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ORIGINAL ARTICLE

Using data about accepted and rejected articles in the Journal of Dental Education to increase authors' chances of article acceptance

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Abstract

Purpose/objectives: The purpose of our study was to identify trends and compare keywords from titles and methods among articles accepted and rejected for publication in the Journal of Dental Education (JDE).

Methods: The titles and abstracts of JDE articles submitted between 2010 and 2020 were extracted. We studied the frequencies of keywords in the title and abstracts and used simple descriptive data to present the information. Additionally, keywords from the methods section from JDE articles reviewed between 2015 and 2020 were analyzed by acceptance versus rejection. University of Michigan Medical School's committee on human subject studies provided an exemption (HUM00196884).

Results: Articles with the terms "knowledge," "skills," and "attitudes" appear, separately or together, in the titles of submissions to JDE 510 times during the study period—190 in accepted articles and 320 in rejected articles (an acceptance rate of 37.3%). The term "clinical" is in the title of 337 articles submitted to JDE—195 accepted and 142 rejected (an acceptance rate of 57.9%). However, the term "pre-clinical" is associated with only 56 articles in the last 10 years—36 accepts and 20 rejects (64.3%). Studies with cross-sectional study design were accepted at a rate of 72.0% and manuscripts with cohort study designs were accepted at 53.3%. Systematic reviews were accepted at 44.4%, surveys were accepted at 36.7%, meta analyses were accepted at 28%. Questionnaires were accepted at 14%.

Conclusions: Higher quality study designs were more likely to be accepted for publication. Studies including a randomizing process and studies that were longitudinal in nature were more likely to be accepted for publication.

KEYWORDS
Evidence-based dentistry, professional interest, research methods

1 | INTRODUCTION

In 1936, the first issue of the Journal of Dental Education (JDE) was launched. The first article was written by Dr. Isaac Schour who would go on to be the President of the International Association for Dental Research in 1941[1] and the Dean at University of Illinois College of Dentistry from 1956–1964.[2] Notably, this first edition included an editorial on the importance of collaboration between medicine and dentistry and alludes to the connections in oral and systemic health.[3] This topic remains is current conversation 86 years later.

The JDE is, arguably, the foremost Journal in Dental Education in the United States and, perhaps, the world. JDE is a key in disseminating educational science to the dental education community. Dr. Michael Reddy became the Editor-in-Chief in 2019 and Dr. Romesh Nalliah began as the Associate Editor in May, 2020. In partnership with Sue Kimner, the Director of Publishing, we became interested in performing a deep data dive to identify trends and consider if changes to existing processes may be beneficial. Additionally, we wanted to be very transparent about the strengths and weaknesses of our journal—and celebrate the strengths and seek help to address the weaknesses. These are the factors that culminated in the current paper. The goal of this paper is to identify trends in published and unpublished articles across 2010–2020.

Overall, the JDE's acceptance rate is 24.9%. For some context, the New England Journal of Medicine has an acceptance rate of 5% and the comparable medical education focused publication, the Journal of Academic Medicine, has an acceptance rate of 20%.

The objective of our analyses was two-fold. First, to help authors use historic trends to understand how best to structure and present their next manuscript to maximize the chances of acceptance. Second, to understand publication trends and the processes that underlie them in an effort to improve transparency, quality and diversity of articles published in the JDE.

2 | METHODS

All abstracts (including titles) of all articles submitted to the Journal of Dental Education from 2010 to 2020 were extracted. Excel programming was used to determine the frequencies of keywords in the title and abstracts and simple descriptive data to present the information. Secondarily, the methods section was extracted from articles reviewed in the last 5 years (2015–2020). Keywords and terms indicating the methods were analyzed by acceptance and rejection. University of Michigan Medical School's committee on human subject studies provided an exemption (HUM00196884).

