How do researchers cite earlier research? Primarily strategic and preference based

Dr. Jennifer Yost,
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Two main evidence issues ...

When formulating the Background of a study several studies show that authors of scientific papers:


2. Choose their references based upon preferences and strategic considerations (Greenberg 2009, Bastiaansen 2015, Thornley 2015, Perino 2014, Jannot 2013, Fiorentino 2011)

In short:

Authors are not systematic in the way they use earlier research
When planning a new study ...

According to **CONSORT**, the BACKGROUND should refer to:

1. Nature, scope and severity of the problem
2. Plausible explanation / rationale
3. The evidence of benefits of active intervention
4. Previous similar trials
When planning a new study
THE INTRODUCTION

According to CONSORT there should be references about:

1. Nature, scope and severity of the problem
2. Plausible explanation / rationale
3. The evidence of benefits of the active intervention
4. Previous similar trials

Example:

Stiffness after total knee replacement occurs in 8% to 60%.
(Fitzsimmons 2010)

Which references does one select?
When planning a new study

THE INTRODUCTION

According to CONSORT there should be references about:

1. Nature, Scope and severity of the problem
2. Plausible explanation / rationale
3. The evidence of benefits of the active intervention
4. Previous similar trials

Example:
16 different mechanisms for diminishing knee pain following exercise.
(Beckwée 2013)

Which references does one select?
How citation distortions create unfounded authority: an analysis of a citation network

Steven A Greenberg, associate professor of neurology

Fig 2: Citation bias against content critical of claim. Shown are citation frequencies to four authoritative supportive primary data papers and six primary data papers containing data critical of claim.
Correspondence

Citation Distortions in the Literature on the Serotonin-Transporter-Linked Polymorphic Region and Amygdala Activation

To the Editor:
A seminal finding in imaging genetics is that carriers of the short (s) allele of the serotonin-transporter-linked polymorphic region (5-HTTLPR) exhibit an increased amygdala response to negative emotional stimuli. The original article by Hariri et al. (1) has been cited >1000 times since its publication in 2002. Although meta-analyses have shown a statistically significant effect across published studies, the validity of these findings is undermined by the presence of publication bias (2,3). In addition, the strength of evidence has declined over time.
## Thornley 2015

### Why choosing a specific reference?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Author known</td>
<td>24 %</td>
</tr>
<tr>
<td>Original seminal work in the field</td>
<td>15%</td>
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<tr>
<td>Journal or conference known</td>
<td>10%</td>
</tr>
<tr>
<td>Known institution or research group</td>
<td>8%</td>
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<tr>
<td>Sound method</td>
<td>8%</td>
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<tr>
<td>Researcher (author) wrote it</td>
<td>5%</td>
</tr>
<tr>
<td>Known database or source</td>
<td>4%</td>
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<tr>
<td>Lots of cites to paper</td>
<td>3%</td>
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<tr>
<td>Theoretical approach</td>
<td>3%</td>
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The way earlier studies were used lead the reader to think that a treatment was more effective than it actually was according to a systematic review.
An analysis of 344 studies within a specific area showed that “landmark” papers was cited again and again. Papers refuting the landmark studies was rarely cited.
But as the authors say: it’s like a snow ball – it becomes bigger and bigger, but it is still just snow!
The evidence.

When formulating the Background of a study several studies show that authors of scientific papers:


2. Choose their references based upon preferences and strategic considerations (Greenberg 2009, Bastiaansen 2015, Thornley 2015, Perino 2014, Jannot 2013, Fiorentino 2011)

In short:

Authors are not systematic in the way they use earlier research
Researchers are NOT scientific in the way they refer to earlier studies, but choose based upon preferences and strategic considerations!