



THE DEVELOPMENT OF CHINESE VERSION OF SOCIAL COMPARISON SCALE AND THE EXPLORATION OF ITS MULTIPLE GROUP DIFFERENCE

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ABSTRACT

Social comparison - how people use others to make sense of themselves - is a universal characteristic of humans. Social comparison could shape our thinking, our emotion, and our behavior. The concept of social comparison orientation (SCO) refers to individual difference in the inclination to compare one's accomplishment, one's situation, and one's experiences with those of others. However, the tendency of social comparison differs from one individual to the next. The purpose of this study is to create a Chinese version of SCO and to investigate the current status of undergraduates on the social comparison orientation. Subjects consist of 533 college students who were administered three measures of social comparison scales, namely, general, upward and downward ones. The relationship of SCO with some important demographic variables is also explored. The characteristics of item parameters estimated by GPCM (Generalized Partial Credit Model), and the multiple group analysis demonstrated by SEM (Structural Equation Model) are also discussed.

Keywords: SOCIAL COMPARISON ORIENTATION, ITEM RESPONSE THEORY, STRUCTURAL EQUATION MODEL.

Introduction

Festinger (1954) was the first to use the term "social comparison". He proposed that "There exists, in human organism, a drive to evaluate his opinions and his abilities." (p. 117). In the absence of objective criteria, people evaluate their opinions and abilities by comparing themselves with people who are similar to them on relevant dimensions. It was interpreted that social comparison is a theory about uncertainty reduction. And Wood (1996) defined social comparison as the process of thinking about information about one or more other people in relation to the self.

Social comparison

Social comparison is composed of multiple processes. There are 3 major processes and these processes can be broken down into several component processes. The primary goal of social comparison is to acquire information about the self and it is the first process of social comparison. People find others who are comparable or relevant in terms of dimension. A person encounters social information and judge whether the target is truly comparable. Sometimes a means of acquiring social information involves constructions. The second Process is thinking about social comparison information and it is the core feature of social comparison. People identify a similarity or a difference between the other and the self on some dimension. Then, making a judgment about one's relative standing and interpreting the meaning. The third process is reaction process. People may have reactions to social information at several levels: cognitive, affective and behavioral. There are also 3 specific underlying motives for comparison. The first one is 'self-evaluation' (Festinger, 1954) and includes two dimensions- ability and opinion. With respect to abilities, the primary question to be asked

is 'How am I doing?'. For opinions is 'What should I think or feel?'. 'Self-improvement' is the second motive. It applies only to abilities. Some researcher interpreted the "unidirectional drive upward" to mean that people strive to be more capable than their current level of performance. People compare themselves with others is to learn more about abilities and then improve. The last one is self-enhancement being defined as to enhance self-esteem and self-concept. The desire for self-enhancement can affect the amount and direction of comparison (upward and downward comparison), as well as its impact.

Social comparison orientation is the tendency to relate one's own characteristics (current or potential) to those of others (actual, implied or imagined) (Buunk 2005), and this may influence the strategies used to cope with emotions and related problems. The measure of social comparison orientation (SCO) assesses individual differences in the inclination to compare one's accomplishments, one's situation and one's experiences with those of others.

The Purposes of this study is to develop the Social Comparison Orientation Scale for subjects in Taiwan, to explore the validity and reliability of SCO and to explore the multiple group difference.

Materials and Methods

The Chinese version of Social Comparison Orientation scale with 11-item structured instrument on a 5-point Likert-type scale that ranges from 1 (disagree strongly) to 5 (agree strongly) are translated and adapted from Iowa-Netherlands Comparison Orientation Measures (INCOM) being developed by Gibbons & Buunk in 1999. Demographical variables, such as gender, age, residence and socioeconomic status were also included. The sample

consists 533 college students (Yang, 2012). We use Regression (stepwise) to predict the relationship of SCO and demographical variables. Characteristics of item parameters were carried out by Generalized Partial Credit Model (Muraki,1992). Using Confirmatory Factor analysis approach to examine the construct validity of the Chinese version of SCO and the group difference in gender and age.

