

#99 Patient Perceptions of Social Media Use by Orthopedic Surgeons

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Disclosure

- I have nothing to disclose.

Objective

- The purpose of this study was to characterize content posted by orthopedic surgeons on social media while investigating patient perceptions of this content and how it may influence their healthcare decisions

What We Know

- Most American adults use social media (SM) (Poushter et al. 2018)
- Surgeon social media presence increasing, variable across studies (Earp et al. 2020)
- SM presence is correlated with higher online ratings (McCormick et al. 2021, Sama et al. 2021)
- SM can increase patient engagement, exposure without added costs (Sculco et al. 2017)

What We Don't Know

- How likely are patients to use SM to make healthcare decisions?
- What content do patients view positively/negatively?
- Does SM influence which physician a patient chooses to see?
- Is SM an effective tool to help physicians establish a practice?

Methods

- Content on SM accounts of physicians reviewed
- Common posts types categorized
- Patient survey built to assess perception of these categories and level of SM utilization
- Surveys administered to patients via QR code/smartphone in clinic of 3 sports medicine surgeons
 - High SM utilization (HSM) surgeon
 - Moderate SM utilization (MSM) surgeon
 - No SM utilization (NSM) surgeon

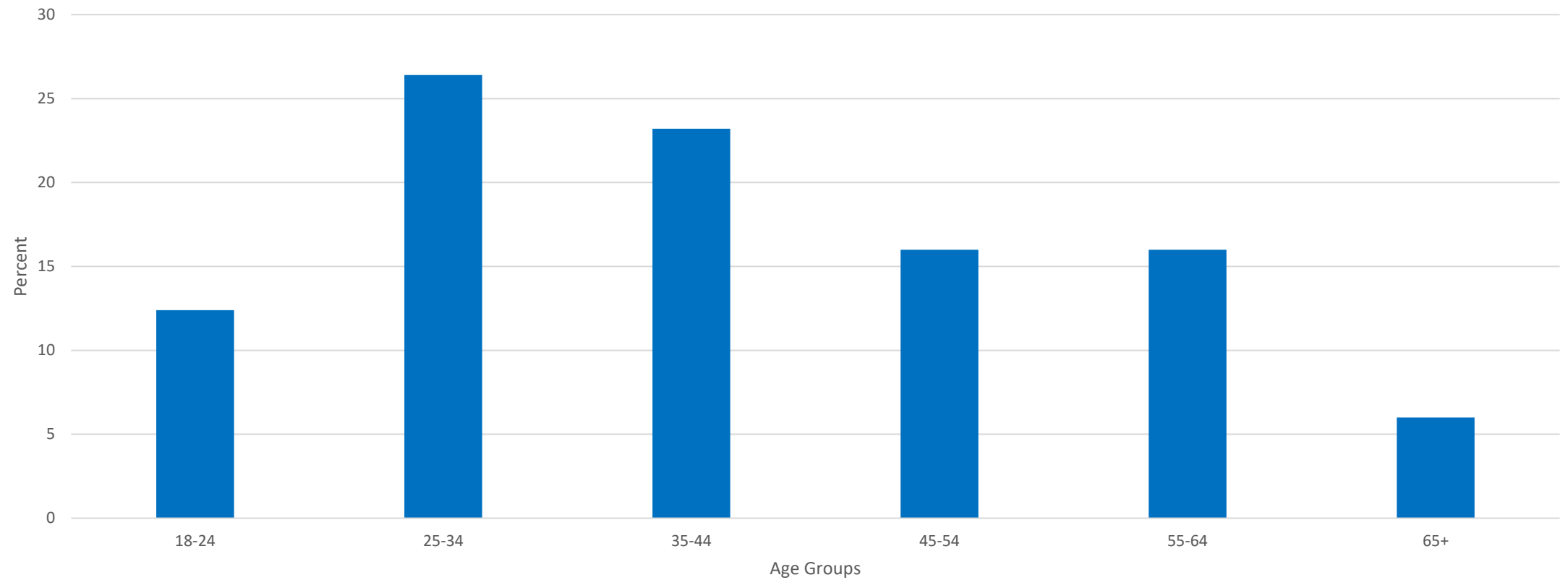
Methods

- Survey results were analyzed for differences in utilization based on patient demographics and the level of SM utilization of the physician (HSM, MSM, NSM) that the patient saw that day, using multinomial logistic regression
- Patient responses to Likert style questions were analyzed using response median to judge content types that were perceived positively, neutrally, or negatively
- The interquartile range was also calculated for Likert style questions to judge whether responses were polarized or more consistent across the groups.

