CAFAS Profiles: Canonical Correlation Analysis of Behavioral and Performance Dimensions

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ABSTRACT

Psychosocial disturbances are pervasive mental health illnesses affecting 1 out of 10 children in America. The **Child and Adolescent Functioning Assessment Scale** (CAFAS) is a benchmark instrument assessing adolescent impairment in day-to-day functions. This study will examine the extent to which subsets of the CAFAS **behavior** dimension may be correlated with subsets of the **performance** dimension.

PROBLEM

The CAFAS is a multi-dimensional instrument measuring adolescent functioning across two dimensions (**behavior** oriented and **performance** oriented). The CAFAS consists of **eight critical** subscales (Figure 1) and has been identified as an instrument used to assess psychosocial functioning among children and adolescents. The methodological approach in the preponderance of extant studies utilized subscales as either solely dependent or independent variables. These studies offered less information regarding the **correlation between subsets** of the behavior and performance scales. Identifying behavior dimension subsets that are correlated to performance dimension subsets can provide critical information conducive to structuring interventions for children and adolescents undergoing psychosocial treatment.
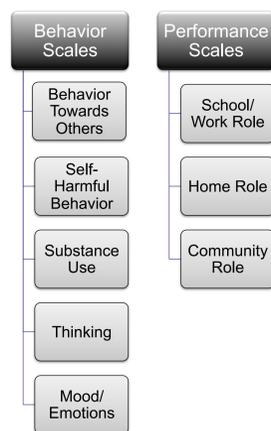

Figure 1. Graphical depiction of the CAFAS dimensions and associated subscales.

RELEVANT LITERATURE

Psychosocial disturbances are pervasive mental health illness affecting 1 out of 10 children in America (U.S Department of Health and Human Services, 1999). More alarming, the Surgeon General posited approximately one-fifth of children diagnosed with emotional disturbances (ED) receive the needed therapeutic services. Children with serious ED pose challenges to psychologists and school personnel to find optimal ways to improve functioning (Roberts, Jacobs, Puddy, Nyre, & Vernberg, 2003). The U.S. Public Health Service (2000) highlighted the importance of providing children mental health needs and further indicated 20 % of America's children have some aspect of emotional disturbance. It stands to reason accurately measuring and assessing levels of psychosocial functioning is of paramount importance in meeting the needs of this growing population. Furthermore, it is vital to use assessments in a way that aids better understanding and treatment of this population.

Hodges, Doucette-Gates & Liao (1999) assessed the impact of CAFAS initial intake scale scores on several functioning indicators. The following results surfaced:

- Higher CAFAS scores at intake were associated with previous hospitalization
- Youth not living with parents ($M = 112.37$) had significantly higher initial CAFAS scores than those living at home
- Children with lower intake scores ($M= 88.62$) had significantly higher education outcomes than those with higher intake scores ($M = 101.13$)
- Higher incident with the law was significantly associated with lower initial intake scores

Hodges, Doucette-Gates, and Kim (2000) found the following similar results:

- Initial intake CAFAS scores were significantly associated with more restrictive living arrangements, while controlling for gender, age, and family income
- Youth with higher intake scores were more likely to be in restrictive care (i.e. living in intermediate care or residential unit instead of living with family)

Kenaly and Williams (2011) found:

- Psychosocial rehabilitation was effective in lowering CAFAS initial intake scores. Their repeated-measures study used the total CAFAS score as the dependent variable and examined the change in overall functioning over time.

PURPOSE

The purpose of this quantitative study is to expand the body of knowledge on the CAFAS subscales and their usefulness in identifying new treatment modalities for children and adolescents diagnosed with psychosocial impairment. For the purposes of this study the eight CAFAS subscales will be divided into two broad dimensions: (a) performance oriented and (b) behavior oriented (Figure 1).

RESEARCH QUESTIONS

This study seeks to answer the following two research questions:

1. What is the pattern of relationship between the CAFAS behavioral dimension subscales (**moods/emotions, substance abuse, self-harming behavior, behavior towards others and thinking**) and the performance dimension subscales (**school, home role, and community role**)?

2. Is there a statistically significant gender difference between the two dimensions canonical correlations?

PROCEDURES

A non-experimental ex post facto design using **archival data** will be employed to address the research investigation. CAFAS data collected during child and adolescent **initial intake** sessions will be used for this study. A minimum of **400 intake records** will be randomly selected from the adolescent treatment facility database.

DATA ANALYSIS

Question 1: **Canonical correlation analysis**, a = .05, will be used to assess the relationship between the behavior subscales and the performance subscales. Specifically, the approach is used to see if particular subsets in one dimension (**behavior**) are related to subsets in another dimension (**performance**).

Question 2: This question will be analyzed by converting identified dimension gender correlation coefficients into z-values (Fishers r to z procedure) and then assessing statistical difference between the observed z-values.

LIMITATIONS

This study will be limited to child and adolescents located in two servicing regions located in central Idaho. The population consists primarily of Caucasian individuals. Therefore, the results of this study cannot be generalized beyond this population. The use of a non-experimental design will limit internal validity.

SOCIAL CHANGE IMPLICATIONS

The implications for positive social change include the potential to identify day-to-day behavior that may be able to predict performance. These potential relationships can aid child services facilities in identifying appropriate intervention strategies aimed toward reversing negative performance outcomes; getting the child back to a more preferred functional state. There is a potential for Health and Human Services policy-makers to better allocate limited resources aimed toward effective and efficient treatment. Coordinating agencies (figure 2) stand to benefit from this knowledge as there is a potential to understand the relationship between adolescent behavior and performance.

Figure 2. Graphical depiction of coordinating agencies.