Preparing a research report for publication in Academic Medicine

Academic Medicine Staff
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## How do research reports differ from articles?

<table>
<thead>
<tr>
<th>Research reports</th>
<th>Articles</th>
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</thead>
<tbody>
<tr>
<td>Present and test a hypothesis or pose a research question: What assumption will you test, or what research question will you answer?</td>
<td>Present and support a thesis: What are you going to tell the reader about or convince the reader of?</td>
</tr>
<tr>
<td>Structured abstract ≤250 words: Purpose, Method, Results, Conclusions</td>
<td>Unstructured abstract ≤ 250 words</td>
</tr>
<tr>
<td>Organized with a formal structure: Introduction, Method, Results, Discussion</td>
<td>Organized according to content</td>
</tr>
<tr>
<td>Includes quantitative and/or qualitative data</td>
<td>May or may not include data</td>
</tr>
<tr>
<td>Must base argument on facts</td>
<td>May be based on or express opinions, supported by facts</td>
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</table>
The research topic is relevant to Academic Medicine’s mission and addresses a serious challenge, such as:

**Electronic Health Records:**
Improved continuity of care for patients or decreased independent thinking for learners?

**Health Care Reform:**
Expanded coverage for as many as 32 million people not previously covered

**NIH Funding:**
Nine institutions will receive $255 million over 5 years to help translate discovery into treatment

**Medical School Debt:**
$135,076 and rising

**Physician Workforce:**
By 2025, the Association of American Medical Colleges projects that there will be a nationwide shortage of 46,000 primary care physicians…

**Health Care Reform:**
Expanded coverage for as many as 32 million people not previously covered
The abstract ...

... is structured

Abstract

**Purpose**
The Medical College Admission Test (MCAT) has undergone several revisions for content and validity since its inception. With another comprehensive review pending, this study examines changes in the predictive validity of the MCAT’s three recent versions.

**Method**
Study participants were 7,859 matriculants in 36 classes entering Jefferson Medical College between 1970 and 2005; 1,728 took the pre-1978 version of the MCAT; 3,032 took the 1978–1991 version, and 3,099 took the post-1991 version. MCAT subtest scores were the predictors, and performance in medical school, attrition, scores on the medical licensing examinations, and ratings of clinical competence in the first year of residency were the criterion measures.

**Results**
No significant improvement in validity coefficients was observed for performance in medical school or residency. Validity coefficients for all three versions of the MCAT in predicting Part I/Step 1 remained stable (in the mid-0.40s, $P < .01$). A systematic decline was observed in the validity coefficients of the MCAT versions in predicting Part II/Step 2. It started at 0.47 for the pre-1978 version, decreased to between 0.42 and 0.40 for the 1978–1991 versions, and to 0.37 for the post-1991 version. Validity coefficients for the MCAT versions in predicting Part III/Step 3 remained near 0.30. These were generally larger for women than men.

**Conclusions**
Although the findings support the short- and long-term predictive validity of the MCAT, opportunities to strengthen it remain. Subsequent revisions should increase the test’s ability to predict performance on United States Medical Licensing Examination Step 2 and must minimize the differential validity for gender.


... reflects (does not introduce) the text
Grammar: Abstract vs. the Text

The **abstract** is in 3rd person, but the **text** is in 1st person

Abstract:  

The authors interviewed 24 deans.

Text:  

We interviewed 24 deans.

Both the **abstract** and the **text** are usually in **active** (not passive) voice

Active:  

The faculty introduced the new curriculum.  

The students received training.

Passive:  

The new curriculum was introduced.  

The students were trained.

Both the **abstract** and the **text** discuss findings in the **past** (not the present or future) tense

Correct:  

The authors surveyed 208 residents.  

The response rate was 71%.

Incorrect:  

The authors observe 64 interactions.  

The response rate is 69%.
The background includes:

• A thorough (but not exhaustive), relevant, and up-to-date review of the literature
  
  *Previous research has shown…*

• A clear purpose, research question, aim, and/or hypothesis
  
  *The purpose of this study was to…*

  *We aimed to answer the question…*

  *We think…*
What to include in the Method:

Remember the famous questions from Journalism 101?

Who? Participants

What? The process, the steps involved (enough for others to replicate).

When? Dates and duration

Where? Institutions involved

Why? The appropriateness of these steps for this investigation

How? Analyses, software, instruments, measures
What to include in the Method (cont.)

Explicitly state your institutional review board (IRB) approval/exemption, or if none is available, explain the measures you took to protect human participants and their private information.

See “Ethical issues to consider” if you’re not sure if you need approval.
The Results

• Should follow the Method
  ➔ Provide answers to the questions you asked.

• Should be accurate
  ➔ Verify your statistics. Check and recheck your calculations.

• Can be short
  ➔ Sometimes Results are the shortest part of the report.

• Should include both raw numbers and percentages
  ➔ 18% of 622 is very different than 18% of 36!

• May be graphical
  ➔ Tables and figures may be the most succinct way of communicating results and data.

• Figures and tables must be black and white, and they must be 2-dimensional

112 faculty
(18% of 622)
The Discussion and Conclusions

Answer **what questions:**

- What did we really learn? What do the results mean?

**Limitations**—

- What could have confounded your results? What could you have done differently?

**Implications**—

- Now what?

**Significance**—

- So what?

**Future investigations**—

- What next?
Questions?

Contact the editorial office at
Phone: (202) 828 – 0590
Email: acadmed_online@aamc.org
Online: www.academicmedicine.org