Results

- 250 surveys completed
 - 110 in HSM clinic
 - 90 in NSM clinic
 - 50 in MSM clinic
 - No significant differences in SM utilization or perception between patients of different surgeons
- 51.2% female, 48.4% male, 1 non-binary patient
 - No significant association between patient-reported sex and SM utilization or utilization

Respondents by Age Group



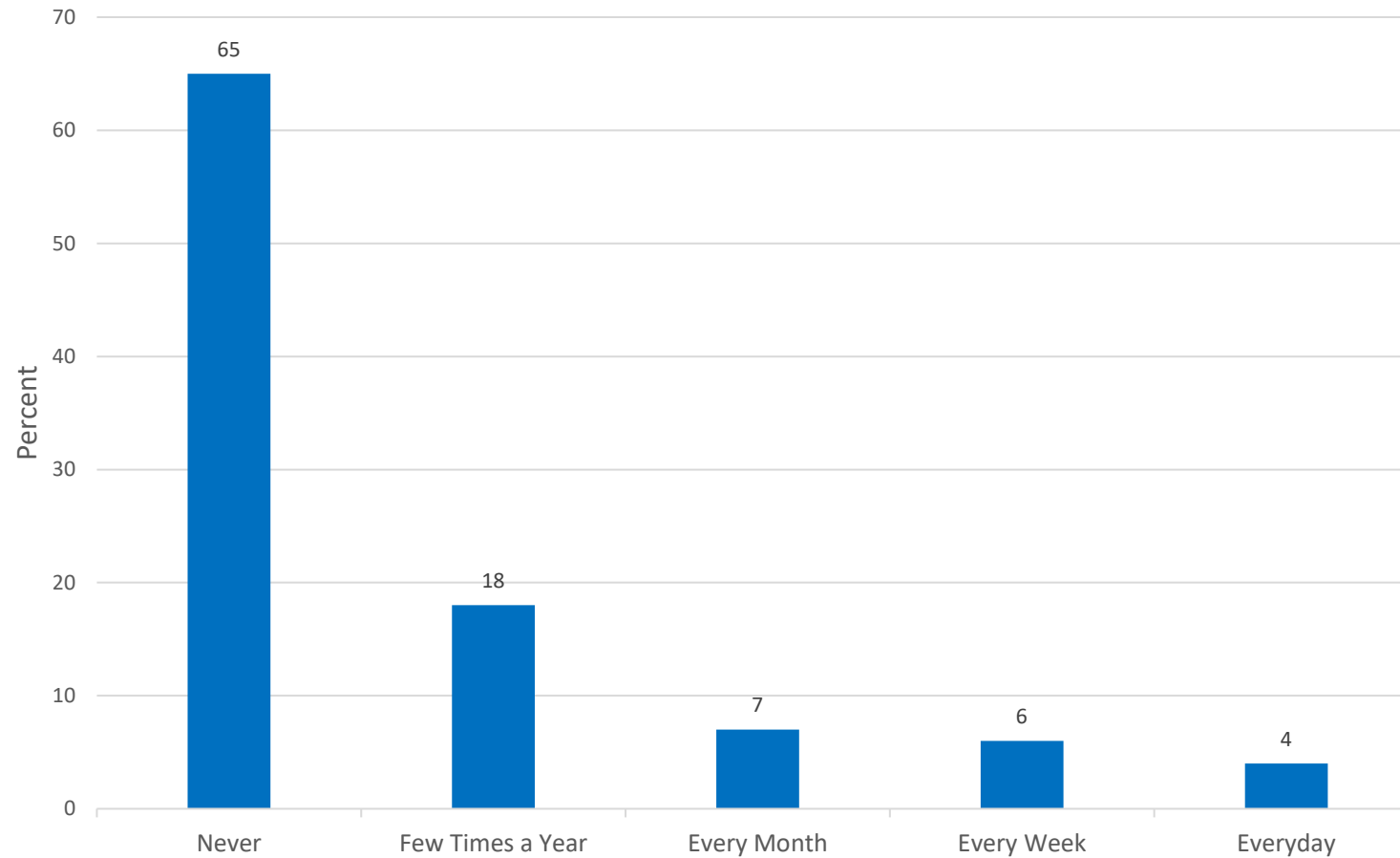
Respondent SM Utilization

- 65.6% every day
- 12.4% every week
- 7.2% every month
- 4.8% several times per year
- 10% never use SM
- Instagram most popular in 18-24 and 25-34 age groups
- Facebook most popular in all older age groups

