

ABSTRACT

r/Mentor: An Analysis of Social Media Mentorship for the Premedical Students of Generation Z

Rebecca Mulley

Director: Richard Sanker, Ph.D.

With the influx of Generation Z into the realm of undergraduate education, the tides of professional mentorship are beginning to change. Formerly reliant on in-person guidance from mentors, premedical students in the current generation are flocking to social media platforms to fulfill this same purpose. However, the current field of research has neglected to investigate this new phenomenon. Therefore, this study addresses students' usage of and satisfaction with social media mentorship compared to traditional in-person mentoring relationships. Utilizing a survey distributed to undergraduates at Baylor University, data was collected and analyzed using statistical methods. Overall, it was found that over half of students reported regular usage of social media for advice regarding their premedical career. However, despite the high frequency of social media use, students still rate in-person mentorship as more satisfying on every measure addressed. Thus, despite the rising popularity of social media mentorship amongst Gen Z students, in-person mentorship still appears to offer students an experience that social media is not yet able to replicate.

APPROVED BY DIRECTOR OF HONORS THESIS:

Dr. Richard Sanker, Director of PreHealth

APPROVED BY THE HONORS PROGRAM:

Dr. Elizabeth Corey, Director

DATE: _____

R/MENTOR: AN ANALYSIS OF SOCIAL MEDIA MENTORSHIP FOR THE
PREMEDICAL STUDENTS OF GENERATION Z

A Thesis Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the Requirements for the
Honors Program

By
Rebecca Mulley

Waco, Texas

May 2023

TABLE OF CONTENTS

Table of Figures	iii
Preface	v
Chapter One: Literature Review	1
Chapter Two: Methodology	24
Chapter Three: Results	43
Chapter Four: Conclusions	74
Appendices	86
Appendix A: Survey Tool	87
Appendix B: Data for Question 2	95
Bibliography	96

TABLE OF FIGURES

Figure 1: Racial Demographic Comparison – Baylor and National	25
Figure 2: Gender Demographic Comparison – Baylor and National	25
Figure 3: Modified 7-Fact SMUIS	30
Figure 4: Modified MEMeQ for Question 12	34
Figure 5: Modified MEMeQ for Question 13	37
Figure 6: Modified MEMeQ for Question 14	37
Figure 7: Year in College Distribution	43
Figure 8: Comparison of Responses by Year in College	45
Figure 9: Gender Distribution	46
Figure 10: Comparison of Responses by Gender	47
Figure 11: Racial & Ethnic Distributions	48
Figure 12: Comparison of Responses by Race	49
Figure 13: Comparison of Responses by Ethnicity	50
Figure 14: Professional Mentorship Results	51
Figure 15: Personal Mentorship Results	52
Figure 16: Social Media Dependency & Usage	53
Figure 17: Factors of Social Media Dependency	54
Figure 18: Comparison of Usage of Social Media and In Person Mentorship	58
Figure 19: Comparison of Satisfaction with Social Media and In Person Mentorship	59
Figure 20: Satisfaction with Mentor Accessibility	61
Figure 21: Satisfaction with Mentor Interpersonal Characteristics	63

Figure 22: Satisfaction with Mentor Knowledge	65
Figure 23: Overall Satisfaction with Mentorship	66
Figure 24: Average Importance of Mentor Characteristics	70
Figure 25: Average Importance of Combined Mentor Characteristics	72
Figure 26: Comparison of Rated Importance and Satisfaction Values	73

PREFACE

About a year ago, while interviewing for a summer internship program, I was asked the following question: “What are some novel incentives that we could employ to encourage physicians to serve the underserved?”

My answer flew out of my mouth, instinctively: If we have to create an incentive for physicians to serve marginalized populations then we are already missing the point. With the rates of physician burnout in the medical field, there is something tragically missing in what is motivating medical providers that will not be magically solved by a financial or material reward. Our feeble attempts to solve this widespread issue with extrinsic motivators is fostering a culture in which physicians are taught to care more about incentives than people in need. Furthermore, this method is simply not sustainable. A career spent dedicated to the wellbeing of others—as is the case in medicine—must come from a place of true passion and character conviction. Therefore, I believe the best way to address the care of the underserved is to empower physicians who genuinely want to serve and to cultivate a culture marked by this joyful service and selfless virtue. Realistically, I suppose this process begins now, in college, as students are grappling with what their role in the universe will be as well as beginning to develop the character that will mark the kinds of physicians that they will become.

