

Quality of Science Reports: Analysis of Sports Nutrition 2013 ACSM Annual Meeting Abstracts



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INTRODUCTION

- Clarity versus confusion. The nature of research is determining how things are by resolving controversial issues, testing theories or improving present practice.
- Quality research will engage: searching, reviewing, effectively writing, designing the research, selecting and describing participants, analyzing results, discussing results specifically for what they are and not what you wish they were (Thomas, Nelson & Silverman, 2011).
- The final steps involve communication of findings.

- ACSM's Annual Meeting is an extremely broad sports medicine and exercise science conference and the objective of this meeting is the exchange of scientific information, new approaches and an overview of exercise science and sport medicine fundamentals.

ACSM holds solid science by information presented in numerous abstracts submitted from different authors by a deadline for evaluation. Abstracts are expected to provide best-needed information to the user through the presentation of the research essence. The given information should be faithfully consistent, precise, and accurate (Olivia, 2014).

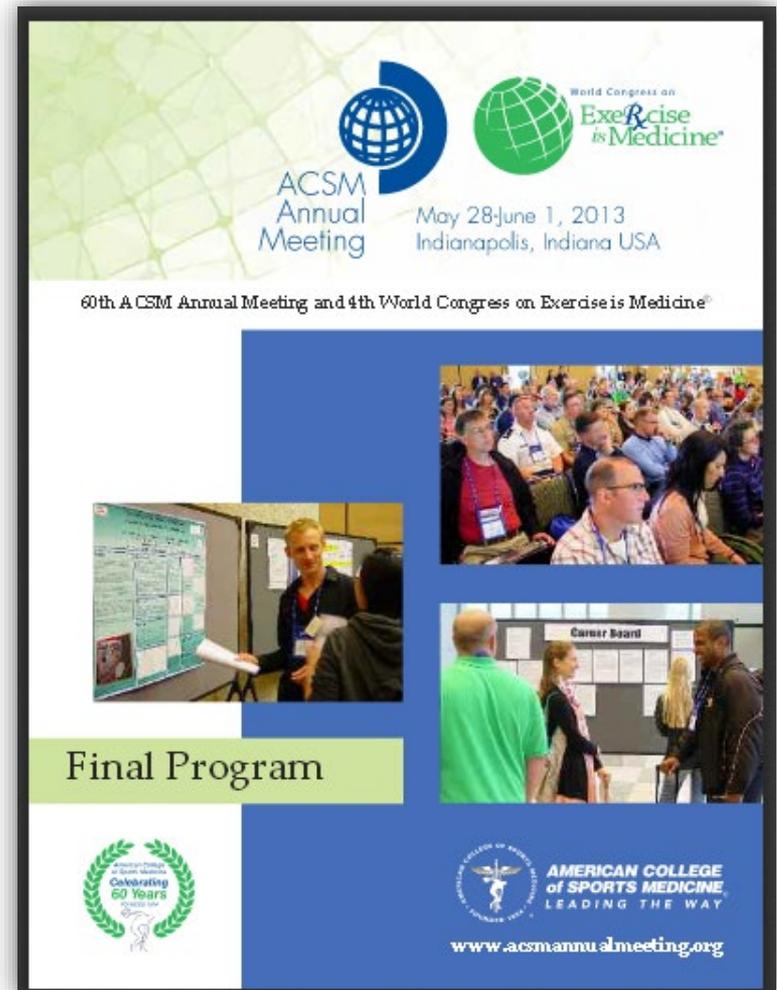
From the abstracts, readers get quick evidence and recognize the importance of what researchers have found. However, even though guidelines are established, several accepted abstracts by ACSM tend to be confusing or misleading.

The purpose of this study was to highlight the relevance of reporting guidelines in the investigation process, by assessing sports nutrition abstracts according to four specific criteria of clarity and internal consistency.

METHODS

Materials

- All the abstracts from nine different sport nutrition sessions (n=125) in the Final Program of the 60th Annual Meeting of the American College of Sports Medicine and 4th World Congress on Exercise is Medicine, 2013
(PDF file of the conference proceedings).



Procedures

- All abstracts corresponding to experimental or quasi-experimental studies were selected (n=93).
- The researchers established four different criteria for the analysis of the 93 selected abstracts:
 - A) The title is misleading (e.g. it reads *The effect of...* but there is no effect).**
 - B) The results or conclusions are not consistent with the title.**
 - C) No data are presented or key results are omitted.**
 - D) One or more statements in the conclusions are not supported by the results.**

Procedures

- The 93 selected abstracts were tabulated regarding: number of abstract, title, purpose, results, conclusions, and the four different criteria.
- Sponsorship by an ACSM Fellow (FACSM) was also tabulated for posterior analysis.
- Each abstract was evaluated by two independent reviewers. The abstracts were considered “Pass or Fail” if both people agreed on the results.
- If the first two reviewers disagreed, a third independent individual reviewed the abstract and made a final decision.

