Quality Indicator Checklist: Correlational Studies

Reference (enter reference in correct APA format):	

Before determining quality, all correlational studies must meet the following initial criteria (*if study does not meet these three initial items, no further coding is needed*):

☐	Predictor variable is related to a secondary program or practice (e.g., inclusion in general education, self-determination/self-advocacy, parental involvement)
☐	Outcome variable is an in-school outcome (e.g., participation in IEP, graduation, paid employment in school) or post-school outcome (e.g., participation in postsecondary education, independent living, paid job post-school)
☐	Includes youth with disabilities ages 11-26

☐	**Meets initial criteria – continue coding**	☐	**Does not meet initial criteria – indicate why**:

Type of correlational design (e.g., logistic regression, structural equation modeling, hierarchical multiple regression):	

		QUALITY INDICATORS	Notes
Analytic Method (must meet 1 and 3; or 2 and 3)			
1.	☐	Hypotheses are not formulated prior to conducting analysis (i.e., *exploratory*)	
2.	☐	Hypotheses are planned and formulated prior to conducting analysis (i.e., *a priori*)	
3.	☐	Significant correlations of (±0.1) are reflected between predictor and outcome variables	
Causal Significance (must meet 4 through 12) ***Yes*** – study **used** *propensity score modeling/matching*; ***answer items 4 through 12 and complete checklist*** ***No*** – study **did not use** *propensity score modeling/matching*; ***move to item 13 and complete checklist***			
4.	☐	Selection of covariates based on relevant theory and prior research findings	
5.	☐	No covariates have been added for treatment participants that do not include outcome variables	
6.	☐	Specific data to show results of balancing techniques are included	
7.	☐	Only selected covariates that are fixed over time or were measured before treatment	
8.	☐	Estimation of propensity score (i.e., binary logistic regression models [e.g., logit, probit] have been run to identify all (or most) of the variables likely to have an effect on outcome variable[s])	
9.	☐	Described matching or weighting approach to balance group members with suitable controls on proximity of propensity scores (e.g., kernel, full, genetic, nearest neighbor using calipers set at one-quarter standard deviation of logit of propensity score), including: • justification of matching or weighting approach, and	

		• Includes limitations to interpretation the decision to use a specific approach has on results.	
10	☐	Applied PSM by (a) using appropriate statistical software (e.g., psmatch 2 routine, Matchit for R, Matching for R used) to perform the match; and (b) calculating treatment effect and standard error	
11	☐	Assessment of post-matching covariate balance (i.e., all covariates are balanced across treatment and control groups after matching) via ***one* of the following**: (a) hypothesis tests are used to verify covariance balance (e.g., *p* score); ***or*** **(**b) visual methods are used to assess covariate balance (e.g., Q-Q plot, jitter plot); ***or*** (c) standardized mean differences are assessed for each covariate	
12	☐	Assessed for hidden bias from unobserved covariates (e.g., conducted a sensitivity analysis)	
Practical Significance (must meet 13)			
13	☐	Effect sizes are reported or may be calculated for each outcome (relevant to this review), even when the outcome was not statistically significant	
14	☐	Examples of effect categories include: (a) standardized differences (e.g., Cohen's *d*, Glass's Δ); (b) "uncorrected" variance-accounted-for (e.g., η^2, R^2); and (c) "corrected" variance-accounted-for (e.g., adjusted R^2, ω^2 [wald statistic]). *When comparing multiple related studies with related variables and outcomes, comparison of effects to evaluate consistency of results across studies is recommended.*	
Macro-analysis (must meet 15 or 16, and 17, 18, 19)			
15	☐	General Linear Model (GLM) weights (e.g., beta weights, factor pattern coefficients, discriminate function coefficients) are interpreted as reflecting correlations of predictors with outcome variables only in the exceptional case that the weights are correlation coefficients	
16	☐	If multiple regression analysis, exploratory factor analysis, confirmatory factor analysis, descriptive discriminate analysis, logistic regression analysis, or canonical correlation analysis are used, the interpretation of results includes examination of structure coefficients (i.e., correlations of measured variables with latent variables actually being analyzed)	
17	☐	Univariate methods (e.g., Anova, t-test) are not used in the presence of multiple outcome variables	
18	☐	Univariate methods are not used post hoc to multivariate tests (i.e., multivariate post hoc methods, such as descriptive discriminant analysis are conducted when multivariate methods are employed)	
19	☐	Interval data (e.g., IQ scores; self-determination assessment scores) are not converted to nominal scale (e.g., "low", "high") unless such choices are justified and thoughtfully considered	
Statistical Assumptions (suggested)			
20	☐	Evidence is presented that statistical assumptions are sufficiently met for results to be deemed credible (e.g., homogeneity of variance, normal distribution, measures of central tendency)	
Reliability and Validity Measurement (suggested)			
21		Score reliability coefficients are reported for all measured variables based on induction from a prior study or analysis of data within current study. *If score reliability based on a measure from a previous study, the sample in the current*	

		study is comparable to the previous study.	
22		Score validity coefficients are reported for all measured variables based on induction from a prior study or analysis of data within current study. *If score validity based on a measure from a previous study, the sample in the current study is comparable to the previous study.*	
Confidence Intervals (suggested)			
23	☐	Confidence intervals are reported or can be calculated for: (a) reliability coefficients derived for study data; (b) sample statistics (e.g., means, correlation coefficients) of primary interest in the study; and (c) study effect sizes	

Overall Quality Determination	
☐	**Met High Quality *(all items of checklist with propensity score items or must meet 1 or 2 and 3 plus all items 13-23)***
☐	**Met Acceptable Quality (must meet *must meet 1 or 2 and 3; 13; 15 or 16 and 17, 18, 19; if propensity score modeling/matching used – must meet 4 through 12)***
☐	**Did not Meet Quality, include item #'s:**

*Quality indicator criteria for correlational research adapted from:

Thompson, B., Diamond, K. E., McWilliam, R., Snyder, P., & Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children, 71,* 181–194.

* Quality indicator criteria for propensity score modeling/matching adapted from:

Gemici, S., Rojewski, J. W., & Lee, I. H. (2012). Use of propensity score matching for training research with observational data. *International Journal of Training Research, 10,* 219-232.

Institute for Education Sciences, What Works Clearinghouse. (March, 2015). Designing quasi-experiments: Meeting What Works Clearinghouse Standards without random assignment. Retrieved from https://ies.ed.gov/ncee/wwc/Multimedia/23.