As a result of this interview, I was privileged to work with a small clinic for the uninsured in Roanoke, VA. As I watched the physicians who worked—or perhaps it is more fitting to say “served” here, as the positions were entirely unpaid—mentor interns and local medical students, I could not get this interview question out of my head. As

these physicians taught the technical skills of patient care, they also demonstrated an example of doctors who exuded passion for their careers and were joyfully serving, no incentive necessary. This energy was infectious, and I believe this comment from one medical student I worked with summarizes their influence quite well: “I didn’t think it was possible to love medicine as much as Dr. F loves it. But then, when he helped me realize my love for working with Spanish-speaking patients, I fully understood.”

Passionate mentors like Dr. F have the power to enrich the lives of young, aspiring physicians-to-be. By encouraging more students to allow their passions to flourish in their chosen field of employment, we will create world-changers.

Therefore, although this thesis is primarily a testament to the importance of premedical education and the presence of strong mentors, it is also a testament to those who feel forgotten by the field of healthcare. It is written with the hope that with the help of virtuous, motivated mentors, students may explore their passions, listen to the voice within, and find the broken place in the world that they have been called to serve.

I am especially thankful for the people in my life whom I am privileged to say have helped me in my own journey towards this realization. AG, BH, JW, RS, and TM: thank you for always leaving your office doors wide open, counseling me with sound wisdom, and encouraging me resolutely as I have traversed my premedical journey. Thank you for recognizing potential in me before I had fully realized it myself and trusting me with opportunities to continue to grow and serve. Additional gratitude is due to Dr. Sanker who funneled my spiraling thoughts into a thesis of great importance to me.

I would be remiss if I did not also acknowledge the other half of my mentorship experiences at Baylor. To my “kids”: I have treasured our friendships beyond words. Watching you discover passions of your own and enabling you to pursue them with fervor has been the greatest joy of my undergraduate career.

Finally, to my very first mentors: mom and dad, my life is a testament to your generosity. Thank you for walking alongside me every step of the way. Your example of faithful stewardship propels me forward every day.

CHAPTER ONE

Literature Review

Defining the Problem Facing Healthcare

In 2020, the United States reported per capita health consumption expenditures of \$11,945. Other similar OECD countries reported an average of \$5,736 with the next highest total belonging to Germany at \$6,731.¹ Therefore, U.S. spending evidently sits far beyond the range of healthcare spending of most of the developed world, and the disparity only continues to rise. As a result, one might assume that satisfaction of U.S. patients would display similar trends, far outweighing those of other nations. However, recent data displays a much more dismal truth. The United States population has a healthcare satisfaction rate of approximately 50% which is 22.5% less than the average satisfaction rates of the previously compared nations.² The satisfaction of uninsured Americans is even lower, measuring 30% on average. In addition to trailing patient satisfaction, the United States healthcare system is currently experiencing record-high physician burnout rates. Before the COVID-19 pandemic, more than half of U.S. physicians were reportedly experiencing some form of professional burnout and the disparity in satisfaction with work-life balance among physicians relative to the general

¹ “How Does Health Spending in the U.S. Compare to Other Countries?,” *Peterson-KFF Health System Tracker* (blog), accessed May 27, 2022, <https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries-2/>.

² Joachim O. Hero et al., “Understanding What Makes Americans Dissatisfied With Their Health Care System: An International Comparison,” *Health Affairs* 35, no. 3 (March 2016): 502–9, <https://doi.org/10.1377/hlthaff.2015.0978>.

U.S. working population had risen to record heights.³ These trends have been further exacerbated by the stress placed on the healthcare system by COVID-19.⁴ It would appear, therefore, that simply acquiring the latest technologies and investing sums of money into system infrastructure are not sufficient to fix the deep problems at the heart of medicine.

Atul Gawande points first to the potential of the physician to achieve success in medicine. In his award-winning novel, *Better*, Gawande shares three core requirements of physicians to attain his vision for advancement: diligence, justice, and ingenuity.⁵

Gawande defines diligence as “the constant and earnest effort to accomplish what is undertaken.”⁶ Through this description, he argues that diligence is an essential, yet often very difficult, virtue that needs to be developed through consistent practice. The second part of Gawande’s novel titled “Doing Right” pertains to the necessity of ethics and justice in medical conduct and decision making. Gawande insists that physicians must genuinely care about the betterment of their patients in order to better the healthcare system as a whole. The final argument on ingenuity, similar to the previous two, points to an aspect of the ideal physician’s character. Gawande first acknowledges that ingenuity at its core reflects a person’s willingness to examine failure and that it must be deliberately cultivated. Overall, Gawande’s core requirements appear to depend not as much on the

³ Tait D. Shanafelt et al., “Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014,” *Mayo Clinic Proceedings* 90, no. 12 (December 1, 2015): 1600–1613, <https://doi.org/10.1016/j.mayocp.2015.08.023>.