3 | RESULTS

3.1 | Keywords from titles sections (see Table 1)

All article titles were extracted and sorted by accepted and rejected articles from January 2010 to January 2020. The overall acceptance rate for articles submitted to JDE is 24.9%. The influence of keywords in the title of submitted articles was assessed retrospectively by looking at acceptance and rejection of the manuscript. We reviewed all articles with the terms "knowledge," "skills," and "attitudes." These terms appear, separately or together, in the titles of submissions to JDE 510 times during the study period. Among those, 190 were accepted articles and 320 were rejected (an acceptance rate of 37.3%).

The term "hygiene" appeared in the title of 92 accepted articles and 56 rejected articles which is an acceptance rate about 62.2%.

The term "clinical" is in the title of 337 articles submitted to JDE. A total of 195 were accepted and 142 rejected which is an acceptance rate of 57.9%. However, the term "pre-clinical" is associated with only 56 articles in the last 10 years—36 accepts and 20 rejects (64.3%).

Articles with the terms "flipped classroom" or "blended learning" represented only 18 articles—8 of which were accepted (44.4%) in the last 10 years. The term "calibration"

TABLE 1 Keywords from title and their associated acceptance rate

Keywords from title	Acceptance rate when that word is included in title
Most frequently appearing keywords:	
Knowledge, skills and/or attitudes ($N = 510$)	37.3%
Clinical ($N = 337$)	57.9%
Hygiene ($N = 148$)	62.2%
Pre-clinical ($N = 56$)	64.3%
Stress ($N = 53$)	32.1%
Key words with highest acceptance rate:	
Millennials ($N = 4$)	100%
Calibration ($N = 10$)	90.0%
Pipeline ($N = 8$)	87.5%
Admission ($N = 37$)	81.1%
Interprofessional ($N = 50$)	76.0%

*JDE's overall acceptance rate is 24.9%.

only appears 10 times in articles submitted to JDE and nine were accepted. The word "stress" appeared in 53 articles submitted to the JDE—17 accepted and 36 rejected for an acceptance rate of 32.1%.

The term "interprofessional" has 38 accepts and 12 rejects (76% acceptance); the term "admission" has 30 accepts and 7 rejects (81% acceptance). The term "pipeline" has 7 accepts and 1 rejection (an acceptance rate of 88%). The term "millennials" appeared in the title of an article submitted to JDE four times and all were accepted.

3.2 | Keywords from methods section (see Table 2)

We extracted the entire methods section of accepted and rejected articles from January 2016 to January 2021. We considered the types of studies in medical research[4] and we searched for any of those terms in all accepted and rejected JDE methods sections between 2016 and 2021. One of the most notable findings was that manuscripts with cross-sectional study design were accepted at a rate of 72.0% and manuscripts with cohort study designs were accepted 53.3% of the time. Furthermore, systematic reviews were accepted at 44.4%. Surveys were accepted at a higher rate (36.7%), meta analyses were accepted at 28%. These are all much higher than JDE's overall acceptance rate of 24.9%. Questionnaires were accepted at 14%. These data indicate a change in acceptance rate with the study methods employed in the research.

TABLE 2 Keywords from methods and their associated acceptance rate

Keywords from methods	Acceptance rate when that word is included in methods
Key words in the methods associated with types of studies in medical research:	
Case ($N = 527$)	21.6%
Control ($N = 455$)	25.5%
Review ($N = 409$)	31.1%
Intervention ($N = 346$)	26.9%
Applied (158)	19.6%
Cohort	53.3%
Experimental	22.6%
Systematic review	44.4%
Observational	19.4%
Cross-sectional	72.0%
Meta analysis	28.0%
Randomized controlled trial	0
Other key words in the methods:	
Survey ($N = 1,421$)	36.7%
Questionnaire ($N = 1,144$)	13.7%
Theoretical ($N = 140$)	17.7%
Trial ($N = 80$)	20.0%
Randomized ($N = 51$)	35.3%
Longitudinal ($N = 51$)	39.2%

*JDE's overall acceptance rate is 24.9%.

What this implies is that, as study method improves, their acceptance rates are also better. Therefore, taking the time to thoughtfully design your study has an impact on your acceptance rate. Interestingly, a lot of articles were rejected that had none of these key design words—that is, there was not clear description of study design. What this informs us is that potential authors need to use a sound research methodology and also communicate it well in the methods section to improve their chances of having their submission to JDE being accepted.

