

Maine Children’s Services Evidence-Based Practice Advisory Committee Autism-PDD Workgroup

Literature Review Worksheet: Determination of Research Report Strength

[Derived from Reichow, Volkmar, & Cicchetti, 2008¹]

Article citation:

Is this study: Group research Single Subject Research

Based on the review of the study using the following criteria, is the methodology of this study: Strong Adequate Weak

Comments:

Strength Rating	Group Research	Single Subject Research
Strong	Received high quality ratings on: <ul style="list-style-type: none"> • All primary quality indicators • Four or more secondary quality indicators 	Received high quality ratings on all primary quality indicators Showed evidence of three or more secondary quality indicators.
Adequate	Received high quality ratings on four or more primary quality indicators No unacceptable quality ratings on any primary quality indicators. Showed evidence of two or more secondary quality indicators.	Received high quality ratings on four or more primary quality indicators No unacceptable quality ratings on any primary quality indicators. Showed evidence of two or more secondary quality indicators.
Weak	Received fewer than four high quality ratings on primary quality indicators <u>Or</u> Showed evidence of less than two secondary quality indicators.	Received fewer than four high quality ratings on primary quality indicators <u>Or</u> Showed evidence of less than two secondary quality indicators.

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Group Research

Primary Quality Indicator	Quality Rating	Comments
1. Participant Characteristics: Age and gender were provided for all participants, specific diagnostic information was provided for all participants with autism, standardized test scores were provided as applicable, and information on the characteristics of the interventionist was provided.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
2. Independent Variable (Intervention): Information about the treatment was provided with replicable precision. <i>If a manual was used, this is always given a high quality rating.</i>	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
3. Comparison Condition (Control group): The conditions for the comparison group ¹ were defined with replicable precision, including, at a minimum, a description of any other interventions participants received.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
4. Dependent Variable (Outcome): Dependent measures were described with operational and replicable precision, showed a clear link to the treatment outcome, and were collected at appropriate times.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
5. Link between research question & data analysis: Data analyses were strongly linked to the research question(s) and the data analysis used correct units of measure ² on all variables.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

¹ Conditions include recruitment methods, characteristics of the control group participants as compared to the treatment group, and description of any interventions given to the control group during the study. It is important to consider possible moderating factors; i.e. factors in which the control group differed to the treatment group that may affect the outcome of the treatment .

² E.g. Child level, teacher level, parent level.

Primary Quality Indicator	Quality Rating	Comments
6. Use of statistical tests: Proper statistical analyses were conducted for each measure with an adequate power and a sample size of $n \geq 10$. Please rate as High if the study was published in a peer-reviewed journal. Please rate as Unacceptable if no statistics were provided in the article.	<input type="checkbox"/> High <input type="checkbox"/> Unacceptable	

Number of Primary Quality Indicators Rated:

High:
Medium / Acceptable:
Low / Unacceptable:

See Page 1 of worksheet for corresponding report strength rating scale

Secondary Quality Indicator	Present?	Comments
1. Random Assignment: Participants were assigned to groups using a random assignment procedure.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. Interobserver agreement: Interobserver agreement measures were collected across all conditions, raters, and participants with inter-rater agreement at or above .80, and a minimum of .60. Psychometric properties of standardized tests were reported and were $k = \geq .40$ -.70.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Blind raters: Raters were blind to the participant's treatment condition.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Fidelity: Procedural fidelity (treatment fidelity) was continuously assessed across participants, conditions, and implementers, and if applicable, had measurement statistics $\geq .80$	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5. Attrition: Attrition (dropout rate) was comparable, meaning it did not differ between groups by more than 25% across conditions and less than 30% at the final outcome measure.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Generalization / Treatment maintenance:	<input type="checkbox"/> Yes	

Secondary Quality Indicator	Present?	Comments
Outcome measures were collected after the final data collection to assess generalization and/or maintenance.	<input type="checkbox"/> No	
7. Effect size: Effect sizes were reported for at least 75% of the outcome measures and were equal or greater than .40.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8. Social Validity:	<p><i>Please indicate if the study includes the following:</i> <i>Need four or more to show evidence of social validity.</i></p> <p><input type="checkbox"/> The dependent variables were socially important (i.e. society would value the changes in the study's outcomes)</p> <p><input type="checkbox"/> The intervention was time and cost effective (i.e. the ends justified the means)</p> <p><input type="checkbox"/> The study makes comparisons between persons with and without disabilities</p> <p><input type="checkbox"/> The behavioral change brought about by the treatment (if any) was large enough for practical value (i.e. it was clinically significant)</p> <p><input type="checkbox"/> Consumers and/or parents were satisfied with the results</p> <p><input type="checkbox"/> People in regular contact with the participant provided the treatment (e.g. clinic or school staff)</p> <p><input type="checkbox"/> The study took place in a natural setting (e.g. community, school, outpatient clinic)</p> <p><i>Does the study contain at least 4 of the above?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Comments:</p>	
Number of Secondary Quality Indicators (checked 'Yes'):		

