Treatment Integrity, Data Reliability and Social Validity of Therapist-Collected Data During an FA

JOSHUA LAFORTE, Tracy L. Kettering (Bancroft) & Bethany Raiff (Rowan University)

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INTRODUCTION

A common obstacle that typically dissuades practitioners from conducting a functional analysis (FA) is the lack resources required for implementation (Hanley, 2012; Iwata et al., 2013).

The ability for therapists to collect data during an FA can save time, money, and limit the amount of data collectors present during the assessment of problem behavior.

Previous research has shown that individuals are able to collect accurate data with procedural integrity while conducting preference assessments and treatment sessions (Najdowski et al., 2010).

The purpose of the current study is to assess the reliability, procedural integrity, and social acceptability with which therapists can collect data while implementing an FA.

METHOD

Participant and Setting

- Participants included two students (Norman & Dylan) that had completed two graduate courses in Applied Behavior Analysis with at least one-year experience conducting functional analyses.

- All sessions were conducted in an 8 ft x 8 ft session room with a one-way observation mirror.

Dependent Variables and Data Analysis

Frequency data were collected on laptop computers using a computerized data collection system during all sessions.

Treatment Integrity: Percentage of intervals with correctly implemented antecedent and consequent procedures relative to each condition of the functional analysis.

Data Reliability: Percentage of total count per session between the therapist collected data and an independent data collector.

Social Validity: Mode of 10 items of a 7-point Likert scale (1 = "Strongly Disagree"; 7 = "Strongly Agree").

Procedures

All data were collected during a functional analysis that included four test conditions (attention, escape, ignore, and tangible) and one control condition. Reinforcement during the attention, escape, and tangible conditions was 30 s in duration. No consequences were provided for problem behavior during the ignore and control conditions. All sessions were 10 min in length.

Baseline Condition

During baseline, the therapist conducting the functional analysis was responsible for implementing the antecedent and consequence procedures required for each condition, including timing of reinforcement durations and terminating sessions following 10 min. Two independent data collectors recorded frequency data on target problem behaviors, as well as treatment integrity data, from behind a one-way observation mirror.

Therapist-Collected Data Condition

Sessions were identical to the baseline condition except that the therapist was provided a tally counter to record frequency data on the target behavior.

Experimental Design

An ABAB reversal design was used to evaluate the impact of therapist-collected data on functional analysis treatment fidelity. The order of conditions was counterbalanced across participants to control for practice effects.

Interobserver Agreement (IOA)

IOA data were collected for treatment integrity during 85% and 95% of sessions for Norman and Dylan, respectively. Mean agreement was 100% and 95% for Norman and Dylan, respectively.

IOA data were collected for the reliability of problem behavior during 80% and 90% of sessions for Norman and Dylan, respectively. Total count agreement was 99% (range, 95 to 100%) and 93% (range, 86 to 100%) for Norman and Dylan, respectively.

Social Validity

Acceptability and perceived utility of functional analyses with therapist-collected data was assessed using a rating scale completed by the therapists collecting data. Results showed that the most common score of the 7-point Likert scale was a 6, or "Agree" (mean, 6.1; range, 4-7) for Norman and a 6, or "Agree" (mean, 6.4; range, 6-7) for Dylan.
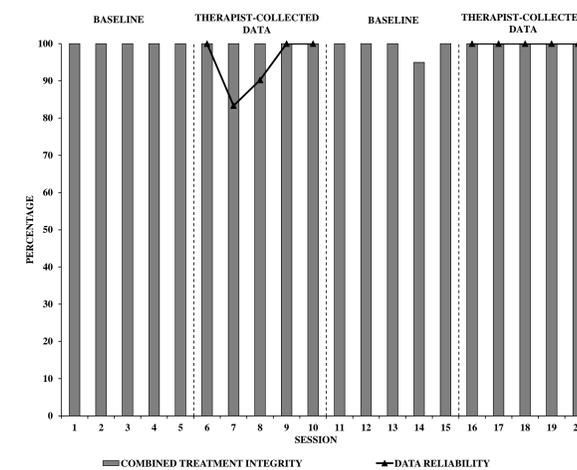
Figure 1 displays treatment integrity data (bars) and data reliability (line) for Norman during baseline and therapist-collected data conditions of the FA.
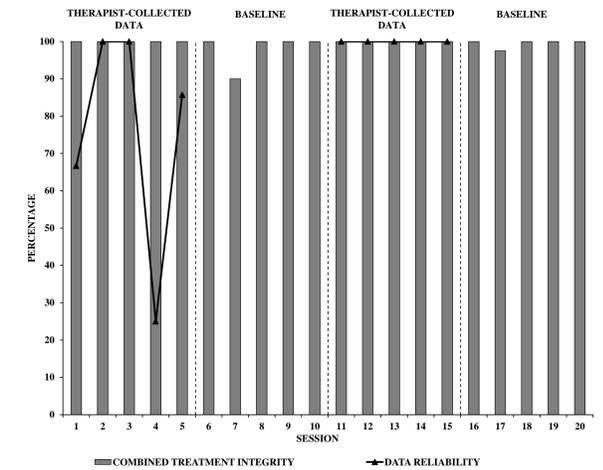
Figure 2 displays treatment integrity data (bars) and data reliability (line) for Dylan during baseline and therapist-collected data conditions of the FA.
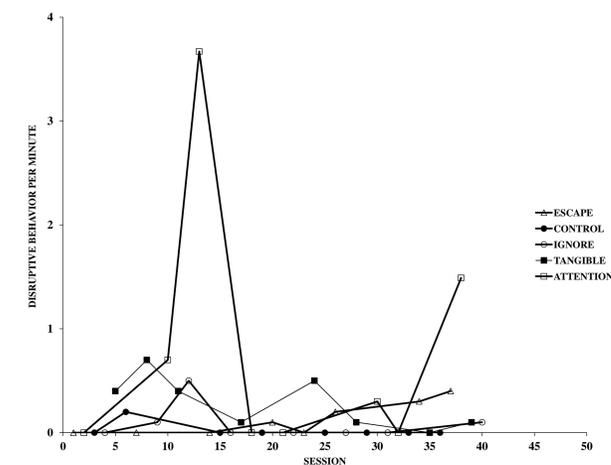
Figure 3 displays the functional analysis of the target behavior of the student.

DISCUSSION

- Treatment integrity of the FA implementation remained high across participants, even as participants were required to collect frequency data on target problem behaviors during FA conditions.

- Reliability between therapist-collected data and observer-collected data was high, 97% (range, 83 to 100%) and 88% (range, 25 to 100%) for Norman and Dylan, respectively. These results suggest that therapists are able to collect data accurately while implementing the FA.

- Rate of behavior may have impacted results for Dylan due to FA conditions with low responding of the student, thus underestimating the reliability between the therapist and primary data collector.

- Overall, these results support the ability for therapists to collect data while implementing an FA, thus saving behavior analysts time, money and resources to hire additional data collectors when conducting functional analyses.

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