Respondent SM Utilization

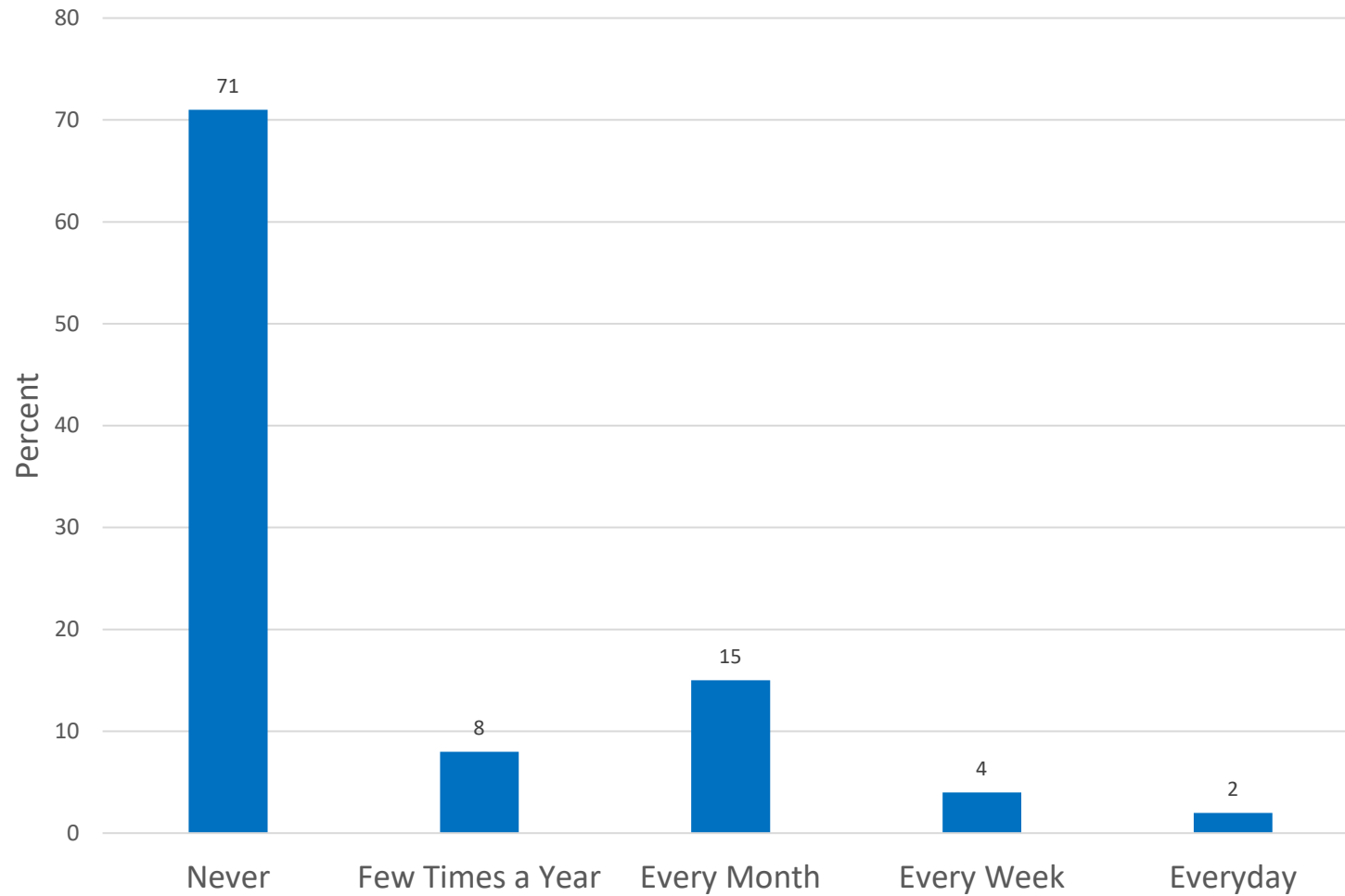
- 18-24 (87.1%) and 25-34 (86.4%) age groups more likely to report daily use ($p=0.002$)
- 78% of all patients report weekly or daily usage
 - > 62.5% in all age groups
- No significant difference in utilization between patients of NSM surgeon and HSM surgeon

How Often Do you Access Info Related to Healthcare on SM?

