## 1. General Questions

1. Article file names (e.g. AM-2018-1)

2. Your name

3. What type of research methodologies is described in the article? (Please look at the nature of the data. If numbers, quantitative. If narrative/qualitative, qualitative. If both numbers and narrative, mixed method.)
   - Qualitative study
   - Quantitative study
   - Mixed method
   - Other (please specify) - Please choose Other for a Delphi study.

4. What epistemology (philosophical framework) did the article explicitly mention? (Check all that apply)
   - Positivism (assumes one objective reality that can be observed)
   - Critical theory, critical race theory, feminism
   - Other (please specify)

5. Where was the study conducted (participants)? (Check all that apply)
   - Asia
   - Europe
   - North America
   - South America
   - Africa
   - Oceania
   - Not explicitly specified

* 6. Who were the research participants (subjects/unit of analysis)? (Check all that apply)

- Medical students
- Residents/fellow
- Faculty (including physicians)
- Staff
- Other (please specify)
- Patients (including Standardized Patients)
- Students in other professions (Nursing, Veterinary Medicine, or Other Unspecified Disciplines)
- Not explicitly specified

* 7. Did the research plan specify inclusion and exclusion criteria with which participants would be recruited for the study?

- Yes
- No specific criteria. Participants were described after the sample was recruited.
- N/A (Websites, archives, etc.)

* 8. Did they provide a rationale for the sample size? (For qual, data saturation. For quan, power analysis. For mixed, both)

- Yes
- No
- Partially
- N/A

* 9. Is the sampling strategy stated explicitly? For example, a description of what specific sampling methods the authors used to recruit participants (i.e. random sampling, purposeful sampling, etc.)

- Yes
- No
- N/A

* 10. What was the overall sampling strategy based on your judgement? (Check all that apply)

- Probability sampling (e.g. random sampling)
- Nonprobability sampling (e.g. convenient sampling, purposeful sampling for qualitative research)
- Other (please specify)
* 11. Where were the participants?
- Single institution/site
- Multiple institutions/sites
- Other (please specify) [ ]

* 12. How long did the authors collect the data?
- Within 1 year
- More than 1 year less than 3 years
- More than 3 years
- Not explicitly specified
2. Mixed Method

* 13. Did the authors provide the rationale or justification for the mixed method?
- Yes
- No

* 14. What mixed method research design did the author use?
- Triangulation Design - to obtain different but complementary data on the same topic. Qualitative and quantitative methods used equally and parallel
- Embedded Design - one data set provides a supportive, secondary role in a study based primarily on the other data type. For example, including qual data to develop an intervention in an experiment study.
- Explanation Design - The overall purpose of this design is that qualitative data helps explain or build upon initial quantitative results. For example, this design is well suited to a study in which a researcher needs qualitative data to explain significant (or nonsignificant) results, outlier results, or surprising results.
- Exploration Design - the results of the first method (qualitative) can help develop or inform the second method (quantitative)
- Other (please specify)

* 15. What is the method of dominant inquiry?
- Quantitative
- Qualitative
- Equal
- Not specified

* 16. Did the authors EXPLICITLY discuss the linking of both data strands? Depending on the design type, did the author EXPLICITLY describe how both data strands are either merged or one data strand is used?
- Yes
- No/Not explicitly specified
3. Qualitative Methodology

* 17. What specific qualitative research design did the article use explicitly? (Check all that apply)

- [ ] Narrative
- [ ] Grounded theory
- [ ] Case study
- [ ] Phenomenology
- [ ] Other (please specify)

* 18. What is the specific sampling strategy for this qualitative study? (Check all that apply)

- [ ] Convenience sampling
- [ ] Purposeful sampling (criterion sampling, extreme cases, typical cases)
- [ ] Not explicitly specified
- [ ] Other (please specify)

* 19. If purposeful sampling, what specific purposeful sampling approach did the study use? (Check all that apply). (If no purposeful sampling, please check N/A.)

- [ ] Criterion sampling (Criterion sampling involves the selection of sample based on some pre-established criteria.)
- [ ] Extreme cases (Selecting cases that are unusual or special in some way, such as outstanding successes or notable failures.)
- [ ] Typical cases (A type of purposive sampling useful when a researcher wants to study a phenomenon or trend as it relates to what are considered “typical” or “average” members of the effected population.)
- [ ] Maximum diversity (A sample is chosen to ensure a wide variety of participants, all of whom meet the inclusion criteria but vary on other dimensions.)
- [ ] Snowball sampling (Sampling technique where existing study subjects recruit future subjects from among their acquaintances)
- [ ] Sampling until reaching saturation
- [ ] Purposeful sampling method not specified
- [ ] N/A
- [ ] Other (please specify)
* 20. What are the sources of data collection? (Check all that apply)

- [ ] Focus groups
- [ ] Interviews
- [ ] Survey
- [ ] Observation (participant and non-participant)
- [ ] Documents, websites
- [ ] Drawings, art, music (nonverbal)
- [ ] Other (please specify)

* 21. Are data collection instruments (e.g., interview guide, focus group guide, questionnaire, etc.) explicitly provided?

- [ ] Yes
- [ ] No
- [ ] N/A

* 22. Are any iterative processes in data collection and data analysis to evolving study findings explicitly indicated? (An iterative processes means data collection evolves as new understanding emerges during data analysis.)

- [ ] Yes
- [ ] No

* 23. Is the overall approach to data analysis inductive or deductive?