⁴ Richard F. Mollica, Dinali B. Fernando, and Eugene F. Augusterfer, “Beyond Burnout: Responding to the COVID-19 Pandemic Challenges to Self-Care,” *Current Psychiatry Reports* 23, no. 4 (March 9, 2021): 21, <https://doi.org/10.1007/s11920-021-01230-2>.

⁵ Atul Gawande, *Better* (Picador, 2007), 8-9.

⁶ Gawande, 29.

economic distribution of healthcare as upon the character and virtues of those allowed to pursue a career in this field. Therefore, this prompts the possibility that the secret to healthcare reform may lie within the development of the future generation of physicians.

However, the responsibility for the success of healthcare cannot realistically lie on the physician's shoulders alone. The severe requirements of medicine hold an impossible task above physicians, demanding standards of perfection from an imperfect species.

Therefore, the healthcare system must be constructed to provide guidelines and support to doctors and to maintain consistent quality. Gawande acknowledges this truth through his *Checklist Manifesto* which he published two years later. In this work, Gawande analyzes the success of the all-powerful checklist in fields like medicine, requiring high accuracy with equally high stakes. First implemented in aviation procedures, a simple but intentionally designed checklist has been found to significantly decrease the occurrence of accidents.⁷ When incorporated into medical clinics to address infection rates, these facilities have been found to out-perform up to ninety percent of clinics nationwide.⁸ Not to be confused with all-inclusive how-to guides, the checklist's primary purpose is to provide a cognitive safety net to supplement the work of the skilled physician.

Additionally, its aim is not to eliminate all diversity and innovation but to equip healthcare professionals with just enough standardization to ensure consistent results. This balance is certainly a fine line to walk. Without sufficient standardization, the system continues to generate errors, confusion, and inconsistencies. But if these checklists become too rigid, originality is lost, and medicine suffers. Therefore,

⁷ Atul Gawande, *The Checklist Manifesto* (Henry Holt and Company, 2009), 34.

⁸ Gawande, 44.

synthesizing the knowledge presented in both of Gawande's works, it would appear that the advancement of medicine may depend upon the establishment of a standardized framework to support the development of physicians with character.

The Foundation of Physician Development

The character development of a physician, however, begins long before the first day of practice. In a systematic review of the literature concerning the influences of the pre-medical experience on the character of future physicians, Lin finds: "The character of the next generation of physicians is forged long before students walk through the doors of medical school: medical socialization begins with the negotiation of the premedical years."⁹ This study, published in the *International Journal of Medical Education*, highlights the particular influence of curricular requirements and strong social norms on the identity formation of young, hopeful physicians-to-be. During this period of undergraduate study, students are developing their character through the experiences in which they choose to engage, which are ultimately informed by the clearly-stated requirements for medical school admission as well as other less formally articulated expectations. Gofton and Regher refer to these expectations as the "hidden curriculum" of medical education and argue that the implicit social and cultural rules and regulations of an institution are frequently transmitted to students who cling to the standards set before them in their training to develop the necessary qualities to succeed.¹⁰ They

⁹ Katherine Y. Lin et al., "The Undergraduate Premedical Experience in the United States: A Critical Review," *International Journal of Medical Education* 4 (February 10, 2013): 26–37, <https://doi.org/10.5116/ijme.5103.a8d3>.

¹⁰ Wade Gofton and Glenn Regher, "What We Don't Know We Are Teaching: Unveiling the Hidden Curriculum," *Clinical Orthopaedics and Related Research*® 449 (August 2006): 20–27, <https://doi.org/10.1097/01.blo.0000224024.96034.b2>.

corroborate Hafferty and Franks' claim that "although matters of technical information and the transmission of technical skills traditionally have been thought to lie at the heart of the medical education system, medical training is ultimately a process of moral enculturation."¹¹ However, Gofton and Regher extend this claim slightly further by placing an additional emphasis on the influence of the individuals who surround the student personally—specifically mentors and teachers.¹²

