

Online Resource 5: Critical Appraisal Tool for Quantitative Studies (Sabot et al., 2017)

Critical appraisal of quantitative study (or study component)			Reviewer 1		Reviewer 2		Reconciliation	
	Theoretical Approach		Yes No Unclear	Comments	Yes No Unclear	Comments	Yes No Unclear	Comments
1	Was the scientific background and rationale for the study given?							
2	Were the research aims/objectives/research questions/hypotheses clearly stated?							
3	Was the theory underpinning the study design discussed?							
	Methods							
4	Is the research design/methodology rigorous and focused? (clear rationale/justification for the sampling, data collection and analysis techniques)							
5	Were the methods and data collected appropriate to address the research questions?							
6	Was an explanation given for how the study size was determined? (was there a power calculation, if relevant)							
7	Were all important outcomes, exposures, predictors, potential confounders, effect modifiers clearly described as well as their sources and data collection methods (including characteristics of study participants)?							
8	Was selection of study participants rigorous?							
	Cohort: Were eligibility criteria, sources, methods and timing of recruitment and follow up described? Was the cohort representative of a defined population? If matched, was matching criteria described and numbers of exposed/unexposed given? Were response/participation rates given for each group and were the groups otherwise comparable other than the factor under investigation?							

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	Methods		Yes No Unclear	Comments	Yes No Unclear	Comments	Yes No Unclear	Comments
		Case-control: Were eligibility criteria, sources, methods and timing of case ascertainment and control selection described? Was the rationale for the choice of cases and controls given? Were the cases/controls representative of a defined population (geographically/temporally)? Were participation rates given for both cases and controls? If matched, was matching criteria and number of controls per case given? Were the same exclusion criteria used for cases and controls? Was it clearly established that controls are non-cases?						
		Cross-Sectional: Were eligibility criteria, and the sources, methods and timing of selection of participants described?						
9		Were efforts made to reduce bias during data collection (i.e. selection bias, missing data procedures, blinding where appropriate, use of validated tools, objective tools where possible, etc)?						
		Cohort: was loss to follow up addressed? (i.e. were analyses done to see if those lost were systematically different than those who remained in the cohort?) Were all subjects classified into exposure/outcome groups using the same procedure? Was this assessment carried out more than once (if applicable)						
		Case-control: did matching efforts consider bias? Was non-response high? Could there be a systematic difference between cases and controls due to response rates?						
		Cross-Sectional: was the sampling strategy developed with the intention of reducing bias?						
10		Was the study duration long enough to observe the effect, was response rate/follow up throughout sufficient?						

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	Results		Yes No Unclear	Comments	Yes No Unclear	Comments	Yes No Unclear	Comments
11	Are the findings clearly presented? (indicate number of participants with missing data for each variable of interest, where appropriate was the study free of selective reporting, contamination, did they report unadjusted and clearly described adjusted estimates, clear description of category boundaries for categorized continuous variables)							
12	Were appropriate analyses conducted to take account of possible sources of bias? (look for modelling, stratification, subgroup analyses, regression, and/or sensitivity analyses to correct, control or adjust for confounding factors)							
13	Are the results valid/precise/believable?							
	Cohort: Are the results precise (were confidence intervals reported? how wide are they?), Consider the association between exposure and outcome (RR), what is the absolute risk reduction (ARR)? Have they reported the rate or proportion between exposed/unexposed, the ratio/rate differences? Do you believe the results (considering effect size, statistical power of the study, likelihood due to chance, bias or confounding, study design flaws)							
	Case-control: Are the results precise? (were confidence intervals provided? Consider size of confidence interval, size of p value, variables considered, effect of missing data) Do you believe them?(consider size of the effect (OR), likelihood due to chance or confounding, study design flaws)							
	Cross-sectional: Are the results precise? (consider sampling, data collected and analyses conducted) Do you believe them? (considering study design flaws, efforts made to minimize bias)							
	SNA							
14	Are network boundaries clearly defined and appropriate for the research questions?							

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	SNA		Yes No Unclear	Comments	Yes No Unclear	Comments	Yes No Unclear	Comments
15	Are appropriate SNA metrics selected, well defined, their calculation described and their level of analysis appropriate (actor-level, network level, subgroup level)?							
16	Response rates given for whole network studies? (If necessary, were there appropriate caveats in interpreting certain SNA metrics if missing data)							
17	Clear definition of tie relationships, direction and strength?							
	Discussion							
18	Is there a clear link between data, interpretation and conclusions?							
19	Have alternative explanations been explored and discounted?							
20	Were other studies with similar/different results discussed?							
21	Are the implications (both to the local population and the generalisability/external validity) of the research discussed?							
22	Is there discussion of study limitations? (sources of bias/imprecision, direction and magnitude of any potential bias)							
	Other							
23	Was the study approved by an ethics committee?							
24	Is the funding source for the study clearly stated?							
	Number of Yes's							
	% of Yes							
	Overall Assessment of Study Quality							
		How well has the study done to minimize the risk of bias (selection bias, performance bias, attrition bias, detection bias, as appropriate to study design) or confounding?						

	Note: High quality (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research (rough guidance-- "yes" for 75% of 24 question categories). Acceptable (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. (rough guidance-- "yes" for 50-75% of 24 question categories) Low quality (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies. (rough guidance-- "yes" for 25-50% of 24 question categories) Keep in mind not all questions are equally valuable to assessing quality.	++/+/0					
	Note: Reference for the RoB tool: Sabot, K., Wickremasinghe, D., Blanchet, K., Avan, B., & Schellenberg, J. (2017). Use of social network analysis methods to study professional advice and performance among healthcare providers: a systematic review. Systematic Reviews, 6(1), 208 Article title: Peer-friendship networks and self-injurious thoughts and behaviours in adolescence: a systematic review of sociometric school-based studies that use social network analysis Journal name: Adolescent Research Review Author names: Holly Crudgington, Emma Wilson, Molly Copeland, Craig Morgan, Gemma Knowles Corresponding author affiliation and email: Holly Crudgington, ESRC Centre for Society and Mental Health, King's College London, London, WC2B 6LE, United Kingdom. Email: holly.1.crudgington@kcl.ac.uk	++/+/0					