Results

Item analyses were first conducted. The internal consistency of Cronbach's alpha = .81. To examine the factor structure, the principal-component analysis was conducted on the 11 item scale. Two factor were extracted, one with an eigenvalue of 3.96 and the other with an eigenvalue of 1.83 that accounted for 36.02% and 16.62% of the variance, respectively. A varimax rotation was then performed. The 11th item loaded on the first factor. The first factor comprises 7 items and was labeled 'ability'. The second factor was labeled 'opinion', comprising 4 items.

Multiple Regression analysis in stepwise approach was conducted to predict both the relationship between SCO raw score and SCO (θ) ability score and demographical variables. The linear regression equation SCO raw score can be presented as

$$SCO(\text{general}) = 3.548 - .122 * \text{age} - .091 * \text{gender}$$

The linear regression equation for the prediction of SCO(θ) is :

$$SCO(\theta) = 0.082 - .241 * \text{age}.$$

Characteristics of item parameters were estimated by GPCM .The item summary statistics on ability dimension show that the response mean are 2.96~3.69, the pearson correlation coefficient are between 0.57~0.72, the polyserial correlation are between 0.60~0.78 .The discrimination are between 0.41~1.04, the difficulty values are between -0.94 (item 3) ~0.21(item1), and the average level of threshold is -.39. For the opinion item set ,the response mean are 3.68~3.87, and the pearson correlation coefficient are between 0.76~0.86, the polyserial correlation are between 0.82~0.93.The item discrimination are between 0.72~2.03, the difficulty values are between -1.13 (item 10) ~0.96(item7), and the average level of threshold is -1.06. These questions were easy to response.

Based on Gibbons and Buunk's research, they postulated that the INCOM is a 2 factors (6 items and 5 items) measurement. A first-order confirmatory factor analytic (CFA) model with 2 factors was first examined. Results indicated that the 11th item loaded on the second factor (opinion) is only .17 < .3. According to MI, the 11th item should load on the first factor. In the modified model, the loading is higher obviously (.40). So we hypothesized the Chinese version of SCO scale is 2-factor model comprising 7 and 4 items, respectively. We use information from the modification indices(MI) and relax the constraints of the parameter with the highest value to modify the model. Our final model is with good fit indices $\chi^2 = 95.6(p=2.319)$, GFI=.969, SRMR=.041, RMSEA=.050, AGFI= .950, NFI=.949,

CFI= .970, TLI= .960. The final modified model fit the data very well. And the composite reliability on ability dimension is .772 and on opinion dimension is .844. The average variances extracted on ability and opinion dimension is .333 and .579, respectively.

The purpose of Measurement invariance is to examine whether the same construct has been measured across different groups. Multigroup confirmatory factor analyses (MGCFA) (Billiet, 2002; Jöreskog, 1971) is the most widely used method to test for measurement invariance. In the context of testing measurement invariance, a series of hierarchically nested models are tested. To compare the fit for two nested models, the chi-square difference (likelihood ratio) test is used (Bentler & Bonett, 1980). If the chi-square difference test is significant, it suggests that the more restricted model fails the test of measurement invariance across groups and the results of the less restricted model should be accepted.

The result of testing measurement invariance across different gender groups indicates that the 2 compared model, unconstrained and measurement weights model, namely, in testing for this level of factorial invariance , we get $\Delta\chi^2=4.747$ ($\Delta df = 9$) , $p=.856$ and the chi-square difference test was not significant. It means the factor loadings were invariant across the male and female groups. The chi-square difference test between measurement intercepts model, and measurement weights model was significant, $\Delta\chi^2$ ($\Delta df = 11$) = 29.868, $p < .05$. This result indicates that the intercept variances of the measured variables were not invariant across the two groups. The result of testing measurement invariance across different age groups also shows that there was no significant difference between unconstrained model and the measurement weights model, $\Delta\chi^2 = 47.741$ ($\Delta df = 36$) , $p=.096$. But between the measurement intercepts model and measurement weights model the chi-square difference is significant ($\Delta\chi^2 = 75.194$, $df=44$, $p=.002$). This result indicates that the intercept variances were not invariant across the age groups.

Discussion

The reliability and validity of the Chinese version of social comparison orientation scale are both good. We found that the 11th item would have higher factor loadings if it belongs to ability dimension . The reason could be because the chinese statement implicates the meaning of ability. According to the nested model test, we get the invariance on factor loadings across gender and age group. The further studiies could investigate the measurement invariance on other demographical variables.

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