As premedical students use these guides, both deliberately stated as well as implicitly modeled, they are ultimately seeking to accomplish their goal of graduating from premedical to medical student. Their success, therefore, is determined by their ability to impress an admissions committee and obtain acceptance to a medical school. De Vries and Gross also point to the moral impact of this process: "The premedical experience—the strategies learned for succeeding in difficult courses and for grooming one's image for a medical school admission committee—gives students a moral education, showing them what it takes to get ahead, what it takes to become a doctor."¹³ Students participate in extracurriculars that will "look good on the resume" and absorb ideas about success, relationships, and caring for others as they do so. Therefore, it ultimately appears that the expectations that stem from the checklist of the medical school application process and the support students seek in trying to fulfill them shape the

¹¹ F. W. Hafferty and R. Franks, "The Hidden Curriculum, Ethics Teaching, and the Structure of Medical Education," *Academic Medicine* 69, no. 11 (November 1994): 861–71.

¹² Gofton and Regehr, "What We Don't Know We Are Teaching."

¹³ Raymond G. De Vries and Jeffrey Gross, "The Winnowing Fork of Premedical Education: Are We Really Separating the Wheat from the Chaff?," *AMA Journal of Ethics* 11, no. 11 (November 1, 2009): 859–63, <https://doi.org/10.1001/virtualmentor.2009.11.11.medu1-0911>.

moral development of premedical students and thus begin to form the landscape of the healthcare workforce.

The Difficulty of the Process

Despite the apparent significance of these expectations, however, students often report that determining how to appropriately fulfill these requirements and demonstrate their commitment to medicine is incredibly difficult. The checklist appointed by admissions offices and undergraduate curriculum is designed to ensure that students complete the practical requirements prior to pursuing medical education, as well as to encourage students to engage in activities that will help them better understand themselves and their motives for pursuing this career. Rather than a voyage of self-discovery, however, students regard their premedical years as “a set of obstacles to overcome on the way to the elusive goal of medical school admissions.”¹⁴ They more frequently assign the term “competition” to their undergraduate career, suggesting that the intentions behind these application guidelines may not be fully transmitted to students. An additional observation of this disconnect between admissions and applicants was noted by Gross and his colleagues in 2008. As they studied the admissions advising pages of varying medical school websites, they noticed that many articles addressing a successful applicant frequently utilized the word “demonstrate.” For example, rather than telling students that research opportunities will “develop” essential, lifelong learning skills, the University of Virginia’s advising page urges students to “demonstrate” these

¹⁴ Jeffrey P. Gross et al., “Perspective: After a Century of Criticizing Premedical Education, Are We Missing the Point?,” *Academic Medicine* 83, no. 5 (May 2008): 516–20, <https://doi.org/10.1097/ACM.0b013e31816bdb58>.

qualities in their application.¹⁵ While this difference in verbiage seems to be merely a small distinction, it appears to align quite closely to the aforementioned tension present in the undergraduate premedical experience. Although the purpose of these checklists is to help students self-reflect and internally develop the qualities that will make them thriving physicians, students tend to focus more on the external display of their worthiness. Thus, it is no wonder that many students struggle to share the sentiments of the medical school application process as a journey. Rather than focusing on their personal development, students fixate on how their application will be perceived and compare themselves to their peers.

This habit of comparison seems to have fostered a very negative and “cut-throat” view of the premedical community. Peter Conrad’s study specifically investigates this “myth of the cut-throats” and found that premedical students are commonly associated with being “overachieving, excessively competitive, cynical, dehumanized, and narrow.”¹⁶ Conrad attributes this perception to a combination of factors, including the view of premedical programs as highly competitive, combined with the heavy workload and intense pressure to succeed. In many of the interviews he conducted for his study, students discuss these difficulties in detail and claim that they have significantly increased their anxiety and mistrust of other students. Interestingly, though, as Conrad studied the premedical communities in the schools at which he surveyed students, he found that these populations were more significantly marked by cooperation rather than

¹⁵ Gross et al.

¹⁶ Peter Conrad, “The Myth of Cut-Throats Among Premedical Students: On the Role of Stereotypes in Justifying Failure and Success,” *Journal of Health and Social Behavior* 27, no. 2 (1986): 150–60, <https://doi.org/10.2307/2136313>.

competition. Despite the pervasive opinion amongst students of the elusive “cut-throat premed,” Conrad found that these students were often involved in mutually beneficial study groups and could frequently describe situations in which they were aided by the other premedical students in their community. Therefore, he ultimately ascribes the myth of the “cut-throat premed” to the difficulty and uncertainty of the medical school admissions process which leads to a vicious cycle of comparison and self-doubt.