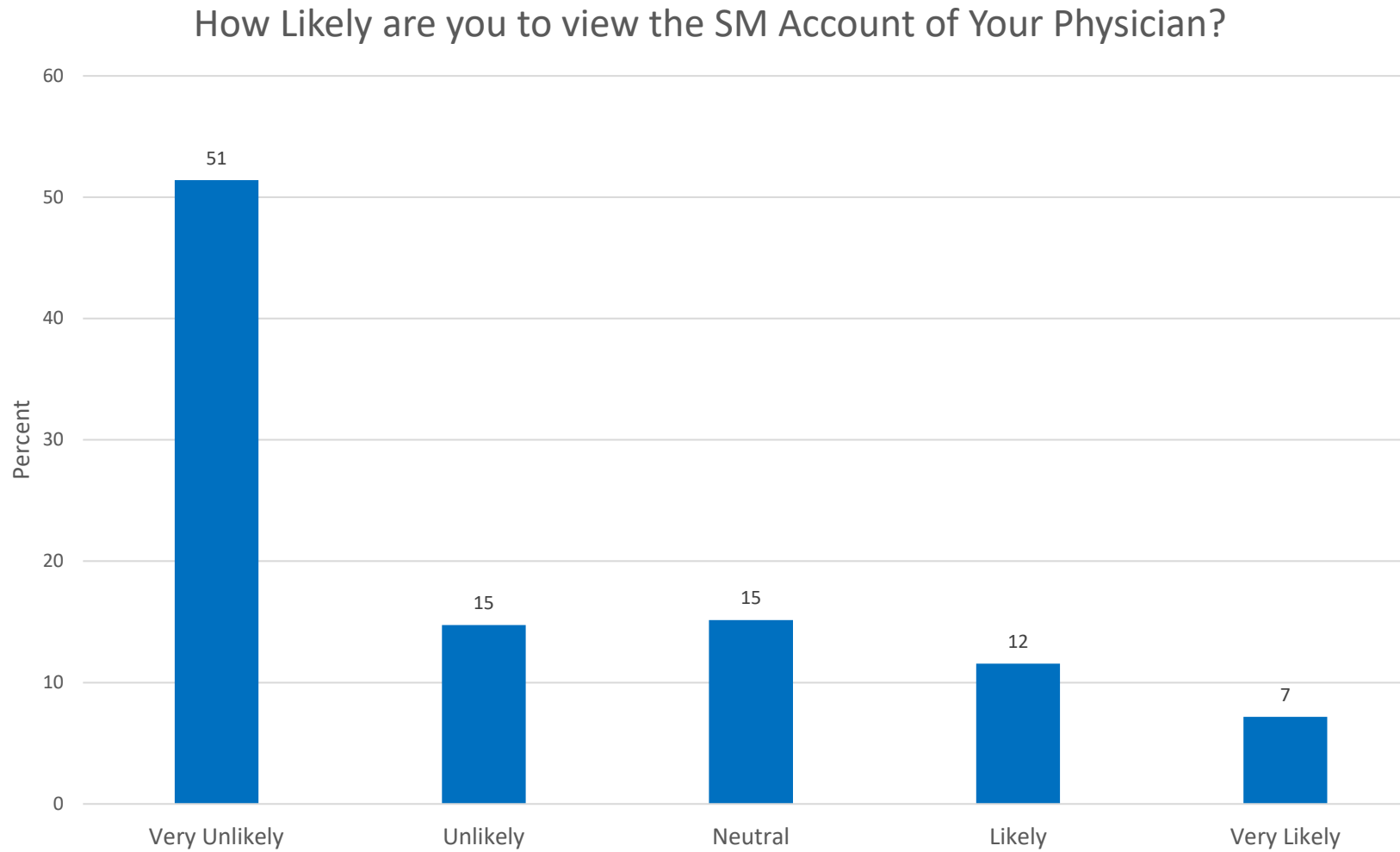


- **Figure 1:** Frequency of social media utilization by patients to access information regarding their own healthcare. Survey results show that 17% of respondents utilize social media to access information related to their healthcare at least once per month.

