STUDY PROTOCOL

The assessment of personal and professional identity development in an undergraduate medical curriculum: A scoping review protocol. [version 1; peer review: awaiting peer review]

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Abstract

Background: Over recent years there has been significant interest in the field of medical education in understanding how medical students develop their personal and professional identity as they transition through medical school and into their early career. Despite the growing amount of research that focuses on the best methods of incorporating this area into medical school curricula, there has been less focus on how to assess this construct and how it might be associated with student progression. Therefore, a scoping review is being undertaken to identify the various methods or tools currently being implemented to assess the development of personal and professional identity, including the concepts of professionalism, leadership and resilience, in medical education and outline an optimal assessment framework.

Methods: The proposed scoping review of the literature will be conducted under the guidance of the methodology of the Joanna Briggs Institute for scoping reviews across multiple electronic databases. Electronic database, reference list, and citation searching from the year 2000 will be undertaken. Peer reviewed publications involving assessment methods for personal and/or professional identity formation, professionalism, leadership, and resilience being utilised with direct-entry or graduate-entry medical students will be selected. The search strategy will remain dynamic and may be further
delineated as necessary during the review process. All studies that meet this study's inclusion criteria will undergo thematic analysis. The overall findings of this analysis will be presented in a narrative format.

**Conclusion:** In this scoping review protocol, the current methods and tools for assessment of personal and/or professional identity formation, professionalism, leadership, and resilience will be identified and synthesised into a proposed assessment framework. The hope is that this framework will then serve as an aid to support the assessment of this multi-dimensional, complex construct.

**Keywords**
Personal and professional identity, leadership, resilience, assessment, scoping review, professionalism

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Introduction

Over the past several decades, there have been substantial shifts in the approach to professionalism teaching within medical school curricula. As Cruess et al., highlighted in 2006, a significant proportion of medical students’ contact with professionalism pre-1990s was heavily reliant on the use of role modelling amongst willing physicians and clinical faculty versus involvement of a formal curriculum. During the mid-1990s there was a significant increase in the focus of research in medical education towards the explicit teaching of professionalism, especially following the formation of the American Board of Internal Medicine’s (ABIM) Project Professionalism. This movement was propelled by studies demonstrating the link between unprofessional behaviour amongst medical students and later episodes of professional misconduct. Since that time substantial effort has been placed into trying to define the abstract concept of professionalism, the rationale being that once a construct has been defined (and further broken down into its component parts), it is easier to operationalise, enabling incorporation into a curriculum and, very importantly, the design of an assessment strategy.

A significant challenge for research in this area is that the multi-dimensionality of professionalism has made the formation of a consensus definition contextually very challenging. As a result, individual universities have been reliant on forming their own definitions and arranging an assessment framework to meet their needs. In 2009, Wilkinson et al., emphasised that the assessment of professionalism was being hampered by the varying definition attempts as this had prevented a clear breakdown of measurable elements. However, the assessment of professionalism is a continuously evolving field, and the various definitions proposed to date have led to the development of a multitude of types of assessment tools, though no single definitive method of assessing professionalism has been identified. General consensus has long been that the ability to properly assess professionalism requires a multi-faceted approach involving a variety of tools over the duration of training. Unfortunately, there is still no exemplar framework to demonstrate what this should entail, and it is again left up to individual medical schools to decide what best meets their curricular needs.

The publication of the Carnegie Foundation report in 2010 calling for reform of medical education heralded the recognition of the complex psychosocial development that medical students undergo as they transition through their medical education, leading to a major shift in the focus of research in this area towards professionalism identity formation (PIF). In 2018, Kalet et al., provided a short definition of PIF as the process of internalising a profession’s core values and beliefs. However, PIF is widely accepted as a dynamic process that is shaped by the beliefs and values of the individual as well as by the environment, including both the formal and informal ‘hidden’ curricula of medical education, healthcare delivery, and encompassing social and larger societal forces.

By better understanding this process of PIF, medical schools can design curricular content that promotes the development of professional identity formation, so that by graduation, medical students “think, act and feel like a physician.” Lewin et al., noted in 2019 that “the formation of a physician’s professional identity is a dynamic process shaped by and intertwined with the development of that person’s larger adult identity.” Or, as Cruess et al., previously highlighted in 2015, a medical student’s professional identity formation develops congruently with their personal identity, continuously reorganising into an increasingly complex persona. Thus, if we consider ‘personal identity’ to be how a person sees themselves or is seen by others in different contexts, then professional identity is an important subset of this construct, and they should be approached together in regard to curricular frameworks. Core elements of personal identity that contribute to an emerging professional identity as a doctor are personal resilience and leadership. Equally, medical professionalism is a core component of the emerging professional identity as a doctor. Thus, the formation of one’s personal and professional identity is an intricate process and the optimal methods of assessment for learning to enhance personal and professional identity development (PPID) are as yet unknown.