The Uncertainty of the Process

It is understandable how the looming checklist of medical school requirements can appear daunting and extraordinarily difficult for young students to fathom accomplishing sufficiently. However, Conrad’s association of “cut-throat premed” with the uncertainty of the admissions process is less clear. Surely a clearly defined admissions checklist would provide students with all the clarity they needed. The Association of American Medical Colleges (AAMC) has attempted to respond to this supposed lack of clarity through their publication of the “15 Core Competencies for Entering Medical Students.” The 15 Core Competencies “communicate the standards expected of all applicants accepted to medical schools” and were created by the AAMC to convey the criteria that medical school admissions committees use as they review applications.¹⁷ In theory, if a student demonstrates proficiency in each of the fifteen categories, then she can reasonably assume she will be accepted to medical school. However, studies conducted on the medical admissions process claim otherwise. Lin writes, “No one is guaranteed a position in medical school, even if every formal requirement is fulfilled.”¹⁸

¹⁷ “Anatomy of an Applicant” (Association of American Medical Colleges, 2017), 7.

¹⁸ Lin et al., “What Must I Do to Succeed?”

Kansagra's guide to medical school admissions describes a similar story: "There is no particular set of guidelines that gets a person into medical school...no one particular path that guarantees acceptance."¹⁹ Therefore, the guidelines that students have already referred to as "vague" and "ambiguous" become drastically more so as they learn that even fulfillment of these claimed expectations will not guarantee they secure their goals.²⁰

If this is the reality of the application process, how then are students supposed to respond? Some, accepting this process as naturally evasive, offer equally evasive applications in return. They evaluate these perceived expectations and craft an "expected response," hoping to conform sufficiently enough to achieve their goal of acceptance. White reports in his qualitative study of the role of the essay question in medical school selection that these students experience a tension between their "genuine" and "expected" responses.²¹ This then begs the question of whether these students are truly fit to be doctors and undermines the intent of the application process and overall moral evaluation of Gawande's "ideal physician."

Others seek greater clarity through mentorship. They approach professors and peers hoping to glean some wisdom from their experiences and gain insider information about "what works" to get them their desired acceptance. Using this advice, these students are then able to craft their undergraduate involvements to maximize their

¹⁹ Sujay Kansagra, *Vault Insider Guide to Medical School Admissions* (Vault, 2006).

²⁰ Lin et al., "What Must I Do to Succeed?"

²¹ Jonathan White et al., "'What Do They Want Me To Say?' The Hidden Curriculum at Work in the Medical School Selection Process: A Qualitative Study," *BMC Medical Education* 12, no. 1 (March 26, 2012): 17, <https://doi.org/10.1186/1472-6920-12-17>.

chances of admission. Upon further analysis of the nature of these mentoring relationships, it appears that, like Gawande, mentors are just as concerned with the character of the student as they are with this student's acceptance to medical school. Gross and De Vries, with additional support from Mommaert and Earl, published another study that analyzes the language used by mentor sources and suggests that there exists a continuum on which mentors advise students, ranging from strategic to character-building. This study confirms that mentors acknowledge that the medical school application process requires some strategy to "satisfy the admissions committee" but also simultaneous engagement on the part of the student to "develop the kind of character that will make a good physician."²² Overall, though, it would appear that mentors tend to view the premedical student's path through college towards medical school more in terms of the latter, frequently describing it as a "journey" towards self-discovery—just like the intent of the checklist designed by admissions committees.²³ This journey, they claim, uses the admissions criteria set forth by medical schools to engage students in activities that will help them discover their fit with a career in medicine. Thus, the literature seems to suggest that mentorship may have the potential to serve as the missing link between admissions checklists and misunderstanding students, maintaining the integrity of empowering students in self-discovery while also bringing clarity to their confusion. Furthermore, undergraduate mentors have the additional potential to use the medical school application process to foster the moral development of premedical students and impact the future generation of medical providers.

²² Gross et al., "Perspective."

²³ Gross et al.