RESULTS

Figure 1: Percent of abstracts that failed each established criterion.

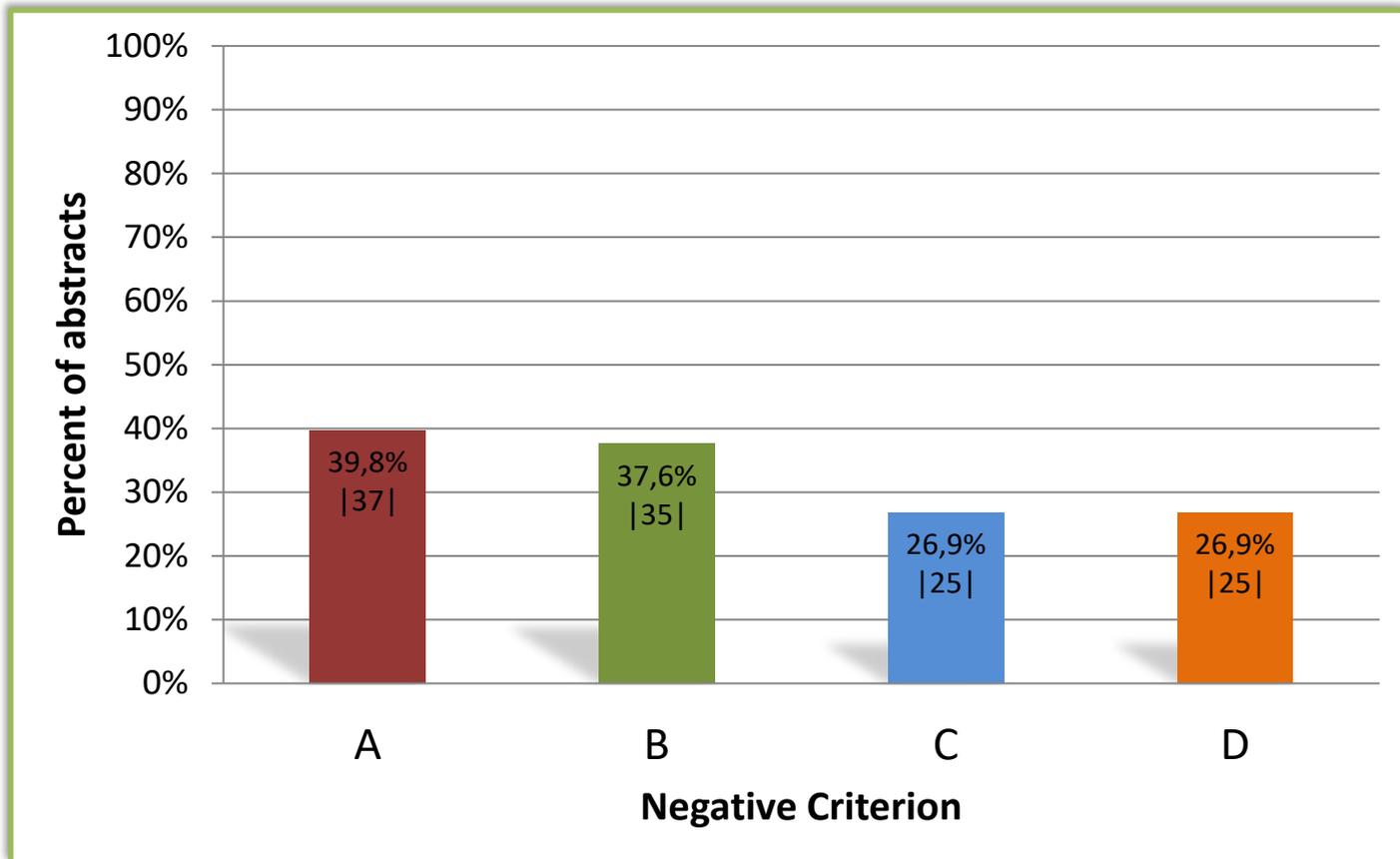


Figure 2: Percent of abstracts that passed or failed one, two, three or four established criteria.

