

Supplementary Information

Additional file 1

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic Item No		Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Identify the report as a protocol of a systematic review
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)

Data collection process	11c Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators
Data items	12 List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications
Outcomes and prioritization	13 List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale
Risk of bias in individual studies	14 Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis
Data synthesis	15a Describe criteria under which study data will be quantitatively synthesised 15b If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ) 15c Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression) 15d If quantitative synthesis is not appropriate, describe the type of summary planned
Meta-bias(es)	16 Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)
Confidence in cumulative evidence	17 Describe how the strength of the body of evidence will be assessed (such as GRADE)

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

Additional file 2

PUBMED

("moral courage" OR "ethical courage" OR "morale courage" OR "professional courage" OR "profession courage" OR "moral bravery" OR "ethical bravery" OR "professional bravery" OR "moral heroism" OR "ethical heroism" OR "professional heroism" OR "moral fortitude" OR "ethical fortitude") AND ("Students, Nursing"[Mesh] OR "Nursing Students" OR "Nursing Student" OR "Pupil Nurse" OR "Pupil Nurses" OR "Nurse trainee" OR Nurses[Mesh] OR Nurses OR Nurse OR "Nursing staff" OR "Nursing staffs" OR "Nursing Personnel" OR "Nursing Personnels" OR Nurs*)

ScienceDirect

("moral courage" OR "ethical courage" OR "morale courage" OR "professional courage" OR "profession courage" OR "moral bravery" OR "moral heroism") AND (Nursing OR Nurses)

WoS

(TS=((("moral courage" OR "ethical courage" OR "morale courage" OR "professional courage" OR "profession courage" OR "moral bravery" OR "ethical bravery" OR "professional bravery" OR "moral

heroism" OR "ethical heroism" OR "professional heroism" OR "moral fortitude" OR "ethical fortitude"))
AND TS= (("nursing students" OR "nursing student" OR "pupil nurse" OR "pupil nurses" OR nurses OR
nurse OR "nursing staff" OR "nursing staffs" OR "nursing personnel" OR "nursing personnels" OR nurs*))

Embase

("moral courage":ti,ab,kw OR "ethical courage":ti,ab,kw OR "morale courage":ti,ab,kw OR "professional
courage":ti,ab,kw OR "profession courage":ti,ab,kw OR "moral bravery":ti,ab,kw OR "ethical
bravery":ti,ab,kw OR "professional bravery":ti,ab,kw OR "moral heroism":ti,ab,kw OR "ethical
heroism":ti,ab,kw OR "professional heroism":ti,ab,kw OR "moral fortitude":ti,ab,kw OR "ethical
fortitude":ti,ab,kw) AND ("nursing students":ti,ab,kw OR "nursing student":ti,ab,kw OR "pupil
nurse":ti,ab,kw OR "pupil nurses":ti,ab,kw OR nurses:ti,ab,kw OR nurse:ti,ab,kw OR "nursing
staff":ti,ab,kw OR "nursing staffs":ti,ab,kw OR "nursing personnel":ti,ab,kw OR "nursing
personnels":ti,ab,kw OR nurs*:ti,ab,kw)

Cinahl

(TI "moral courage" OR AB "moral courage" OR TI "ethical courage" OR AB "ethical courage" OR TI
"morale courage" OR AB "morale courage" OR TI "professional courage" OR AB "professional courage"
OR TI "profession courage" OR AB "profession courage" OR TI "moral bravery" OR AB "moral bravery"
OR TI "ethical bravery" OR AB "ethical bravery" OR TI "professional bravery" OR AB "professional
bravery" OR TI "moral heroism" OR AB "moral heroism" OR TI "ethical heroism" OR AB "ethical
heroism" OR TI "professional heroism" OR AB "professional heroism" OR TI "moral fortitude" OR AB
"moral fortitude" OR TI "ethical fortitude" OR AB "ethical fortitude") AND (TI ("student nurses" OR
"nursing students" OR "student nurse" OR "nursing student" OR "undergraduate nurse" OR "pupil nurses"
OR "nurse pupil" OR "pupil nurse" OR "nursing staff" OR nurse OR nurses OR nursing OR "nursing
personnel") OR AB ("student nurses" OR "nursing students" OR "student nurse" OR "nursing student" OR
"undergraduate nurse" OR "pupil nurses" OR "nurse pupil" OR "pupil nurse" OR "nursing staff" OR nurse
OR nurses OR nursing OR "nursing personnel"))

Scopus

(TITLE-ABS-KEY ("moral courage" OR "ethical courage" OR "professional courage" OR "profession
courage" OR "moral bravery" OR "ethical bravery" OR "professional bravery" OR "moral heroism" OR
"ethical heroism" OR "professional heroism" OR "moral fortitude" OR "ethical fortitude")) AND (TITLE-
ABS-KEY ("nursing students" OR "nursing student" OR "pupil nurse" OR "pupil nurses" OR "nurse" OR
"nurses" OR "nursing staff" OR "nursing staffs" OR "nursing personnel" OR "nursing personnels" OR
"nursing" OR "student nurse" OR "nurse student" OR "nursing intern"))