Mentorship in the Current Era

Mentorship is an especially important facet of this generation of premedical students' undergraduate journey. Born between 1997 and 2012, the current pool of medical school applicants is composed primarily of members of Generation Z. Raised during an era of major technological advancement and political turmoil, Generation Z presents a strong divergence from previous generations that has manifested itself in many ways. One of these is the emphasis that Gen Z students place on mentorship. In his survey of the entrance of Generation Z into the medical field, Hunt remarks, "Compared with previous generations, members of Generation Z have a closer and more trusting relationship with their parents...as a result, Generation Z tends to look up to authority figures and wants close mentoring relationships."²⁴ Gen Z students are eager and expectant for feedback to grow and their apparent fear of the uncertainty of the world pushes them to gain confidence from the experiences of others. As a result, they have less self-confidence because of their dependence on the encouragement of others which further reinforces their reliance on mentors.²⁵ Overall, the prevalence of mentorship and the unique dependence upon it by Generation Z presents an important ground to be explored in the process of developing future medical providers.

Reflecting on this generation of students and their relevance to the current era of premedical mentorship, it is also important to consider some of the additional features that mark their cohort. The technological revolution of the early 21st century has deeply

²⁴ Jodie Eckleberry-Hunt, David Lick, and Ronald Hunt, "Is Medical Education Ready for Generation Z?," *Journal of Graduate Medical Education* 10, no. 4 (August 2018): 378–81, <https://doi.org/10.4300/JGME-D-18-00466.1>.

²⁵ Jean M. Twenge, *iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us* (Simon and Schuster, 2017).

impacted the current population of young adults. Shorey et al. describes these effects as follows: “Due to the extensive reliance on technology, Gen Z students have underdeveloped in-person social skills as they lack in the nuances and art of conversation... [which] will potentially inhibit their development of skills to connect socially.”²⁶ Their integration of technology into daily routines has also fostered a need for instant gratification and a shorter attention span.²⁷ Likely due to the diversity of ideas they are exposed to via the Internet, Generation Z has exhibited greater social awareness and acceptance of the views of others when compared to previous generations. Despite this, they tend to be more individualized learners in the classroom and prefer to pace themselves by engaging with online resources.²⁸

Social Media Communicators

Gen Z is also the first generation with consistent access to social media platforms. Capitalizing on Gen Z’s “strong fear of missing out” and desire for deep emotional connection, social media provides an avenue for these young adults to connect with one another in a manner more conducive to their fast-paced mentality. As a result, however, “members of Generation Z have difficulty disconnecting from [social media]” due to its integration in their routines, as well as the way it fills their desire for social connection.²⁹ The attachment of this generation to social media is fueled and compounded by both of

²⁶ Shefaly Shorey et al., “Learning Styles, Preferences and Needs of Generation Z Healthcare Students: Scoping Review,” *Nurse Education in Practice* 57 (November 1, 2021): 103247, <https://doi.org/10.1016/j.nepr.2021.103247>.

²⁷ Shorey et al.

²⁸ Shorey et al.

²⁹ Eckleberry-Hunt, Lick, and Hunt, “Is Medical Education Ready for Generation Z?”

these essential features. Noticing the prevalence of social media in the lives of 21st-century young adults, Cao et al. specifically set out to understand the exact relationship between the functional and emotional integration of social media into a person's life to pinpoint the cause of the formation of an attachment. Based on attachment theory, the development of an attachment to a person or object leads to an increased devotion to preserving said attachment. In this case, "users attached to social media would spend extended time and energy on the platform" which would provide an explanation for the ubiquity of social media in the lives of Gen Z.³⁰ In addition to analyzing this relationship with regards to social media, these researchers also independently studied emotional and functional attachments. Overall, they found that emotional attachments, fueled by social connections from these platforms, significantly correlated with the likelihood of social media addiction.³¹ They also concluded that functional attachments—or, how social media contributed to an individual's everyday functioning and achievement of goals—led to an increased likelihood of the formation of a different emotional attachment which also tended to develop into an addiction.³² Therefore, the engagement of Generation Z with social media seems to create a self-perpetuating cycle that increases its use and integration into daily life.

Considering the reliance of Generation Z on mentorship and their unique attachment to social media as a form of social connection, it should be no surprise that this generation has also begun the process of transferring traditional forms of in-person

³⁰ Xiongfei Cao et al., "Exploring the Mechanism of Social Media Addiction: An Empirical Study from WeChat Users," *Internet Research* 30, no. 4 (January 1, 2020): 1305–28, <https://doi.org/10.1108/INTR-08-2019-0347>.

³¹ Cao et al.