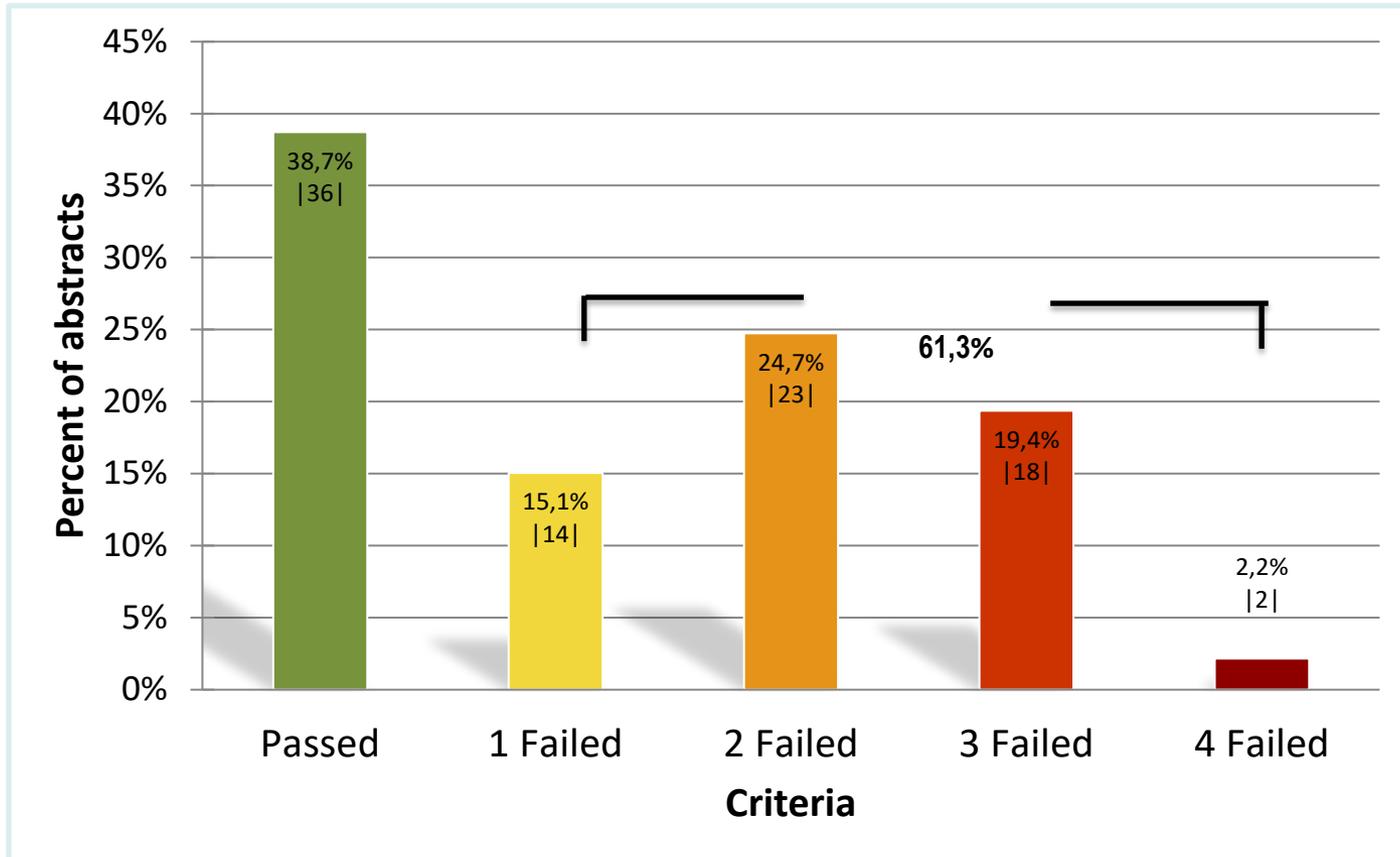


Figure 3: Total failed abstracts. Percent of abstracts that failed one, two, three or four established criteria