Previous research has shown that, in general, the mode of assessment of curricular content can have a significant impact on students’ involvement in the learning process – either increasing their engagement or leading to demotivation and disengagement. Work on understanding this influence has led to international recognition of the need to help students become self-directed, autonomous learners and the further categorisation of curricular assessments that can help them achieve this goal into ‘Assessment Of / For / As Learning.’ Assessment ‘for’ and ‘as’ learning, often identified as formative assessment, facilitates empowerment of the learners, and allows them to critically evaluate their own learning and performance. By participating in these types of assessment practices, educators collaboratively help students develop more competence and confidence within an area or specialty; thus, impacting both their personal and professional identity formation.

Study aims and objectives

The aim of this scoping review is to identify the various methods or tools currently being implemented in medical education to assess the development of personal and/or professional identity formation, including the concepts of professionalism, leadership and resilience. Findings will inform the development of an optimal assessment framework.

This review will be guided by the following research questions:

1. What tools/modalities are currently being employed to assess Personal and/or Professional Identity Development, Professionalism, Resilience and/or Leadership with undergraduate or graduate-entry medical students?
2. How are these assessments spaced and paced? And does the method or frequency vary by the year of study?

3. Is the assessment tool being utilised a representation of assessment ‘of’, ‘for’ or ‘as’ learning?

Methods

The population, educational aspects, outcomes (PEO) tool for systematic reviewing in medical education was used to form the research question for this review:

- Population: medical students.
- Educational aspect: resilience, leadership, professionalism and personal and/or professional identity.
- Outcome: method or tool used in formative or summative assessment of personal and/or professional identity formation, professionalism, resilience, or leadership.

Methodological framework

The methodology for this scoping review was guided by direction from the Joanna Briggs Institute. The JBI Methodology will ensure appropriate review and data extraction.

Search strategy

To aid in this endeavour, an information specialist collaborated on formulating and running an optimal search strategy. The following general keywords have been identified for this review: medical education, medical students, assessment, personal identity, professional identity, professionalism, resilience, leadership, and assessment. An example of the search strategy used for Ovid MEDLINE® is presented in Table 1. It combines Medical Subject Headings (MeSH) and free text terms with Boolean operators. This will be appropriately adjusted to search through the other electronic databases listed below.

Electronic databases from different areas, such as education, psychology, and health care will be searched. Specifically, this review will explore: MEDLINE, EMBASE, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsychINFO, Education Resources Information Centre (ERIC), and Web of Science.

To maximise the results for ‘current’ assessment tools, a date restriction will be placed on the search, starting from 2000. In addition, all studies that are deemed eligible will have their reference lists explored for other relevant material not detected by the initial search. Five of the more prominent journals in medical education – Academic Medicine, Medical Education, Medical Teacher, Clinical Teacher, and BMC Medical Education – will be hand-searched for additional resources. Citation searching via Google Scholar of several leading publications in this area of focus will also be undertaken to maximise the scope of the search. The search strategy will remain dynamic and may be further delineated as necessary during the review process.

Inclusion criteria

Studies of any design that have an available abstract written in the English language from 2000 until the end of 2021 will be considered for inclusion as long as the object of the study is the assessment of personal and/or professional identity formation, professionalism, resilience or leadership for students in an undergraduate or graduate medical programme before graduation. Peer-reviewed reviews, commentaries, or editorials from the same timeframe will also be considered for inclusion.

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**Table 1. Developed Ovid MEDLINE® search strategy.**

<table>
<thead>
<tr>
<th>Search Terms</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Professionalism.ti,ab. or exp Professionalism/</td>
</tr>
<tr>
<td>2</td>
<td>(professional adj2 behavior$) OR (professional adj2 behaviour$)</td>
</tr>
<tr>
<td>3</td>
<td>Resilience, Psychological/ or Resilience.ti,ab.</td>
</tr>
<tr>
<td>4</td>
<td>Leadership.ti,ab. or Leadership/</td>
</tr>
<tr>
<td>5</td>
<td>(professional adj2 identity) or (professional adj2 identities) or (personal adj2 identity) or (personal adj2 identities) OR (identity adj2 formation)</td>
</tr>
<tr>
<td>6</td>
<td>1 OR 2 OR 3 OR 4 OR 5</td>
</tr>
<tr>
<td>7</td>
<td>(education adj2 curriculum) OR (medical adj2 curriculum) OR (medical adj2 curricula) OR (medical AND *Curriculum/)</td>
</tr>
<tr>
<td>8</td>
<td>Assessment.mp.</td>
</tr>
<tr>
<td>9</td>
<td>6 AND 7 AND 8</td>
</tr>
<tr>
<td>10</td>
<td>Limit 2000-2021</td>
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</tbody>
</table>
inclusion if the sole focus of discussion surrounds an individual tool or assessment method that is being considered or already integrated into the respective medical curriculum. If it is still unclear from the title and abstract whether the paper involves a specific assessment tool(s), the full text will be reviewed for inclusion against study inclusion criteria (included here in Table 2).