Interestingly, meta analyses were only accepted at 28% which was an unexpected finding since meta analyses are the gold standard for high-quality study design. Also notable was that there were no randomized controlled trials submitted during the 5-year study period.

For our next analyses, we expanded our search to some other commons terms in the methods. We found that questionnaires were accepted at 14% and, importantly, there were a huge number of questionnaires submitted. There is a difference between questionnaires and the more sophisticated surveys which we found were accepted at a higher rate (36.7%).

4 | DISCUSSION

4.1 | Keywords from titles

We found that the articles with the terms "knowledge," "skills," and "attitudes" in their title are accepted at a rate of 37.3%. It is important to note that the rate of rejection of these types of articles is increasing with time. This may suggest we are moving away from measuring knowledge to measuring application and competence. For example, there are more submissions to the JDE related to entrustable professional activities. Which is more a measurement of competence and ability to accomplish specialized tasks rather than knowledge. This finding may suggest to potential authors that studies measuring knowledge may be less likely to be accepted in JDE.

We found that when the term "hygiene" was in the title, the acceptance rate was over 60%. This may be an indication that authors studying dental hygiene are submitting high quality papers to the JDE. It may be valuable for DDS/DMD educators to evaluate papers published in JDE

about dental hygiene education and consider if findings can be applied to the education programs for dental students.

Our evaluations revealed that the term "clinical" is in the title of 337 articles submitted to JDE (acceptance rate of 57.9%) and the term pre-clinical is associated with only 56 articles in the same time period (64.3% acceptance rate). This represents a six-fold volume of clinical versus pre-clinical articles. We all know that preparation in simulation clinics are essential to ensure students arriving into the clinical phase of their education well prepared and competent to take care of patients. However, we might suggest that, at least in our opinion, the value of pre-clinical education has been diminishing over the years. For example, seasoned dental educators know that the student experience in directly performing prosthodontic lab work has become less demanding with no compensatory training on the didactic side. Perhaps because of this, evidence shows that there are communication gaps between dentists and lab technicians.[5] Without adequate experiences or training in "how" prostheses are made, students may face challenges when trying to resolve issues in the clinics. For example, minor lab errors may be difficult to identify and resolve. Over the years, dental school curricular has become packed with important items such as interprofessional education, the social determinants of health, and self-assessment exercises. However, something had to be reduced and preclinical education may have suffered.

Certainly, the dental school clinics (DSCs) are a very complex space with novice providers delivering care to live patients under the supervision of dentists who are also trying to teach new skills and knowledge. It is notable that, proportionally, very few pre-clinical education innovations have been submitted to JDE during the study period. It remains to be seen if this trend will self-correct because of the pandemic—a time in which all dental schools were forced to rely more of simulation exercises as nationwide lockdowns kept students and teachers out of the DSCs. This resulted in much innovation and a movement toward more simulation-type exercises due to the lack of availability of clinical experiences.[6–11] Perhaps the pre-clinical area will continue to grow as a site for educational innovation and we encourage all readers to consider disseminating their pre-clinical innovations through the JDE.

For a while, our profession could not stop talking about flipped classrooms and blended learning. However, there are only 18 submitted articles (8 accepted) in the last decade and authors of this article started to wonder "how did we lose our fascination with flipped classrooms?" Theoretically, it is a wonderful concept that drives student engagement[12] but is resource heavy and implementation is not straightforward.[13] Having served as a co-presenter in a flipped classroom, one of our authors can attest that it is much more work in preparation for the faculty—and faculty are overworked already.[14] Once again, we wonder if there will be a rise in flipped classroom innovations (and subsequent publications) due to the pandemic. Dental educators were forced into this because of pauses to in-person learning. A lot of simulation and clinical education moved to blended learning out of necessity during the pandemic and we have seen a rise in publications related to these innovations.[15]

We found that the word "calibration" only appeared 10 times in articles submitted to JDE in the last 10 years. This is particularly interesting because some of the adjustments in the last decade to predoctoral CODA standards have included more demanding requirements associated with faculty calibration. Therefore, it follows that this remains an area of opportunity for potential authors—if schools are engaged in innovative work related to calibration, the JDE has had very few submissions in this topic and still need to disseminate the latest and best practices.