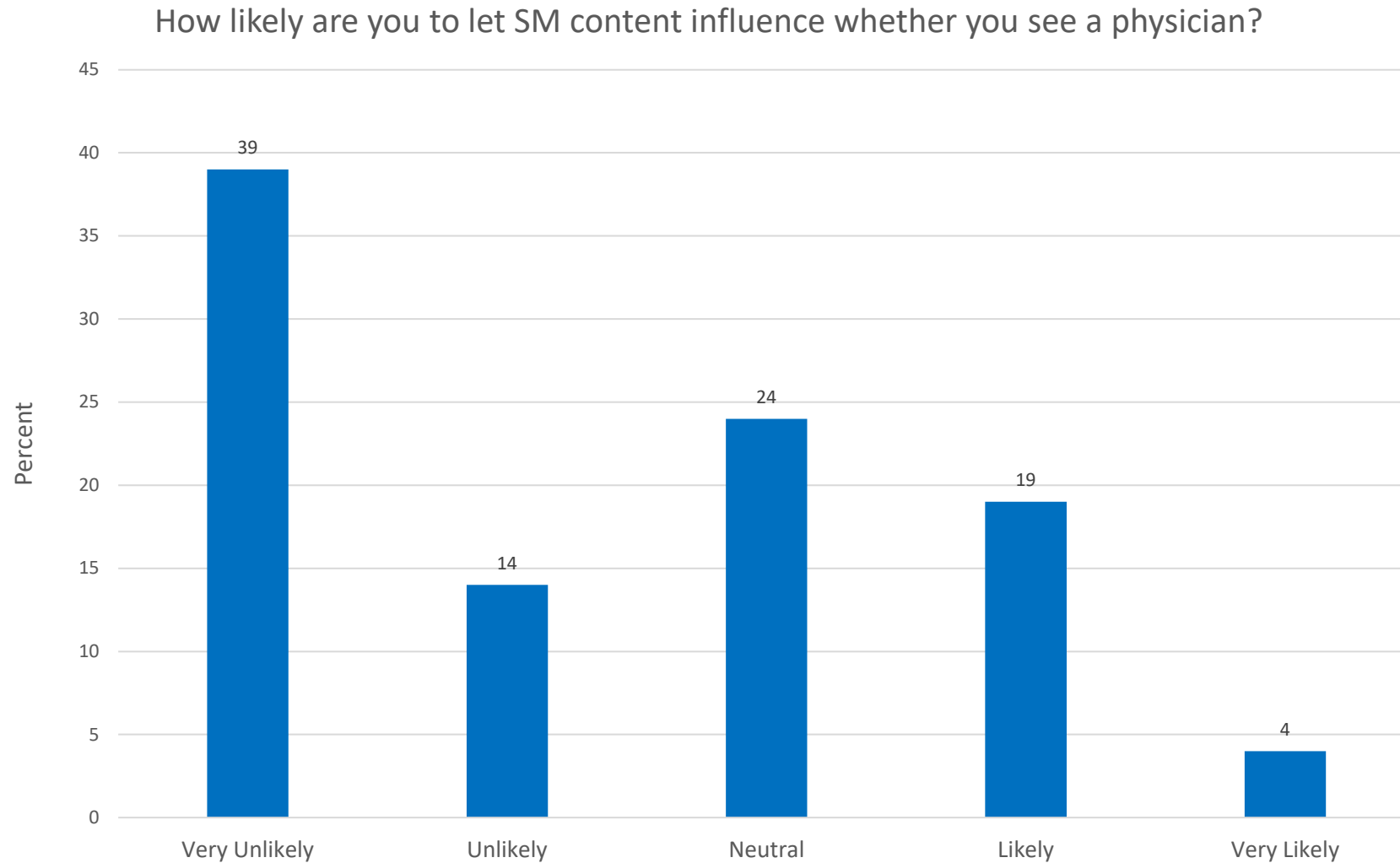
How Often Do You View SM Account of Any Physician?



- **Figure 2.** Frequency with which respondents view social media accounts of any physician. Roughly 21% of patients do so at least once per month.



- **Figure 3.** Likelihood of respondents to view the social media account of a physician who is currently providing them with medical care.



- **Figure 4.** Likelihood of respondents to allow content posted on social media to influence their decision whether to see a physician.

