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Developing Scoring Methods for a Non-Additive Psychometric Measure of Social Skills/Interpersonal Competence

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Research Proposal:
Developing Scoring Methods for a Non-Additive Psychometric
Measure of Social Skills/Interpersonal Competence

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For my senior thesis, I am planning to blend my mathematical studies with my second field of study, psychology. In particular, to develop and test various scoring methods for a multidimensional, psychometric measure of social skills/competence. I would work with the Social Skills Inventory (see below) and an existing data set, using statistical modelling to design a more representative total score measure. The current total score measure does not appear to take into account balances and value weights of the six inventory items.

I. PRIOR WORK

Though I have only begun to look into this project, I am building on previous research and scoring developments related to this particular inventory. In 1986, Riggio developed and published validity studies for a psychometric instrument, the Social Skills Inventory (SSI). This 90-item self-report instrument measures 6 sub-dimensions of social skill/interpersonal competence. In order to obtain an index of global social skill/competence, the six subscales are summed. However, Riggio (1986) asserts that the actual relationship may not be an additive one.

> The relation between any single social skill dimension and social effectiveness (i.e., positive or desirable social outcomes) may not always be linear. Possessing too much of any one of the basic components of social skill, in relation to other key social skill components, may be dysfunctional. For example, individuals high in expressivity but lacking in skills in regulation and control may initially attract positive attention and responses from others, but they may soon be viewed as overly long-winded, frivolous, and ill-mannered. . . . Therefore, although we can speak of specific components of general social skill, these components become most important when combined with other skill components. Amount or degree of each social skill dimension is important but so, too, is possessing a balance of the various social abilities. (Riggio, 1986, p. 650, from the Manual, p. 7)

The current equation used to compute a total score is a general standard deviation equation. This equation was meant to take into account the ÒimbalancesÓ in social components.

II. PRIOR READING

Due to the recency of my introduction to this particular topic, much of my reading necessarily falls under the category of "intended reading." I have read Riggio's 1989 Social Skills Inventory Manual (Consulting Psychologists Press), and I have just started

reading Jum C. Nunnally's Psychometric Theory (2nd edition, 1978, McGraw-Hill) (the 3rd edition has disappeared briefly from the library, I hope to swap copies soon).

III. PLANS FOR ORIGINAL RESEARCH

This project will explore the use of the standard deviation score and look at alternative means of scoring the SSI subscales that involve non-additive combinations of the subscales. In order to test various scoring methods, I will use a database compiled by Professor Riggio that consists of approximately 1000 adults who have been administered the SSI. The goal is to determine how best to score the SSI to determine social skill "imbalances." This will likely be done via correctional analyses of SSI imbalance scores and measures of psychopathology and/or social maladjustment from the existing database (and/or through collection of new data). In the course of the project, I will consult with several statisticians and psychometricians about the problem (many of whom Professor Riggio has asked to put me in contact with, outside of the Claremont Colleges). On the mathematical side, I plan to delve farther into non-linear models, looking for the best model for this particular problem. I am not overly familiar with much of this modelling, which will mean a lot of background reading and consulting with those who have been mentioned above. I will also be looking deeply into the field of psychometrics to find direction for this scoring mechanism.

IV. INTENDED READING

My intended reading list has not been finalised, nor even very clearly defined as yet. I will probably read a number of journal articles, and books, in the area of psychometrics and non-linear statistical methods. Stochastic orderings has been mentioned as a direction to look into. I am hoping that further talks with my advisors, as well as the consultants Professor Riggio has mentioned, will bring a greater focus to the reading I need to do.

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