³² Cao et al.

mentorship to the digital space. This shift has become especially apparent within the field of medical education. In order to determine their candidacy for a particular medical school, students flock to admissions pages and analyze the listed criteria. Successful medical school applicants have found an open platform on websites like Instagram and YouTube to create and share media content with advice on how to achieve the same success, gaining millions of views. In addition to individual networking efforts, large-scale companies have also capitalized on the open platform provided by YouTube. “Medical School HQ” was originally created to guide students through the medical school application process through counselling services. In recent years, this company has expanded beyond one-on-one counselling by posting videos and podcasts to YouTube, and the channel currently has over 50,000 subscribers.³³ In addition to these sources, Reddit forums are a distinct social platform frequently trafficked by students pursuing careers in the field of medicine. Distinct from merely enabling the consumption of pre-existing advice offered on social media by potential mentors, Reddit forums enable many forms of interaction. Originally designed as an open communication space for many users to contribute their thoughts and ideas regarding a topic of significance to them, Reddit has exploded as a social media platform fueled by diversity of thought.³⁴ Users are able to scroll through digital forums based on their topic of interest where they can read the comments of others or post a comment of their own. Not only that, but they have the ability to start a forum with a particular question or thought and wait for the

³³ “Medical School HQ - YouTube,” accessed March 23, 2023, <https://www.youtube.com/>.

³⁴ “The History of Reddit | Honor Society - Official Honor Society® Website,” accessed January 26, 2023, <https://www.honorsociety.org/articles/history-reddit>.

thousands of replies to roll in. The general “r/medicalschoo” forum, filled with any post relating to medical school in some capacity has over 650,000 followers. In particular, the “r/premed” forum holds 292,000 members and ranks within the top 1% of largest Reddit communities.³⁵ There are also more specific forums covering advice for the MCAT and the medical school admissions process, which students contribute to throughout the cycle to keep one another updated regarding interview invites and acceptances.

Further emphasizing the popularity of social media forums in the medical school application process is the Student Doctor Network (SDN) website. Founded in 1999, SDN was created with the vision of providing free advising resources and peer support to those who otherwise would not have access to such services.³⁶ Since its creation, SDN has grown its resource base to cover medical, dentistry, optometry, pharmacy, veterinary, psychology, podiatry, and rehab sciences training. Like Reddit, they have also introduced an open forum platform where students and mentor volunteers can interact with one another to request and exchange advice. The pre-medical forums alone hold over 400,000 threads with over 7 million messages.³⁷ It is evident that the current generation of pre-medical students are engaging with social media platforms to gather advice and consult the opinions of others similarly to how they have previously interacted with traditional in-person forms of mentorship.

³⁵ “Top Communities on Reddit - Page 3,” accessed March 23, 2023, https://www.reddit.com/best/communities/3/#t5_2rlp9.

³⁶ “About The Student Doctor Network - SDN,” *Student Doctor Network* (blog), accessed January 26, 2023, <https://www.studentdoctor.net/about-sdn/>.

³⁷ “Student Doctor Network Communities,” Student Doctor Network, January 18, 2023, <https://forums.studentdoctor.net/forums/>.

Research Purpose and Questions

Despite the staggering numbers of forums and followers on social media, however, the interactions of premedical Generation Z students with the digital world remain virtually unstudied. There is a very limited selection of papers studying the effects of social media on mentorship in surgical residents and medical students, and none concerning premedical students. Given the established potential of mentorship in the development of the future generation of healthcare leaders, it is essential to understand how these sources are influencing students. Might social media mentorship replace in-person interactions? The literature on the characteristics of Generation Z presents a few alternatives in response to this question. On one hand, Gen Z's tendency to prefer instantaneous results and feedback may make social media platforms more appealing. Based on his literature review of the Generation Z cohort of medical students Hunt remarks, "This new generation may expect faculty to be available on demand."³⁸ However, these students also place significant value on emotional connection with others, which, despite drawing them in to social media platforms in the first place, is better accomplished in person. In Grace and Seemiller's analysis of Generation Z's entry into college, they discovered that amidst the widespread use of technology to communicate, "83% of Generation Z students prefer face-to-face communication because it allows them to connect better."³⁹ Based on these attributes, it seems that the two mentorship platforms may appeal to students in differing ways that fulfill various mentorship needs.

³⁸ Eckleberry-Hunt, Lick, and Hunt, "Is Medical Education Ready for Generation Z?"

³⁹ Corey Seemiller and Meghan Grace, *Generation Z Goes to College* (New York, UNITED STATES: John Wiley & Sons, Incorporated, 2016), <http://ebookcentral.proquest.com/lib/bayloru/detail.action?docID=4305728>.