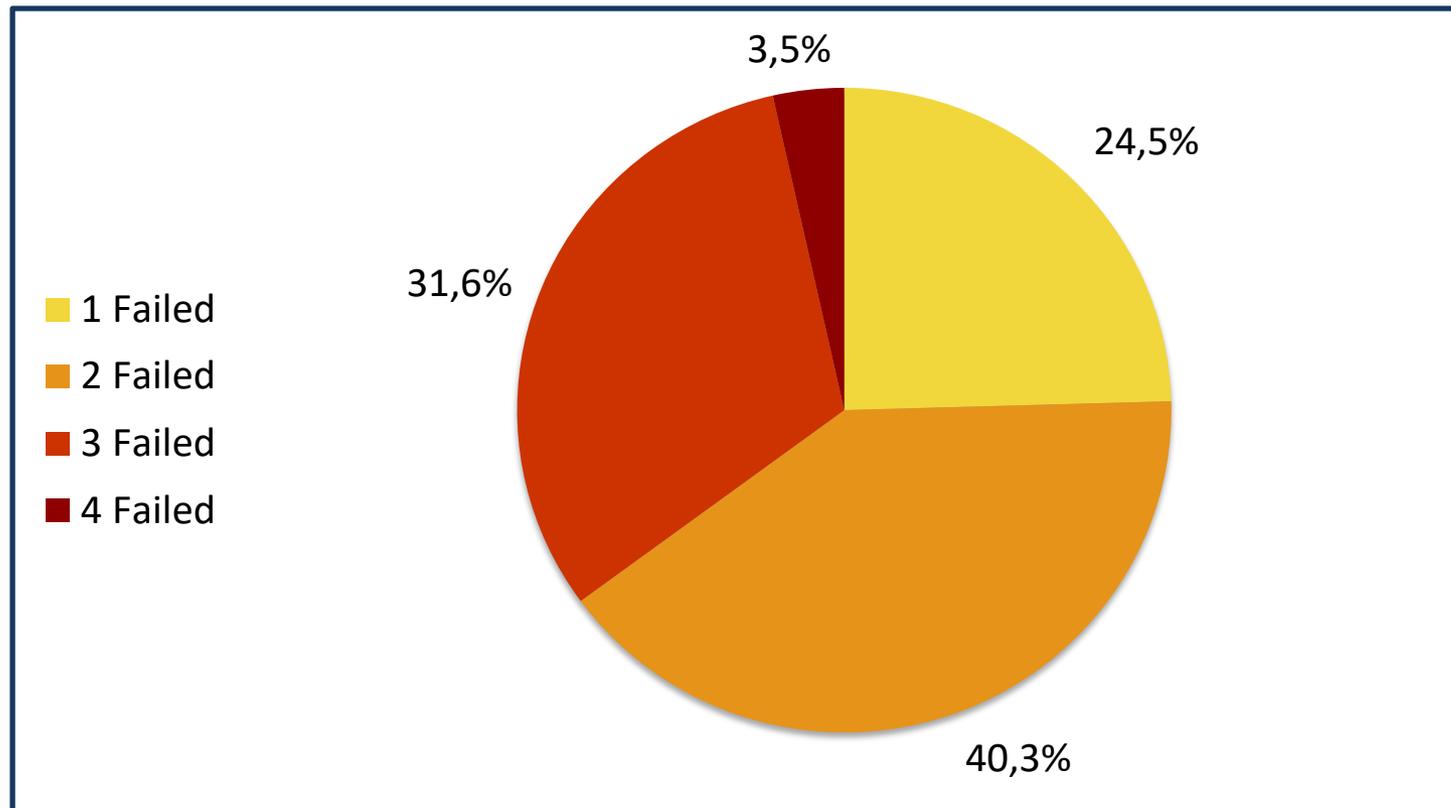
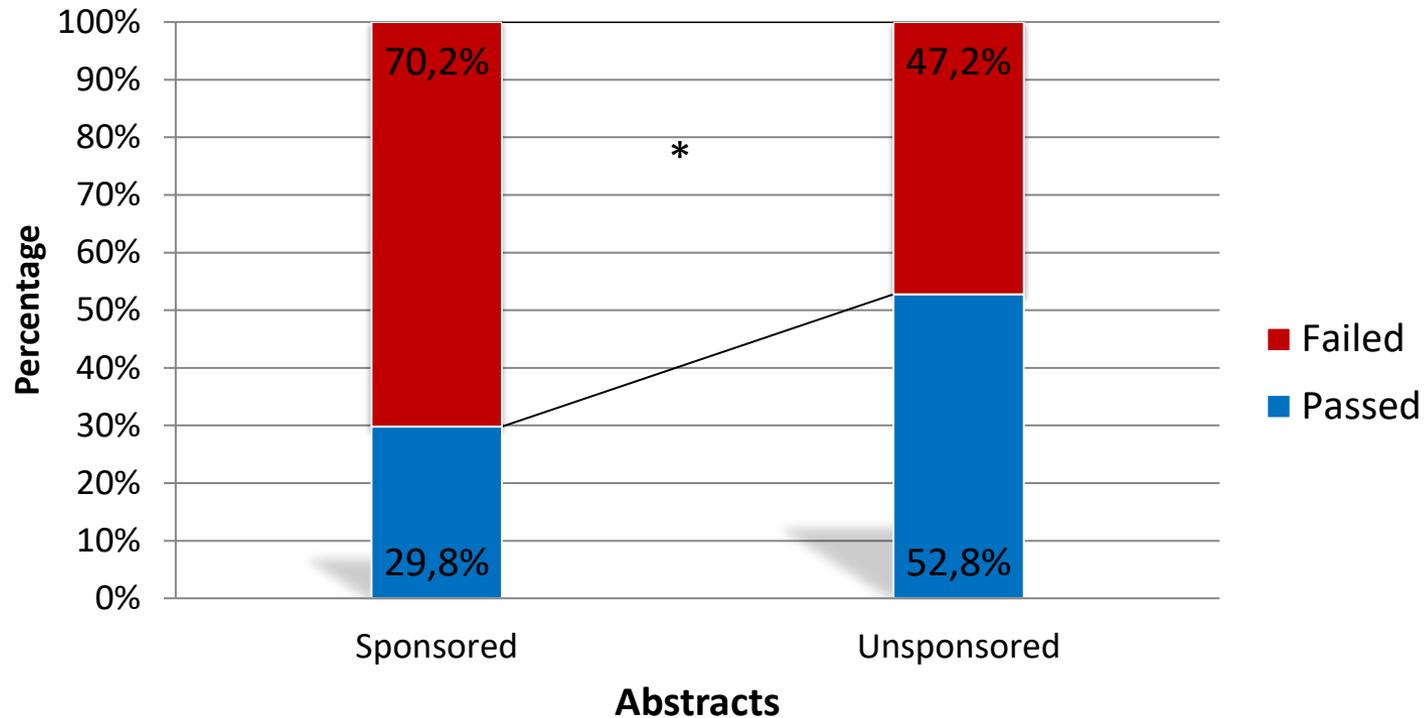