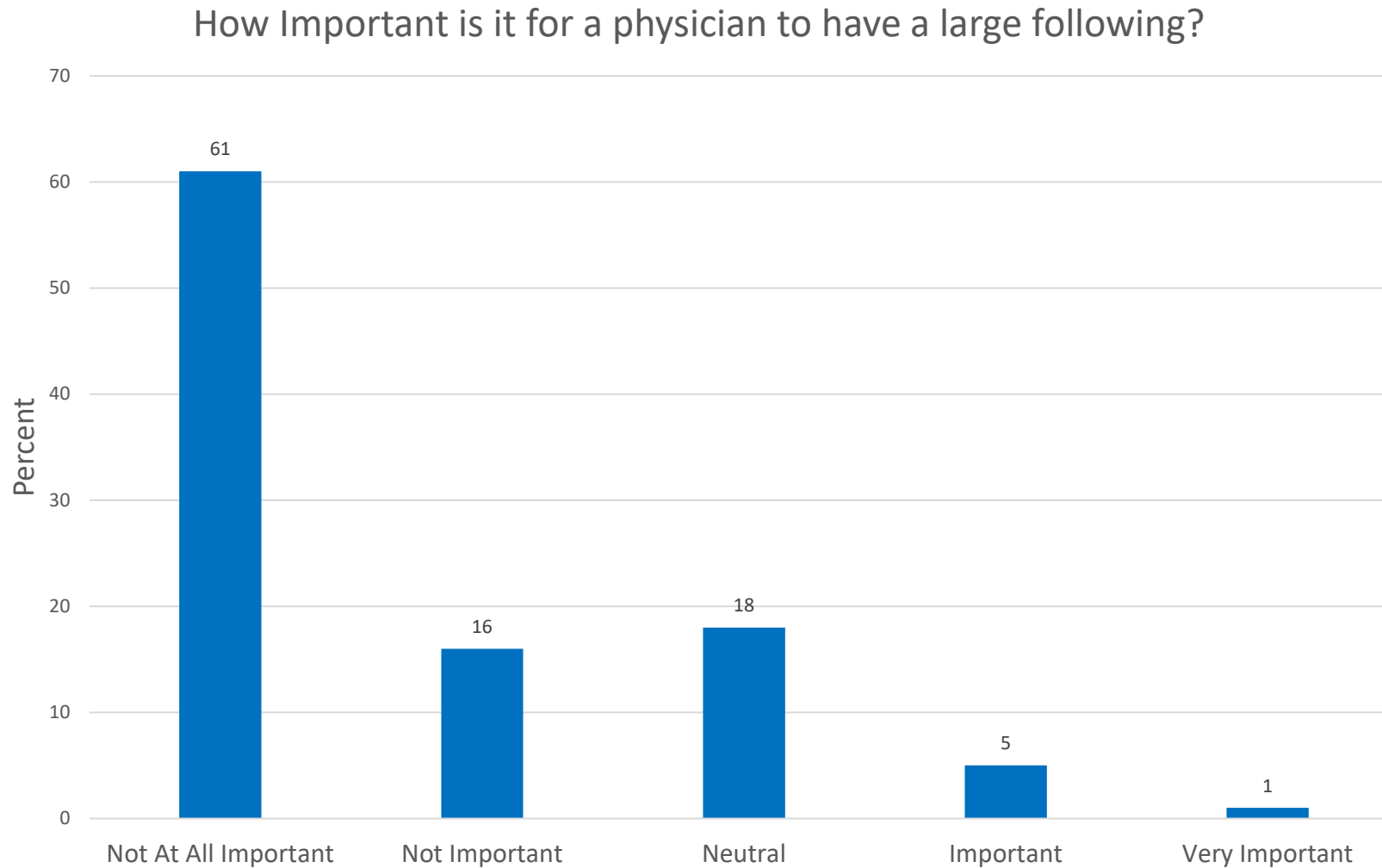


Figure 5. Importance of having a large number of social media followers. Only 6% of respondents believe that a physician’s number of followers on social media is important or very important.

Common Content Categories

- Patient education
- Colleague education
- Research/Publications
- Academic presentations
- Personal life (family, pets, recreational activities, etc.)
- Surgical technique pictures/videos
- Pictures/videos of surgeon operating
- Case-based imaging
- Sports team coverage
- Patient testimonials
- Support for diversity of marginalized groups
- Political statements

Table 1. Respondent Perception of Social Media Content Categories

Positive Response (median 4, IQR 1)	Neutral Response (median 3, IQR 1)	Polarized Response (median 3, IQR 2)	Negative Response (median 2, IQR 1)
Patient Education	Colleague Education	Research Publications	Political positions
Team/Athlete Coverage	Academic Presentations	Surgical technique picture/video	
Patient Testimonials	Personal Life	Operating room picture/video	
	Case-Based Imaging	Pictures from patients own surgery	
	Support for Diversity or Marginalized Groups		