The term "stress" appeared in 53 articles with 17 accepted into JDE. This was notable given recent events and how difficult the year 2020 was for students, staff and faculty. Historically, there have been a lot of publications and submissions related to stress in dental education and this had started slowing down. However, we may expect to see more papers related to stress and burnout as a result of the pressures imposed by the pandemic on dental education.

We found that the term "millennials" appeared in the title of an article submitted to JDE four times and all were accepted. We are still trying to understand Millennials and Generation Z who follows them–early research suggests that Gen Z is completely different to previous generations. For example, Gen Z does not seem to enjoy group work.[16] However, we have completely changed our curricular to include team-based learning, group work and clinical teams and the key question is, will we change these pedagogy for Gen Z or not?

A total of 37 articles with the word "admission" in the title were submitted to JDE during the study period and 81% were accepted. Recent research has suggested that racial bias may still exist in admissions processes and there is a need for more research on holistic admissions processes and on the predictive power of admissions processes. Duff et al. recently published a paper about how multiple mini interviews (MMI's) can predict some outcomes in dental school which is very powerful.[17] More research like this is necessary to support our admissions processes or improve them. Importantly, admissions committees around the country are probably not focused on publishing about their processes. However, if schools truly

want to impact equity and high quality recruitment processes, the best way to accomplish a major impact is to disseminate their work in a peer-reviewed journal. In this way, other schools can take these innovations and adapt it to their school and their process which will multiply the impact of the original innovator.

4.2 | Keywords in methods sections

For our next analyses, we expanded our search to some other commons terms in the methods and we found that the type of study was related to acceptance rates. Specifically, we found that, as study method improves, their acceptance rates are also better. Therefore, taking the time to thoughtfully design your study has an impact on your acceptance rate. Interestingly, a lot of articles were rejected that had none of these key design words—that is, there was not clear description of study design. What this informs us is that potential authors need to use a sound research methodology and also communicate it well in the methods section to improve their chances of having their submission to JDE being accepted.

We found that questionnaires were accepted at 14% and, importantly, there were a huge number of questionnaires submitted. There is a difference between questionnaires and the more sophisticated surveys which we found were accepted at a higher rate (36.7%).

Interestingly, meta analyses were only accepted at 28% which was an unexpected finding since meta analyses are the gold standard for high-quality study design. In many of the unaccepted manuscripts, the data available were too limited or heterogeneous for a systematic review. Also notable was that there were no randomized controlled trials submitted during the 5-year study period.

All of these acceptance and rejection rates are driven by our astute reviewers. The privilege of serving as a reviewer affords one the opportunity to shape the thinking in the profession for the next year (or more). As reviewers for JDE you, literally, influence the thinking in our profession. Occasionally, dental educators report that research is not a priority and that their passion lies in supporting students, or recruiting underrepresented minorities, or improving engagement in learning and other valuable pursuits. However, if one is truly passionate about an issue, then it becomes our responsibility to do two things: first, to understand the current evidence on the subject and, secondly, to disseminate your own outcomes so that others can stand on your shoulders instead of starting from scratch. Further, by disseminating the work you are passionate about, more people can do more good in your area of passion. Publishing in the JDE provides this kind of opportunity because it has a global audience and has been the industry standard in the United States for many years. Therefore, we close by encouraging readers to consider dissemination by publishing in JDE. It is the best way to help even more people than you are helping now.

5 | CONCLUSIONS

In conclusion, improving chances of publishing in the JDE has a formula:

1. Good study design—higher quality study designs are more likely to be published.
2. Clearly communicating the importance of the study findings and how will it change dental education.
3. Can there be a randomizing process for subjects? This seems to increase the likelihood of being accepted in the JDE.
4. Is the study longitudinal in nature? This can improve chances of acceptance.
5. Measuring knowledge is of less interest and importance. Measuring effectiveness and attitude are becoming far more important metrics.

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