**Rationale for a Revised Quality Assessment Tool**

**Original Scale Items Included from The Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies:**

1. Was the research question or objective in this paper clearly stated?
   * *Rationale for inclusion:* To explicitly understand the primary aim of a research paper.
2. Was the study population clearly specified and defined?
   * *Rationale for inclusion:* To know specific information about whom to recruit (i.e., demographics), where to recruit from (i.e., location), and the specific time period (National Heart, Lung, and Blood Institute, 2021).
3. Was the participation rate of eligible persons at least 50%?
   * *Rationale for inclusion:* There is a concern of bias if less than 50% of eligible people participated (National Heart, Lung, and Blood Institute, 2021). That is, the sample may not be representative of the targeted population if this criterion is not met.
4. Was a sample size justification, power description, or variance and effect estimates provided?
   * *Rationale for inclusion:* To determine whether a study has an appropriate number of participants so that effects can be detected if they exist (i.e., power). A sample size justification enables readers to understand whether the study results represent valuable and meaningful findings. Vaillancourt and colleagues (2021) also highlight an adequate sample size as an important factor in determining study quality.
5. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
   * *Rationale for inclusion:* It is critical that studies use appropriate tools for measurement. Using valid and reliable measures will more accurately detect relationships between predictors and outcomes if they exist (National Heart, Lung, and Blood Institute, 2021). Vaillancourt and colleagues (2021) also emphasize the importance of using psychometrically sound measures in conducting quality research.
6. Was the exposure(s) assessed more than once over time?
   * *Rationale for inclusion:* Multiple measurements allow researchers to explore change over time (National Heart, Lung, and Blood Institute, 2021), which is pivotal in longitudinal studies as emphasized by Vaillancourt and colleagues (2021).
7. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
   * *Rationale for inclusion:* See rationale for item number five.
8. Was loss to follow-up after baseline 20% or less?
   * *Rationale for inclusion:* Longitudinal studies often have high rates of attrition (i.e., the loss of participants over time). Attrition can sometimes be random (e.g., relocating or loss of interest), but it is more commonly due to systemic factors (e.g., higher mental health problems, racialized groups, lower income/education, etc.), which result in less representative samples and more biased results (Vaillancourt et al., 2021). Accordingly, higher follow-up rates are better for data analysis and producing valid study results (National Heart, Lung, and Blood Institute, 2021).
9. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?
   * *Rationale for inclusion:* It is important to control for potential confounding variables (i.e., variables that are not of primary interest to the research question), as they can impact results. Confounders can be controlled for using regression analyses and other methods (National Heart, Lung, and Blood Institute, 2021).

**Original Scale Items Removed:**

* 1. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?
  + *Rationale for exclusion:* This item is typically relevant to studies that are interested in an exposure (e.g., diabetes), and exposure groups are selected from a different time or place from one another. That is, studies that recruit groups from different populations. Studies in the current review did not commonly have cohorts/groups.
  1. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?
  + *Rationale for exclusion:* Given that this was a criterion for eligibility in our review, it was excluded from the quality assessment.
  1. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?
  + *Rationale for exclusion:* We did not have an objective method of determining what is a ‘sufficient’ timeframe for assessing change, given the heterogeneity in constructs and research questions.
  1. For exposures that can vary in amount of level, did the study examine different levels of exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?
  + *Rationale for exclusion:* This item was removed because it was designed for intervention studies and medical research, and therefore not relevant to the types of studies in our review.
  1. Were the outcome assessors blinded to the exposure status of participants?
  + *Rationale for exclusion:* Blinding or “masking” aims to prevent bias in intervention studies and clinical research studies, such as randomized control trials (RCT). (National Heart, Lung, and Blood Institute, 2021). In addition to excluding these types of studies, most of the included studies implemented parent and/or child reports.

**New Scale Items Added:**

1. Was a pre-covid baseline measure included in the analysis?
   * + *Rationale for inclusion:* Data prior to COVID-19 is needed to examine true change in mental health across the pandemic (Vaillancourt et al., 2021). To score favourably on this item, at least one period of data collection should have occurred before March 11, 2020 – the day the World Health Organization declared COVID-19 a pandemic (Cucinotta & Vanelli, 2020).
2. Were moderators and/or mediators examined?
   * + *Rationale for inclusion:* The worsening of mental health symptoms during the COVID-19 pandemic does not mean that the pandemic caused these symptoms (Vaillancourt et al., 2021). That is, correlating variables does not imply that one causes the other. Examining moderators and mediators can help to elucidate processes and mechanisms at play. Moderators alter the strength of the relationship between a predictor and outcome, and mediators explain the relationship between a predictor and outcome.
3. Was the child adjustment variable child-reported?
   * + *Rationale for inclusion:* Research has demonstrated discrepancies between child and parent reports of child functioning (Oh et al., 2018). Therefore, only including caregiver reports of child adjustment may be limiting for studies examining the effect of pandemic-specific social disruptions on children.

**References**

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