Single Subject Research

Primary Quality Indicator	Quality Rating	Comments
1. Participant Characteristics: Age and gender were provided for all participants, specific diagnostic information was provided for all participants with autism, standardized test scores were provided as applicable, and information on the characteristics of the interventionist/researcher was provided.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
2. Independent Variable (Intervention): Information about the treatment was provided with replicable precision. <i>If a manual was used, this is always given a high quality rating.</i>	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
3. Dependent Variable (Outcome): Dependent measures were described with operational and replicable precision, showed a clear link to the treatment outcome, and were collected at appropriate times.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
4. Baseline Condition: All baselines (a) encompassed at least three measurement points, (b) appeared through visual analysis to be stable, (c) had no trend or a counter therapeutic trend, and (d) were operationally defined with replicable precision.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	
5. Visual analysis: All relevant data for each participant was graphed. Inspection of the graphs revealed (a) all data appeared to be stable (level and/or trend), (b) contained less than 25% overlap of data points between adjacent conditions, unless behavior was at ceiling or floor levels in previous condition, and (c) showed a large shift in level or trend between adjacent conditions which coincided	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

Primary Quality Indicator	Quality Rating	Comments
with implementation or removal of the independent variable*.		
6. Experimental control: There were (a) at least three demonstrations of the experimental effect, (b) at three different points in time, and (c) changes in the dependent variables covaried with the manipulation of the independent variable in all instances of replication*.	<input type="checkbox"/> High <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

<p>Number of Primary Quality Indicators Rated:</p> <p style="text-align: center;"> High: Medium / Acceptable: Low / Unacceptable: </p> <p style="text-align: center;"><i>See Page 1 of worksheet for corresponding report strength rating scale</i></p>

Secondary Quality Indicator:	Present?	Comments
1. Interobserver agreement: Interobserver agreement was collected on at least 20% of sessions across all conditions, raters, and participants with inter-rater agreement at or above .80.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. Kappa: Kappa was collected on at least 20% of sessions across all conditions, raters, and participants with a score \geq .60 (good reliability).	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Fidelity: Procedural fidelity and/or treatment fidelity was continuously assessed across participants, conditions, and implementers with reliability \geq .80	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Blind raters: Raters were blind to the treatment condition of the participants.	<input type="checkbox"/> Yes <input type="checkbox"/> No	

* Note: If there was a delay in change at the manipulation of the independent variable, the delay was similar across different conditions or participants ($\pm 50\%$ of delay).

Secondary Quality Indicator:	Present?	Comments
5. Generalization / Treatment maintenance: Outcome measures were collected after the conclusion of the intervention to assess generalization and/or maintenance.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Social Validity:	<p><i>Please indicate if the study includes the following in your estimation:</i> <i>Need four or more to be considered to show evidence of social validity</i></p> <p><input type="checkbox"/> The dependent variables were socially important (i.e. society would value the changes in the study's outcomes)</p> <p><input type="checkbox"/> The intervention was time and cost effective (i.e. the ends justified the means)</p> <p><input type="checkbox"/> The study makes comparisons between persons with and without disabilities</p> <p><input type="checkbox"/> The behavioral change brought about by the treatment (if any) was large enough for practical value (i.e. it was clinically significant)</p> <p><input type="checkbox"/> Consumers and/or parents were satisfied with the results</p> <p><input type="checkbox"/> People in regular contact with the participant manipulated the independent variables</p> <p><input type="checkbox"/> The study took place in a natural setting (e.g. community, school, outpatient clinic)</p> <p><i>Does this study contain at least 4 of the above?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Comments:</p>	

ⁱ Reichow, B., Volkmar, F. R., & Cicchetti, D. (2008). Development of the evaluative method for evaluating and determining evidence-based practices in autism. *Journal of Autism and Developmental Disorders*, 38, 1311-1319.