Title: Generalizability of Direct Observation Measures of Classroom Problem Behavior and Behavior-Environment Contingencies

Authors: Blair P. Lloyd & Johanna L. Staubitz

Introduction: For students who engage in challenging behaviors that interfere with academic instruction, behavior specialists and researchers alike often rely on direct observation to estimate levels of problem behavior and behavior-environment contingencies. Few guidelines exist, however, on how much observation is necessary to produce stable and reliable estimates of problem behavior and contingencies in classrooms. In recent years, Generalizability (G) Theory has been applied to address this question for estimates of student on- and off-task behavior and engagement using momentary time sampling techniques (e.g., Briesch, Volpe, & Ferguson, 2014; Ferguson et al., 2012; Hintze & Matthews, 2004). However, no studies to date have applied G Theory to count or rate measures of problem behaviors likely to be targeted for functional assessment, nor to indices of behavior-environment contingencies. The purpose of this study was to evaluate the generalizability of direct observation measures of classroom problem behavior and behavior-environment contingencies for a group of students referred for functional behavior assessment.

Method: We completed a series of five 30-min classroom observations for each of 15 elementary-age students who were referred for functional behavior assessment (data collection for an additional five participants is currently underway). We used a continuous timed-event data collection system to measure high-risk problem behavior, low-risk problem behavior, teacher attention, instruction removal/escape, and access to tangible items. Two observers collected data simultaneously and independently for 3 of 5 observations per participant. Mean point-by-point agreement exceeded 80%. We conducted generalizability studies on rates of total problem behavior, high-risk problem behavior, and low-risk problem behavior, as well as operant contingency values (OCVs) between total problem behavior and teacher attention, instruction removal/escape, and access to tangibles. To calculate OCVs, we used an event lag with pauses method of sequential analysis (Lloyd, Yoder, Tapp, & Staubitz, 2015).

Results: Mean rates of high-risk, low-risk, and total problem behavior per participant ranged from 0-.37 per min, .03-.50 per min, and .04-.59 per min, respectively. Generalizability (g) coefficients exceeded .64 for each measure of problem behavior. However, g coefficients for operant contingency values were below .50, suggesting five 30-min observations were insufficient to capture stable estimates of behavior-environment contingencies.

Discussion: Results of these generalizability studies emphasize the importance of collecting multiple direct observation samples of classroom problem behavior to obtain reliable estimates. As for estimating behavior-environment contingencies in classrooms, however, results suggest that up to five 30-min samples may still be insufficient to produce reliable estimates. This suggests a need to explore alternative strategies for collecting information on relevant contingencies involving problem behavior. Potential alternatives may include collecting data on contingencies in highly-structured contexts, or conducting brief experimental analyses to test effects of programmed contingencies on student behavior.

References/Citations: