A Propaganda Index for Reviewing Problem Framing in Articles and Manuscripts: An Exploratory Study

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Abstract

Objective: To determine the effectiveness of an index in increasing recognition of misleading problem framing in articles and manuscripts.

Design: A propaganda index consisting of 32 items was developed drawing on related literature. Seventeen subjects who review manuscripts for possible publication were requested to read five recent published reports of randomized controlled trials concerning social anxiety and to identify indicators of propaganda (defined as encouraging beliefs and actions with the least thought possible). They then re-read the same five articles using a propaganda index to note instances of propaganda.

Data source: Convenience sample of individuals who review manuscripts for possible publication and sample of recent published reports of randomized controlled trials regarding social anxiety in five different journals; by different authors, blinded by author and journal.

Results: Data showed that there was a high rate of propagandistic problem framing in reports of RCTs regarding social anxiety such as hiding well-argued alternative views and vagueness. This occurred in 117 out of 160 opportunities over five research reports. A convenience sample of 12 academics spotted only 4.5 percent of propaganda indicators. This increased to 64 percent with use of the 32 item propaganda index. Use of a propaganda index increased recognition of related indicators. However many instances remained undetected.

Conclusion: This propaganda index warrants further exploration as a complement to reporting guidelines such as CONSORT and PRISMA.

Introduction

The propaganda index described in this article is designed to be used as a complement to reporting guidelines for reviewing manuscripts and articles. The flawed nature of peer review has long been of concern as illustrated for example by presentations at the International Congresses on Peer Review and Biomedical Publication.[1] The flawed nature of texts and other professional publications was one reason for the development of the process and philosophy of evidence-based practice.[2] A number of guidelines have been developed to enhance the quality of reporting such as CONSORT.[3] While such filters attend to methodological considerations, they do not address concerning problem framing such as the medicalization of common concerns.[4,5,6,7,8] This is especially unfortunate for readers who are not expert in an area who seek information related to life-affecting practice and policy decisions. Such censorship is a key form of propaganda.[9,10,11] The medicalization of problems includes various forms of disease mongering including transforming common problems-in-living into illnesses, viewing mild concerns as serious, exaggerating prevalence, use of words such as "mischievous," and claiming undertreatment and underdiagnosis.[7,12,13] This has become so extensive that a vigorous backlash has occurred.[4,7,12] The first international conference on the topic was held in Amsterdam in October 2010. Although experts in an area may recognize the absence of description of well-argued competing perspectives, for example the view that anxiety in social situations is a learned reaction.[14,15] Those who are not expert are unlikely to do so.

Methods

Development of the index

An index consisting of 32 items divided into seven categories was developed drawing on related literature on propaganda, peer review and problem framing (see Figure 1). This literature pointed
Propaganda Index for Reviewing Manuscripts and Articles

This index is designed to serve as a complement to tools such as CONSORT which address the internal and external validity of research reports. Such filters review methodology (as in a randomized controlled trial) and interpretation of results, but do not detect sources of propaganda such as claims made with no evidence regarding problem framing, causation of concerns addressed, and alleged prevalence and severity of concerns (e.g., controversies are hidden).

Title of Article reviewed:

My name: __________________________ Date: ____________ Article number: ____________

1. The nature of the problem addressed is in dispute. __ yes __ no __ don’t know
2. Only one view of the problem is presented. __ yes __ no
3. The view is presented as established. __ yes __ no
4. The view presented is a psychiatric/medical one. __ yes __ no
5. Evidence for the view promoted is described. __ yes __ no
6. Citations are given for the view promoted.
   If yes, citations provide support. __ yes __ no __ don’t know
7. Possible harms of the view promoted are described. __ yes __ no
8. Effectiveness of certain interventions is claimed in the introduction. __ yes __ no
9. Related data are described, including effect sizes and rate of relapse. __ yes __ no
10. Citations are given. __ yes __ no
   If yes, they provide support. __ yes __ no __ don’t know
11. Vague terms are used. __ yes __ no
12. Prevalence is in dispute. __ yes __ no __ don’t know
13. Controversies regarding prevalence are noted. __ yes __ no
14. Prevalence is described in figures. __ yes __ no
15. Citations are given for prevalence.
   If yes, citations provide support. __ yes __ no __ don’t know
16. Vague terms are used to describe prevalence. __ yes __ no
17. Significant distress and adverse effects are claimed. __ yes __ no
18. Related data are described in quantitative terms. __ yes __ no
19. Citations are given. __ yes __ no
   If yes, they provide support. __ yes __ no __ don’t know
20. Vague terms are used. __ yes __ no
21. Course without treatment is described as poor. __ yes __ no
22. Related data are described in quantitative terms. __ yes __ no
23. Citations are given. __ yes __ no
   If yes, they provide support. __ yes __ no __ don’t know
24. Vague terms are used. __ yes __ no
25. It is claimed that the problem is under-diagnosed. __ yes __ no
26. Related data are described in quantitative terms. __ yes __ no
27. Citations are given. __ yes __ no
   If yes, they provide support. __ yes __ no __ don’t know
28. Vague terms are used. __ yes __ no
29. It is claimed that the problem is under-treated. __ yes __ no
30. Related data are described in quantitative terms. __ yes __ no
31. Citations are given. __ yes __ no
   If yes, they provide support. __ yes __ no __ don’t know
32. Vague terms are used. __ yes __ no

a. If no, please describe view presented:

Please describe on reverse side any other kinds of propaganda you think are reflected in this source.

1 Elise Gansnir, UC Berkeley, 2009.

Figure 1. Propaganda Index.
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to the following content regarding problem framing and
evidentiary issues. The first category pertained to the nature of
the problem addressed: Is it in dispute? Is only one view presented?
Is this view presented as established? Is a psychiatric/medical view
presented? Is evidence for the view promoted described? Are
citations given? If so, do they provide support? Lastly, are possible
harms of the view promoted described? Other sections included
claims regarding effectiveness of interventions; claims regarding
prevalence; claims regarding significant distress and adverse effects
of the problem addressed; claims regarding course without
treatment; claims of under-diagnosis; and claims of under-
treatment. The latter three are indicators of disease mongering.[7,12,13] (See Appendix A for the instrument.) Respondents
were also requested to indicate whether evidence was provided for
claims (e.g., data described in quantitative terms, effect sizes),
whether vague terms were used and whether citations were given
and, if so, whether these provided support (yes, no, don’t know).

Data Source
Five recent reports of randomized controlled trials concerning
social anxiety disorder were selected representing five different
journals and different authors.[16,17,18,19,20] A convenience
sample of 17 subjects who review manuscripts for publication was
selected. All had a doctoral degree but none specialized in the area
of social anxiety.

Procedure
Upon agreement to participate, each respondent received an
envelope containing a brief description of propaganda defined as
encouraging beliefs and actions with the least thought possible [9]
and was asked to read the five articles included in the package
(blinded by author and journal in which they appeared). They
were asked to focus on the introduction rather than the
methodology and to circle directly on the article any indicators
of propaganda they saw and to describe why they thought each
was a sign of propaganda. The instructions informed them that
"This index is designed to serve as a complement to tools such as
CONSORT which address the internal and external validity of
research reports and interpretation of results."

They were asked to write "none" at the top of the page if they
thought there were no indicators in an article. When finished, they
were requested to place the five articles in the stamped addressed
envelope enclosed and to remove a second set of the same articles
as well as to open a smaller envelope containing ten copies of the
index and to use the first 5 copies to again review the 5 articles, this
time using the propaganda index. They noted the article number
on each respective form and then mailed the first set of five articles
plus the copies of the five index forms to the first author. They
were requested to keep the second set of five articles as well as the
second set of propaganda indices and to again review the articles
using their second set two weeks later and to mail these back to the
first author. This served as a reliability check.

Data Analysis
The first author reviewed each article to identify indicators of
propaganda. A high rate was found: 117 out of 160 opportunities
over all five articles. Indicators included vagueness, lack of
documentation and disease mongering (see Figure 2). This review
served as a criterion.

Examples of rhetoric regarding problem framing can be seen below.

- "Social phobia is a common and disabling anxiety disorder
  associated with considerable social and occupational handicap
  that is unlikely to remit without treatment."

![Figure 2. Censorship and claims making regarding problem framing in 5 published RCT's on social anxiety (as identified by the author and Amanda Reiman, PhD).](https://doi.org/10.1371/journal.pone.0019516.g002)

- "Generalized social anxiety disorder is a chronic and insidious
  psychiatric disorder that first received widespread attention
during the 1980’s. Social anxiety disorder has an early onset,
typically between 14 and 16 years of age, and subsequently
follows a chronic course that persists well into adulthood.
Spontaneous recovery is possible, but it occurs gradually and
only in about half of all sufferers."

- "Social phobia (also known as social anxiety disorder) is
  associated with substantial impairment in quality of life
(Safren, Heimberg, Brown & Holle, 1997) and is highly
prevalent (Furmark, 2002). As evidenced by several trials, there
are effective psycho-social treatments for social phobia
(Heimberg, 2001). However, far from all sufferers seek
treatment (Baldwin & Buis, 2004)."

Results
The Master P.I. was used to determine the number of
opportunities to spot propaganda across the five articles. All five
RCT’s reflected hiding of controversies regarding problem
framing, failure to recognize that prevalence is in dispute and
claims of significant distress and adverse effects (see Figure 2). The
second author independently reviewed the five articles. Inter-rater
reliability between the first and second author was .88. Then, the
data from the articles submitted by each participant before using
the index and after using the index were analyzed to determine the
percentage of propaganda detected by participants before and
after using the P.I. Results indicate that participants were able to
detect propaganda at a higher rate after using the P.I. (see
Figure 3). For example, out of a possible 38 propaganda indicators
concerning the nature of the problem presented across five RCT’s,
participants detected an average of 1.5 indicators before using the
Propaganda Index, and an average of 21.3 indicators after using
the index. Similarly, participants identified an average of 2.4 out of

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**Figure 2. Censorship and claims making regarding problem framing in 5 published RCT's on social anxiety (as identified by the author and Amanda Reiman, PhD).**

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30 indicators concerning reported prevalence before using the Propaganda Index, and an average of 20 indicators after using the index. Furthermore, before and after using the propaganda index, the dimension of under-diagnosis was most commonly missed by participants. The dimension of under-treated saw the most improvement in detection after using the index, raising the rate of detection by 67% (average detection of 1.3 items out of 5 before the index, and 4.7 items out of 5 after the index). The mean percentage of indicators detected over all five articles before use of the index for the 17 subjects was 4.5 percent. This increased to 64.3 percent following use of the index. Test-retest reliability for subjects was .89 (range .82-.97).

Discussion

Major advances have been made in creating guidelines designed to enhance reporting of research. Examples include STARD, MOOSE, CONSORT, TREND and PRISMA. There has been increased transparency regarding conflicts of interest created by funding of authors by pharmaceutical and biotech companies and other kinds of financial ties with such industries such as owning stock.[21] However, there is often (if not typically) silence in research reports in journals regarding controversies about problem framing. This silence (this partiality in the use of evidence by hiding well-argued alternative views and related evidence) is a hallmark of propaganda. Propaganda is defined as encouraging beliefs and actions with the least thought possible. [9] This silence serves to maintain and advance questionable practices such as translating common problems-in-living into mental illness and hiding related controversies. It deprives readers of an opportunity to be informed. This is especially true in psychiatry and allied professions such as clinical social work and psychology in which the medicalization of problems has been so successful. This success has not gone unchallenged as illustrated by the resultant backlash. What is already known on the topic: 1) Translating common problems-in-living into mental illness and other forms of disease mongering is common; 2) Little or no attention is paid to problem framing in reporting guidelines such as CONSORT. What this study adds: 1) Draws attention to propagandistic framing of problems in reports of RCTs regarding social anxiety; 2) Suggests the need to include questions encouraging critical review of problem framing in filters such as CONSORT guidelines; 3) Suggests that even when prompted, reviewers miss many indicators of propagandistic framing of problems.

Our concern here is the large body of work in which a “mental illness” framing is presented as true and uncontroversial in reports of research, for example RCTs regarding “social anxiety.” That is, there is no mention of well-argued competing perspectives and related evidence, for example, the view that anxiety in social situations is a learned behavior which can be decreased by arranging new learning opportunities (without medication).[14,15] Red flags for hiding competing well-argued views include phrases such as “Every one knows …” “It is clear that …” “It is obvious that …” “It is generally agreed that …” This kind of unchallenged repetition encourages the wooze effect; if we hear something enough times we assume that it is true. A mental illness perspective is also promoted in direct-to-consumer advertising and in the wider media rendering silence regarding well-argued competing views even more pervasive.[13,22] This exploratory study highlights the prevalence of propagandistic problem framing including disease mongering in published descriptions of RCTs concerning social anxiety and the utility of a propaganda index in increasing readers’ detection of related indicators. However, many subjects still missed many important indicators.
The propaganda index is designed to serve as a compliment to methodological filters in reviewing the quality of manuscripts and articles. We suggest that reviewers and editors be required to consider more carefully, from an evidentiary and conceptual point of view, the framing of concerns addressed in reports of research. Recommendations for reviewers and editors include requiring authors to reveal rather than hide controversies, for example to accurately describe well-argued alternatives to views promoted. This would take one sentence such as: “An alternate view is that anxiety in social situations is a learned reaction created by an unusual learning history,” then cite relevant references. We assume that journal editors sent manuscripts of their articles to “experts” in the area of social anxiety. Clearly neither reviewers or editors requested authors to note controversies regarding problem framing. Authors should be required to avoid weasel words such as “common” (actually give figures) and disease mongering terms such as “insidious.” They should be required to describe quantitative data related to claims made (e.g., effect sizes, and size of correlations in place of vague terms such as “most,” “few”). Next steps include checking citations used: do they provide evidence for claims made? Preliminary inspection indicates that textbooks are sometimes referred to in support of empirical claims. Secondly, correction of problems in the Propaganda Index is necessary, for example some items are not applicable after a “no” answer. Thirdly, we plan to explore the correlation of propaganda regarding problem framing with quality of RCT using critical appraisal tools such as the JAMA User guides. Further exploration is needed with increased sample size. Also, what results would be found if we sent these same five articles to experts in social anxiety? Would the results be similar? Lastly, an item analysis should be carried out to determine whether the index can be shortened without loss of value.

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Contributors: Eileen Gambrell conceived the idea for a propaganda index, designed the index, designed the exploratory study, and prepared the written report. Amanda Reiman participated in planning the data analysis, carried out the statistical analysis and participated in the reliability check. We thank Maureen Lahiff for statistical consultation.

Ethical approval: This was obtained from the University of California, Berkeley research ethics committee before the study.

Author Contributions
Conceived and designed the experiments: EG. Performed the experiments: EG. Analyzed the data: AR. EG. Contributed reagents/materials/analysis tools: EG. Wrote the paper: EG AR.

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