Treatment Fidelity and Intervention Effectiveness: A Review of the Literature

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Treatment Fidelity and Interventions

- Extensive research has been conducted to support the efficacy of behaviour-analytic interventions and teaching procedures for a broad range of individuals with varying needs and concerns.
- The application of these empirically-based interventions and procedures to the natural environment by practitioners, teachers, and parents has its challenges due to extraneous variables in the environment.
- The extent to which an intervention is implemented as it was designed and planned is known as treatment fidelity.
- Research has shown that interventions implemented with high levels of treatment fidelity result in more positive outcomes.

Social Validity of the Research

Goals:

- High significance for implementors, parents, practitioners, and researchers.
- Helps teams decide whether to allocate resources to training staff or better program planning.

Procedures:

- Methods used were desirable and feasible for all, with the exception of behaviour-reduction strategies.
- Must consider who the implementors are and what context they are in (e.g., CRF might not be feasible in a classroom setting).

Outcomes:

- Treatment plans must be individualized for all.
- More positive outcomes are generally associated with high treatment fidelity.

Instructional Strategies

Independent Variables:	Manipulation of Treatment Fidelity:	Dependent Variables:	Studies Conducted
Behaviour reduction strategies + positive Reinforcement Strategies • EXT + NCR • EXT + DRA • Time-out + DRA / DRO	• Teacher-child interactions or parent-child interactions were observed in the natural environment. • Treatment errors were varied using a variable ratio or variable interval schedule.	Challenging behaviours, on-task and off-task behaviour, aggression, disruption, and pica	Arkoosh et al., 2007; Northup et al., 1997; Wood et al., 2007
Prompting • Multiple Verbal Prompts • System of Least Prompts	• Use of additional verbal prompts with a failure to follow through with more intrusive prompts. • Controlling prompt was not delivered to participants and the use of an intermittent schedule to deliver prompts	Compliance, percentage of correct responses on the task provide	Grow et al., 2009; Holcombe et al., 1994; Noell et al., 2002; Wilder et al., 2006
Discrete-trial Instruction	• Rate of delivery of R+ upon a correct response. • Additional verbal instructions that were not stated in the plan, no model or physical prompts upon incorrect responses, and R+ provided on an intermittent schedule. • Error correction procedure delivered after R+ was given	Acquisition of skills	Carroll et al., 2016; Carroll et al., 2013; DiGennaro et al., 2011

Results

- Overall results across the studies showed interventions implemented with higher treatment fidelity resulted in more positive outcomes.
- Implementation for behaviour reduction strategies, such as time-out and extinction, were still able to maintain its treatment effectiveness if the strategies were used in combination with reinforcement-based strategies.
- Participants were able to acquire the skills when interventions were implemented both in high- and low- fidelity, but acquired the skills in a fewer number of sessions and maintained the skills in the long-run in high-fidelity conditions.

Implications for Practitioners

- Even if an evidence-based procedure is implemented, we need to ensure that all staff are trained competently.
  - Utilize behavioural skills training (BST) as a framework to train staff.
- Ensure that treatment plans are not overly complicated so that practitioners can implement them easily.
  - Consider variables such as the environment, implementor, and other extraneous variables when program planning.

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