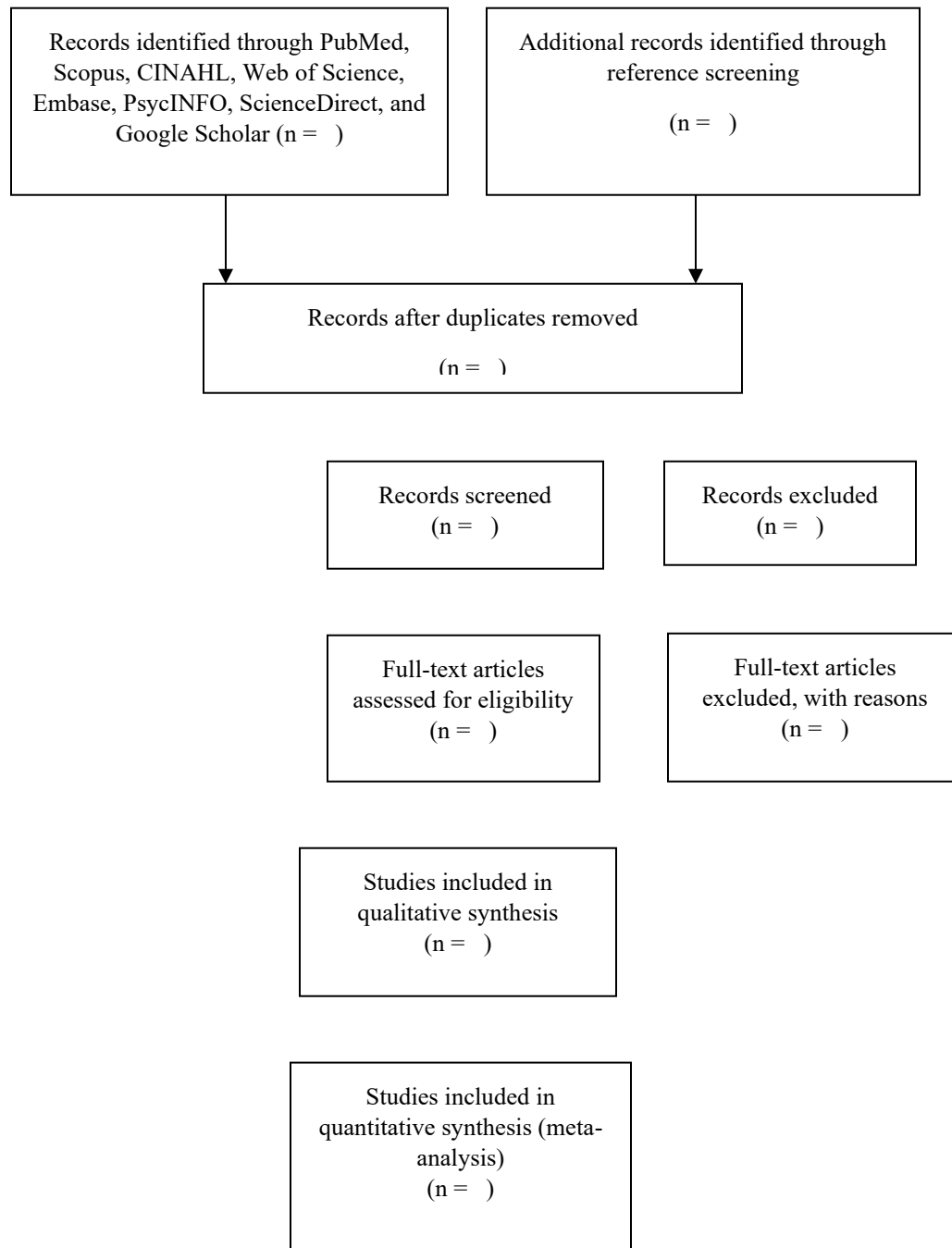
PsycINFO

((("moral* courage" OR "ethic* courage" OR "profession* courage" OR "moral* bravery" OR "ethic*
bravery" OR "profession* bravery" OR "moral* heroism" OR "ethic* heroism" OR "profession* heroism"
OR "moral fortitude" OR "ethic* fortitude") OR ((MM "Professional Ethics") OR (DE "Ethical Decision

Making")) AND (("student nurse*" OR "nurs* student*" OR "undergraduate nurs*" OR "pupil nurs*" OR "nurs* pupil*" OR "student nurs*" OR "nurs* staff" OR nurs* OR "nursing personnel") OR DE "Nursing Students")

Additional file 3

Flow diagram.



Additional file 4

Characteristics of included studies

STU DY	NA ME	COUN TRY	POPUL ATION (NURSES OR NURSING STUDENT S)	A G E	SAM PLE SIZE	MEASUR EMENT TOOL	GEN DER	ACAD EMIC LEVEL S	TOTA L MEAN MOR AL COUR AGE SCOR E	MEAN MOR AL COUR AGE SUBS ETS
STU DY 1										
STU DY 2										
STU DY 3										
STU DY 4										
....										

Additional file 5

JBI Critical Appraisal Checklist for studies reporting prevalence data

Reviewer_____Date_____

Author_____Year_____Record Number_____

Yes No Unclear Not applicable

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. | Was the sample frame appropriate to address the target population? | ☐ | ☐ | ☐ | ☐ |
| 2. | Were study participants sampled in an appropriate way? | ☐ | ☐ | ☐ | ☐ |
| 3. | Was the sample size adequate? | ☐ | ☐ | ☐ | ☐ |
| 4. | Were the study subjects and the setting described in detail? | ☐ | ☐ | ☐ | ☐ |
| 5. | Was the data analysis conducted with sufficient coverage of the identified sample? | ☐ | ☐ | ☐ | ☐ |
| 6. | Were valid methods used for the identification of the condition? | ☐ | ☐ | ☐ | ☐ |
| 7. | Was the condition measured in a standard, reliable way for all participants? | ☐ | ☐ | ☐ | ☐ |
| 8. | Was there appropriate statistical analysis? | ☐ | ☐ | ☐ | ☐ |
| 9. | Was the response rate adequate, and if not, was the low response rate managed appropriately? | ☐ | ☐ | ☐ | ☐ |

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