Figure 4: Failure vs. approval of abstracts according to FACSM sponsorship.



A total of 70.2% of sponsored by a FACSM abstracts (40) and 47.2% of the not sponsored abstracts (17) failed criteria. Failed abstracts were more likely to be sponsored *2x2 Chi² = 4.9, p < 0.05.

CONCLUSIONS

- **The major finding of this study was that too many (more than 60%) of the sampled abstracts failed in one or more established criteria, despite the ACSM instructions and review process.**
- A disquieting result was that FACSM sponsorship seemed to make a negative, rather than a positive, contribution.
- We respectfully suggest that for future meetings, FACSM sponsorship of an abstract should be from a non-authoring Fellow.

- The information presented shows that some abstracts do not include critical information to meet the required standards; this in turn fails to meet the needs of readers.
- This information is respectfully submitted to ACSM as a self-evaluation, an essential ingredient in any scientific undertaking. The recent increase in published research abstracts needs to be matched by their quality, in an effort to have the reporting reflect the actual evidence found during research.

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ABSTRACT

The objective of the ACSM Annual Meeting is the exchange of scientific information. Authors of free communications must submit abstracts by a specific deadline for evaluation. As the written record of those presentations, the abstracts are expected to be clear, objective, and informative. In addition, abstracts of experimental studies must include data to substantiate the conclusions being drawn. According to the program committee, "it is not satisfactory to simply describe what was found or to only include statistical results". Accepted abstracts are, however, sometimes confusing or misleading.

PURPOSE: to assess sports nutrition abstracts according to four specific criteria of clarity and internal consistency. **METHODS:** all the abstracts (n = 93) reporting experimental or quasi-experimental studies, from nine sports nutrition related free communication sessions, were selected for review. Each abstract was evaluated by two independent reviewers, according to four negative criteria; only those free from all four shortcomings were passed: A) The title is misleading (e.g. it reads *The effect of* but there is no effect). B) The results or conclusions are not consistent with the title. C) No data are presented or key results are omitted. D) One or more statements in the conclusions are not supported by the results. Sponsorship by an ACSM Fellow (FACSM) was also tabulated for posterior analysis. **RESULTS:** Only 36 abstracts (38.7%) passed all four criteria, while many failed more than one criterion: A = 37, B = 35, C = 25, and D = 25. Failed abstracts were more likely to be sponsored by a FACSM (40) than not sponsored (17) (2×2 Chi² = 4.9, p < 0.05). **CONCLUSION:** This preliminary analysis of abstract quality reveals important shortcomings: more than 60% of the published abstracts failed, while FACSM sponsorship seemed to make a negative, rather than a positive, contribution. The absence of actual data in many abstracts is especially worrisome. This information is respectfully submitted to ACSM as a 'evaluation, an essential ingredient in any scientific undertaking.