- [ ] Inductive (codes are identified from the data)
- [ ] Deductive (a priori codes were applied to the data)
- [ ] Hybrid (both inductive and deductive codes were used for analysis)
- [ ] Not explicitly specified
- [ ] Other (please specify)
* 24. Which data analysis strategies were used? (Check all that apply)

- Open coding
- Axial coding
- Constant comparative method
- Constant comparative methods with development of a grounded theory
- Thematic analysis
- Narrative analysis
- Discourse analysis
- Interpretative phenomenological analysis
- Framework analysis
- Content analysis
- Not explicitly specified
- Other (please specify)

* 25. If content analysis, what specific content analysis approach did the study use? (Check all that apply) (If no content analysis, please check N/A.)

- Conventional content analysis (Coding categories are derived inductively from the text data)
- Directed content analysis (Analysis starts with a theory or relevant research findings as guidance for initial codes, and also derives additional codes inductively from the text data)
- Summative content analysis (A summative content analysis involves coding text data using only codes derived from prior research or theory, and may also involve counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context)
- Content analysis method not specified
- N/A
- Other (please specify)

* 26. Are the researchers’ belief, experience, background, or relationship with the participants explicitly described?

- Yes
- No
* 27. What technique did the authors use to improve trustworthiness? (Check all that apply)

- [ ] Member checking
- [ ] Triangulation (data sources, researchers, etc.)
- [ ] Prolonged observation
- [ ] Audit
- [ ] Including an additional reviewer to confirm findings
- [ ] Not explicitly specified
- [ ] Other (please specify)

* 28. [This is a branching logic question] Are you coding a qualitative study?

- [ ] Yes. I am coding a qualitative study.
- [ ] No. I am coding a mixed method study.
4. Quantitative Methodology

* 29. What quantitative research design did the authors use? (Check all that apply)

☐ Relational (regression, correlational) - predictive
☐ Causal Inference (Experiment, quasi-exp.) - prediction
☐ Descriptive/Observational (descriptive-survey, a single sample case study)
☐ Validation (Measurement development, psychometrics)
☐ Classic epidemiology study - (case control; cohort/longitudinal) - relational and predictive
☐ Other (please specify)

* 30. If relational design, did they do multi-shot data collection (Time1, Time2, Time3..)?

☐ Yes
☐ No/Not explicitly specified
☐ N/A

* 31. If relational design or/and descriptive cross-sectional data, did they address common method bias/variance issues? (The bias occurs because of the measurement. They usually address the issue statistically or data collection design using multiple collection points and/or multiple data sources. You can search the term, 'common method' in the article to see whether they addressed this issue.)

☐ Yes
☐ No / Not explicitly specified
☐ N/A

* 32. If causal inference design, did they use a control group rather than inactive control group (no intervention)? For example, in a study of evaluating a new training program, if the control group did not have any instruction, it would be inactive control group. If the control group had a traditional instruction, it would be a control group.

☐ Yes
☐ No
☐ N/A
* 33. If causal inference design, did they conduct a pretest?
   - Yes
   - No
   - N/A

* 34. If validation/measurement development study, did they conduct a pilot study before the main study?
   - Yes
   - No
   - N/A
5. Quantitative Methodology - cont.

* 35. What is the data collection timeline (Check all that apply)
   - [ ] Cross-sectional (one time collection)
   - [ ] Longitudinal (same people over time, Repeated measurement)
   - [ ] Longitudinal cross-sectional (multiple cohorts/different people over time)
   - [ ] Other (please specify)

* 36. What is the nature of data? (Check all that apply)
   - [ ] Prospective (investigator initiated)
   - [ ] Retrospective (data available, looking back the past, e.g. archives)
   - [ ] Other (please specify)

* 37. What are the data sources? (Check all that apply)
   - [ ] Self reports (perceptions)
   - [ ] Knowledge assessment
   - [ ] Observed behaviors (performance)
   - [ ] Secondary data such as AAMC data, curriculum evaluation data
   - [ ] Patients' self reported health outcome
   - [ ] Other (please specify)

* 38. Did they provide rationale/justification for statistical tests used?
   - [ ] Yes
   - [ ] No
   - [ ] Partially
   - [ ] N/A
<table>
<thead>
<tr>
<th>* 39. Did they present the quality of statistical analysis? It can include information of effect size, standard errors, model fit, and/or confidence intervals.</th>
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<tbody>
<tr>
<td>☐ Yes</td>
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<td>☐ No</td>
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<td>☐ N/A</td>
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* 40. Did they incorporate control/confounding variables in analysis? N/A can be chosen, if it is a simple descriptive study. Studies of experimental/quasi-experimental or relational studies could consider control/confounding variables. So, if no information, it would be No, rather than N/A.

| ☐ Yes |
| ☐ No |
| ☐ N/A |

* 41. Did they conduct mediating/moderating analysis? (key words to look for include interaction, direct/indirect effects, regression effects, and effect modifier). This question is for relational studies. For other studies, it could be N/A.

| ☐ Yes |
| ☐ No |
| ☐ N/A |

* 42. Did they deal with missing data?

| ☐ Yes |
| ☐ No / Not explicitly stated |

* 43. In data analysis, what technique did they use? (Check all that apply)

| ☐ Parametric technique |
| ☐ Non-parametric technique |
| ☐ N/A |

* 44. Did they provide measurement validity evidence in results? (e.g. face validity, construct validity, content validity, and criterion – it can be measured by correlations with other constructs, exploratory and/or confirmative factor analysis, or any pilot project to verify whether they are measuring what they intended measure)

<p>| ☐ Yes |
| ☐ No |
| ☐ N/A |</p>
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<th>Did they provide measurement reliability evidence in results? (e.g. internal consistency (i.e. Cronbach’s alpha), test-retest, inter-rater reliability)</th>
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<td>○</td>
<td>Yes</td>
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<td>No</td>
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<td>N/A</td>
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6. Other

* 46. Did they discuss the limitations of the methodology, such as design, sampling, data collection, analysis, etc.?  
   - Yes
   - No

47. Please share any comments on this paper. Does this paper need a special attention?