Exclusion criteria
Research involving assessment of personal and/or professional identity formation, professionalism, resilience or leadership amongst post-graduate trainees or residency programmes will be excluded. While the population of interest in this scoping review is medical students, if the assessment tool is employed in an interprofessional learning (IPL) environment with other healthcare professions, ex. Pharmacy, Physiotherapy, Physician Associate students, it will be included if the medical student population meets the inclusion criteria. Those studies not falling within the predetermined dates or not published in English will also be excluded.

Study selection
After completing the search, studies will be uploaded into EndNote X9, and any subsequent duplicates will be removed. Secondary analyses that offer only opinion of a proposed assessment tool will not be included unless the discussion involves potential modifications to the tool or issues with implementation within their respective institutions. In the instance that an author(s) discusses the same assessment method in more than one paper, published at different times, only the initial description of the method will be included unless there is evolving dialogue about different uses, populations, or implementation outcomes.

A primary reviewer (MCu) will be responsible for the initial title and abstract screening of results. A volunteer independent reviewer (KM) involved with another research project at the same institution will screen 50% of titles and abstracts found for concurrence. It is hoped that this process will allow a maximum number of relevant papers to be identified. Any potential discrepancies between reviewers will be decided amongst the research team whom all have expertise in the area of medical education. The progression of the search will be fully reported, and the final outcome will be displayed in a diagram consistent with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-SCr). All studies identified for inclusion will then undergo data extraction and qualitative thematic analysis.

Full-text Review and Data extraction
One author (MCu) will read identified articles in depth and will extract all relevant data with guidance by the JBI-recommended approach. Two additional reviewers from the research team (AH, MCr) will each independently extract data from 33% of papers identified. Any potential discrepancies between reviewers will be decided through consultation with the wider research team. Identifiable data points will be inserted into an electronic database created for this purpose and approved by the research team. The initial version of this database is included in Table 3 but is expected to be adapted as the data extraction process progresses. Aside from the usual demographic information (authors, year published, journal, etc), this study will also address the type of assessment tool being utilised, at what point in medical school it is being employed, use in an IPL setting, whether it is for formative or summative assessment, and if the method is a once-off trial or has been integrated into the set curriculum.

Data analysis
A narrative approach will be used to thematically synthesise the data extracted from all studies meeting the inclusion criteria. As part of the initial summary, all data on the different

### Table 2. Study eligibility criteria.

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
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<tbody>
<tr>
<td>Medical students</td>
<td>Non-medical students</td>
</tr>
<tr>
<td>Undergraduate / direct entry</td>
<td><em>Interprofessional learning situations are acceptable as long as medical students are involved</em></td>
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<tr>
<td>Graduate entry</td>
<td></td>
</tr>
<tr>
<td>Any year of medical school before graduation</td>
<td>Post-graduate trainees</td>
</tr>
<tr>
<td>All research designs</td>
<td>Articles not published in English</td>
</tr>
<tr>
<td>All methods of assessing personal or professional identity formation, resilience or leadership</td>
<td>Papers published prior to 2000</td>
</tr>
<tr>
<td>Other formats of publication are accepted as long as there is discussion of an assessment tool and its implication</td>
<td>Multiple papers by the same author discussing the same method of assessment without use with a new population or modification of the tool being utilised</td>
</tr>
</tbody>
</table>
tools or methods being used to assess medical students’ professionalism, resilience, leadership, professional and/or personal identity formation will be outlined based on whether it is a method of assessment ‘for’ ‘of’ or ‘as’ learning. The overall findings of this analysis will be presented in a narrative format. Implications of the study’s findings for current practice and future research will be identified.

Discussion
In this scoping review, the current methods and tools for assessment of personal and/or professional identity formation, professionalism, leadership and resilience will be identified and synthesised into a proposed assessment framework. The hope is that this framework will then serve as an aid to support the assessment of this multi-dimensional, complex construct. Limitations of this review plus further practical implications and recommendations for further research will be explored in the discussion of the final research article.

Data availability
No data are associated with this article.

References


16. Merton RK: Some Preliminaries to a Sociology of Medical Education. Harvard University Press, 1957. Publisher Full Text