Conclusions

- Results support the use of SM by orthopedic surgeons who wish to interact with patients and who utilize SM as part of their strategy to grow a busier practice
 - ~1 in 5 patients access information regarding their own healthcare at least one time per month
 - Targeted interaction with these patients may offer competitive advantage in saturated markets
- Having a large SM following is not important to patients
 - Physicians with small following can still have positive interactions in their community
- SM content aimed at providing patient education is viewed positively
 - Increasing prevalence of misleading health information online (Cassidy et al. 2018, Kunze et al. 2020, Springer et al. 2020)
 - Physician created educational content may boost interaction and may decrease the number of patients who consume misleading or poorly informed health content online

Conclusions

- All age groups commonly use SM, variation exists in most popular platform between groups
 - Instagram most popular in ages 18-34, Facebook most popular in older age groups
 - This is consistent with previous data (Anderson 2018), but will likely evolve over time
- Physicians who wish to target interactions with a specific age group should attempt to focus efforts on most popular platform in that age group
 - In one recent study, only 9% of professional team physicians reported having an Instagram account
- We are not aware of any previous studies focused on patient perceptions of SM use by orthopedic physicians
 - Ongoing research in this area will help guide SM use by physicians in the future

Conclusions

- Physicians who focus on SM posts pertaining to patient education and patient testimonials are likely to drive more engagement with patients
- Sports medicine surgeons who wish to drive patient engagement should post frequently about the teams that they cover
- We recommend that physicians with patient-focused accounts carefully consider content that is created in the operating room (surgical techniques, pictures during surgery) prior to posting, as these categories were more likely to be viewed negatively by patients
- We recommend using sensitive tags or other strategies that allow patients to avoid viewing this material against their will while using SM applications

