retest reliability (5 week period) of intrinsic motivation scale reflecting stability of measurement over time was .76 for the student form and .71 for the adult form.

6. There were gender and age differences in intrinsic motivation. Specifically, female students scored higher on global intrinsic motivation, need of competence, and determination than male students at .01 significance level. The results also showed that global intrinsic motivation, challenging, autonomy, and determination increased from lower secondary levels (M.S.1, M.S.3) to upper secondary levels (M.S.5, M.S.6). Similarly, middle - aged adults (ages 41 - 49) scored higher on determination than younger adults (ages below 41)

7. Percentile norms, Z-score norms, and T-score norms were available for the intrinsic motivation scale. Sex norms and grade norms for the intrinsic motivation scale were also provided. The possible score range on the instrument was 45 to 225, with a middle score of 161 for the student sample (standard deviation = 16.03) and 176 for the adult sample (standard deviation = 18.96). Global intrinsic motivation scores for both samples were approximately normally distributed.

Recommendations based on the findings are summarized as follows :

1. The intrinsic motivation scale consists of 45 items for full version and 30 items for short version assessing five dimensions of intrinsic motivation. Both versions have student and adult forms which have similar psychometric properties. The user should select an appropriate form or version for his/her own study.

2. Future research should be replicated, modified and further validated the intrinsic motivation scale so as to strengthen its psychometric properties scale and lead to an even more accurate instrument.

3. In order to obtain evidence of construct validity and gain understanding of individual motivation, the antecedents and consequences of intrinsic motivation should be examined in terms of experimental research and structural model.