

**Manuscript Title:**

Social Media Growth of Orthopaedic Surgery Residency Programs in Response to the COVID-19 Pandemic

**Manuscript ID:**

73487

**Point By Point Response to Reviewers' Comments**

Thank you for allowing us to revise our paper. The constructive advice of the peer reviewers has allowed us to improve our paper. Below are out responses to their comments.

Reviewer #1:

**Specific Comments to Authors:** I would firstly like to compliment the Authors for their effort in shedding light on a such interesting aspect for T&O training. I have gone through the paper with great attention and interest. I would like to inform the Authors that I have made recommendations in favor of publication of the article on this Journal after minor revisions. -The topic is very interesting and catchy. -The abstract is well built. -The paper is well structured and written (evidently by native English speakers). -The introduction is informative. -Aim is stated. -Methods are clearly and properly written. -Statistics, figures and tables are appropriate. -Results are well presented. -I would add more referencing on articles based on the use of social media within Orthopaedics or other specialties (if existing) and further expand the introduction with brief but informative statements. -I would give a slightly different angle to the aims, adding more clinical/training implications points. -Why was only google used? What was the rationale behind the choice of using only Instagram and Twitter? Please clarify or consider other social media platforms. -I believe more clinical/training implications or further relevant reasons why the presented findings could be relevant in the field should be added. Are the only reasons the following mentioned ones? " to connect with applicants, to announce virtual opportunities, to highlight resident wellness..., etc.". For example Social Media are being used for courses, meetings, advertising, online teaching sessions, etc.. -The discussion should be further developed based on the previous comment. The already discussed aspects are relevant and should be kept. -Conclusions should be reviewed and implemented accordingly after having taken into account the previous two points. -The abstract should be reviewed accordingly after having revised the paper.

**Author's Response:**

Response To reviewer #1: First and foremost, thank you for your support and your recommendations in favor of publication for our manuscript. We appreciate your feedback and comments. We have taken the time to read through your suggestions and have made revisions accordingly.

1. More referencing – our initial literature review revealed very limited analyses of social media and its use in the orthopedic surgery residency application. Nonetheless, a repeat literature review revealed more information regarding applicants' perceptions of social media in orthopedics, which we have referenced in the discussion section as an important

component of the rise in social media accounts in the post-covid era. We have also included this reference as part of our introduction.

- a. **Changes to manuscript:** Introduction section, paragraph 2 – “Prior literature reported 85% of interviewees utilized at least one social media platform to learn more about individual programs [5]. Another study showed up to 77.8% of applicants that feel that residency programs should be utilizing social media as a means of communication, and the majority of applicants (54.3%) in the 2021 application cycle were influenced by social media with regards to interest in specific residency programs[6]. Considering the new challenges that emerged, social media has allowed programs and applicants with a platform to engage with one another in meaningful ways.”
2. Clinical implication of aims – there is limited data on the clinical implications of social media usage among orthopedic surgery residency programs. Studies have shown that orthopedic surgeons often utilize social media as a platform to publicize their practice, communicate with patients, etc, but the training and educational implications of residency programs specifically on social media has not yet been reported. Despite this, a paragraph was added in the discussion section regarding clinical implications. Additionally, we mentioned that the clinical training and education of resident surgeons as it relates to social media usage can be further studied to enhance the existing literature.
  - a. **Changes to manuscript:** Discussion section, paragraph 9 – “The rise of social media usage amongst orthopedic surgery residency programs has been clearly identified as a factor in the application process for medical students. Social media usage within orthopedic surgery has also been reported in the context of patient education and clinical implications. Specifically, studies have shown that social media is a growing platform for surgeons to communicate with and educate patients in order to improve patient outcomes, but long-term efficacy and practicality of social media in patient communication is still unclear [20]. Within the scope of orthopedic surgery residency programs, the clinical implications of social media are unclear and have not yet been thoroughly studied. It is clear, however, that social media is quickly becoming a critical component of education and training with one study revealing 77% of internal medicine residents utilizing social media for medical education purposes[21]. Several programs have included resident education and training, as well as patient outcomes, as a component of their social media content, but the implications of this with regard to clinical outcomes have not yet been reported in the literature.
3. Google search/use of twitter and Instagram – we have included a reference in the methods section as to why twitter and Instagram were used, based on prior studies showing greater volume of Instagram and twitter accounts among residency programs when compared to other social media platforms. Additionally, we Authors – a collection of current residents and medical students – felt that these two platforms were most commonly used amongst our peers for consumption of media and information, and therefore best exemplified the changes we have seen in the residency application process as a result of the COVID-19 pandemic.
  - a. **Changes to manuscript:** Methods section, paragraph 1: A total of 201 programs were identified. Prior studies have suggested that residency programs more often

utilize Instagram and Twitter as platforms for delivery of information as opposed to other similar social media alternatives such as Facebook [11, 12]. Therefore, all programs were reviewed for ownership of Instagram and Twitter accounts.

Reviewer #2:

**Specific Comments to Authors:** Article is well written. Additional review on similar topics with recent advances in field of visual education can be added.

**Author's Response:**

To reviewer #2 – Thank you for your suggestions. A literature review specifically investigating social media and its impact on education revealed limited results. Nonetheless, we were able to identify data that suggests residents across different medical subspecialties are increasingly utilizing social media as a form of medical education and we referenced that in our discussion section. We also adjusted our conclusion appropriately to reflect this.

- a. **Changes to manuscript:** Discussion section, paragraph 9 – “The rise of social media usage amongst orthopedic surgery residency programs has been clearly identified as a factor in the application process for medical students. Social media usage within orthopedic surgery has also been reported in the context of patient education and clinical implications. Specifically, studies have shown that social media is a growing platform for surgeons to communicate with and educate patients in order to improve patient outcomes, but long-term efficacy and practicality of social media in patient communication is still unclear [20]. Within the scope of orthopedic surgery residency programs, the clinical implications of social media are unclear and have not yet been thoroughly studied. It is clear, however, that social media is quickly becoming a critical component of education and training with one study revealing 77% of internal medicine residents utilizing social media for medical education purposes[21]. Several programs have included resident education and training, as well as patient outcomes, as a component of their social media content, but the implications of this with regard to clinical outcomes have not yet been reported in the literature.

**Other:**

The guidelines for resubmission request that we have decomposable figures, however, our figures were generated with the statistical software we used and are unable to be edited/decomposable. They have been placed on a PPT presentation as requested with improved titles and legends. Thank you for your consideration and understanding.