References

1. Anderson, M. and J. Jiang. (2018). "Teens, Social Media and Technology 2018." Internet, Science and Tech newsletter Retrieved 12/18/22, 2022, from <https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/>.
2. Cassidy, J. T., E. Fitzgerald, E. S. Cassidy, M. Cleary, D. P. Byrne, B. M. Devitt and J. F. Baker (2018). "YouTube provides poor information regarding anterior cruciate ligament injury and reconstruction." Knee Surg Sports Traumatol Arthrosc **26**(3): 840-845.
3. Damodar, D., C. J. Donnelly, 3rd, J. R. McCormick, D. J. Li, G. V. Ingrassi, M. W. Roche, R. M. Vakharia, T. Y. Law and V. H. Hernandez (2019). "How wait-times, social media, and surgeon demographics influence online reviews on leading review websites for joint replacement surgeons." J Clin Orthop Trauma **10**(4): 761-767.
4. De Martino, I., R. D'Apollito, A. S. McLawhorn, K. A. Fehring, P. K. Sculco and G. Gasparini (2017). "Social media for patients: benefits and drawbacks." Curr Rev Musculoskelet Med **10**(1): 141-145.
5. Donnelly, C. J., 3rd, D. J. Li, J. A. Maguire, Jr., E. S. Roth, G. P. Barker, J. R. McCormick, A. J. Rush, 3rd and N. H. Lebowitz (2018). "How social media, training, and demographics influence online reviews across three leading review websites for spine surgeons." Spine J **18**(11): 2081-2090.
6. Duymus, T. M., H. Karadeniz, E. Sukur, R. Atic, S. Zehir and I. Azboy (2017). "Social media and Internet usage of orthopaedic surgeons." J Clin Orthop Trauma **8**(1): 25-30.
7. Earp, B. E., K. Kuo, M. K. Shoji, A. N. Mora, K. A. Benavent and P. E. Blazar (2020). "Evaluating the Online Presence of Orthopaedic Surgeons." J Am Acad Orthop Surg **28**(2): e86-e91.
8. Fehring, K. A., I. De Martino, A. S. McLawhorn and P. K. Sculco (2017). "Social media: physicians-to-physicians education and communication." Curr Rev Musculoskelet Med **10**(2): 275-277.
9. Gross, C. E., D. Scott, J. B. Samora, M. Khan, D. G. Kang and R. M. Frank (2021). "Physician-Rating Websites and Social Media Usage: A Global Survey of Academic Orthopaedic Surgeons: AOA Critical Issues." J Bone Joint Surg Am.
10. Haerberle, H. S., N. I. Bartschat, S. M. Navarro, P. W. Rooney, J. Rosneck, R. W. Westermann and P. N. Ramkumar (2019). "Hip Arthroscopy: A Social Media Analysis of Patient Perception." Orthop J Sports Med **7**(6): 2325967119854188.
11. Kunze, K. N., L. M. Krivicich, N. N. Verma and J. Chahla (2020). "Quality of Online Video Resources Concerning Patient Education for the Meniscus: A YouTube-Based Quality-Control Study." Arthroscopy **36**(1): 233-238.
12. LaGrant B, N. S., Becker J, Shaikh H, Sulapas I, Shybut TB (2021). "Fellowship Training Is a Significant Predictor of Sports Medicine Physician Social Media Presence." Arthrosc Sports Med Rehabil **3**(1): e199-e204.
13. Lander, S. T., J. O. Sanders, P. C. Cook and N. T. O'Malley (2017). "Social Media in Pediatric Orthopaedics." J Pediatr Orthop **37**(7): e436-e439.
14. McLawhorn, A. S., I. De Martino, K. A. Fehring and P. K. Sculco (2016). "Social media and your practice: navigating the surgeon-patient relationship." Curr Rev Musculoskelet Med **9**(4): 487-495.
15. Partridge, S. R., A. C. Grunseit, P. Gallagher, B. Freeman, B. J. O'Hara, L. Neubeck, S. Due, G. Paull, D. Ding, A. Bauman, P. Phongsavan, K. Roach, L. Sadler, H. Glinatsis and R. Gallagher (2017). "Cardiac Patients' Experiences and Perceptions of Social Media: Mixed-Methods Study." J Med Internet Res **19**(9): e323.
16. Poushter, J., C. Bishop and H. Chwe (2018). "Social Media Use Continues to Rise in Developing Countries but Plateaus Across Developed Ones Digital divides remain, both within and across countries." Pew Research Center: 1-46.
17. Ramkumar, P. N., T. La, Jr., E. Fisch, P. D. Fabricant, A. E. White, K. J. Jones and S. A. Taylor (2017). "Integrating Social Media and Anterior Cruciate Ligament Surgery: An Analysis of Patient, Surgeon, and Hospital Use." Arthroscopy **33**(3): 579-585.
18. Rizkalla, J. M., B. Holderread, W. Hotchkiss, A. Clavenna, A. Dossett, G. Ogola and I. Syed (2021). "Instagram and Spine Fusion: An Analysis of Social Media and Its Relationship to Patient Perception of Surgery." Global Spine J: 21925682211001814.
19. Sama, A. J., D. P. Matichak, N. C. Schiller, D. J. Li, C. J. Donnelly, 3rd, D. Damodar and B. J. Cole (2021). "The impact of social media presence, age, and patient reported wait times on physician review websites for sports medicine surgeons." J Clin Orthop Trauma **21**: 101502.
20. Samani, P., M. Dunganwalla and E. Bailey (2020). "#Wisdomteeth: an analysis of 100 social media posts and a survey on patient perception." Br Dent J **228**(9): 711-716.
21. Samtani, R. G., A. Webb, J. Burleson, S. Berven, A. Theologis, E. Abotsi, S. Burch, V. Deviren and R. Haddas (2021). "Spine Surgeons Social Dilemma: Benefits and Risks of Social Media for Spine Surgery Practice in the 21st Century." Global Spine J: 21925682211035716.
22. Sculco, P. K., A. S. McLawhorn, K. A. Fehring and I. De Martino (2017). "The future of social media in orthopedic surgery." Curr Rev Musculoskelet Med **10**(2): 278-279.
23. Sharma, P. K., S. Meena, G. Singh and R. Rohilla (2021). "Orthopaedic surgery and its allied associations on social media: an observational study." Arch Orthop Trauma Surg.
24. Springer, B., U. Bechler, U. Koller, R. Windhager and W. Waldstein (2020). "Online Videos Provide Poor Information Quality, Reliability, and Accuracy Regarding Rehabilitation and Return to Sport After Anterior Cruciate Ligament Reconstruction." Arthroscopy **36**(12): 3037-3047.
25. Yong, T. M., M. A. Pappas, G. S. Ray, T. G. McManus and M. P. Coe (2021). "Analyzing the Proliferation of Social Media Use Among Orthopaedic Surgery Residency Programs." JB JS Open Access **6**(3).
26. Zhang, D. and B. E. Earp (2020). "Correlation Between Social Media Posts and Academic Citations of Orthopaedic Research." J Am Acad Orthop Surg Glob Res Rev **4**(9): e20 00151.