Acknowledging that both in-person and virtual mentorship resources may have differing appeals to students, the ultimate question arises: does one platform satisfy student needs and desires more than the other? When reflecting on the overwhelming uncertainty and difficulty students report during their undergraduate years training for careers in medicine, does Gen Z find social media to be a more helpful resource? How do their experiences and satisfaction using both compare? In order to properly utilize mentorship to reach this current generation of medical school applicants and cultivate the depth of character that Gawande proposes will restore the success of healthcare, it is essential to understand how students are interacting with and prefer to access mentors. If approaches to develop intricate mentoring programs center around in-person interactions, but students prefer to use online sources, these programs will fail to be an effective resource with which students are eager to engage. Additionally, recalling the potential that premedical mentorship holds to address Gawande's vision for the moral enculturation of future physicians, it is essential to understand how students are being influenced by social media mentors. Does social media offer the potential to accomplish Gawande's goal or will it further foster the myth of the cut-throat premed?

Therefore, this study embarks to present a deeper understanding of the interactions of Generation Z premedical students with mentorship platforms. In order to paint this picture, a few central questions will be addressed.

Question 1: Does social media dependence impact the likelihood of using social media as a form of mentorship?

Hypothesis 1: Greater social media dependence will lead to a higher likelihood of a student reporting usage of social media as a form of mentorship. Reflecting on the conclusions of Cao et al's study of attachment theory and social media addiction, it seems likely that increased social media use and dependence will lead to a higher likelihood of using social media as a mentorship source. A student with higher dependence on social media for social and functional use throughout his daily life is more likely to continue to reaffirm his connection to social media to maintain the attachment according to Cao et al.⁴⁰ Therefore, given their increased use of and familiarity with social media, it is more likely that these students will also use online mentorship. Furthermore, considering Gen Z's desire to find emotional fulfillment in mentorship, it seems reasonable to conclude that an emotional attachment to social media fostered through dependence would cause these students to be more likely to use social media for mentorship. Additionally, factoring in that greater social media dependence would correlate with greater time spent online, it is more likely that students would encounter social media mentorship via greater digital exposure.

Question 1a: Are there certain factors of dependence that correlate more with using social media as a form of mentorship?

Hypothesis 1a: Reporting social media as a preferred communication style and having a greater social integration of digital media in one's life should have the strongest

⁴⁰ Cao et al., "Exploring the Mechanism of Social Media Addiction."

correlations to an increase in the likelihood of using social media as a form of mentorship. This study will focus on four primary factors of social media dependence derived from the Social Media Use Integration Scale (SMUIS): identifying social media as a preferred communication style, displaying social integration of digital media, displaying daily routine integration of digital media, and social media enjoyment. Routine integration and enjoyment of social media are important factors that would likely increase time spent on social media and thus, increase the likelihood of encountering mentors as previously mentioned. However, these two variables likely would not correlate as strongly with social media mentorship use as the other two socially-oriented variables. Given the fact that the basis of mentorship is communication, if a student reports social media as a preferred communication style, it is highly likely that he may seek out opportunities to communicate with mentors in that form. Additionally, if students display a pre-established integration of social media into their social lives, they are likely more comfortable holding social relationships online. Therefore, they may view the internet as a platform for establishing relationships with others which inevitably would make them more inclined to pursue digital mentorship.

Question 2: Does increased social media dependence predict greater satisfaction with the usage of social media as a form of mentorship?

Hypothesis 2: Increased social media dependence will lead to a greater likelihood of reporting satisfaction with the usage of social media as a form of mentorship. This hypothesis also derives from Cao et al's research on social media and emotional attachment. Students with increased social media dependence foster a greater emotional

attachment to these websites suggesting that social interactions conducted on these platforms will be highly emotionally valued. Therefore, students who are already invested in social media will be more satisfied with their mentorship experiences via social media than those not dependent on social media, because it will positively contribute to their psychological feeling of attachment. Furthermore, it would also follow that students who have higher dependence are already satisfied with social media as a resource and thus would also likely be more satisfied with their mentoring interactions on social media than those less engaged with the platform.

Question 3: Overall, are Generation Z premedical students more satisfied receiving mentorship through in-person mentors or via social media platforms?

Hypothesis 3: Generation Z students will report greater satisfaction with in-person mentorship compared to social media mentorship. The overall satisfaction of Generation Z premedical students with both mentorship platforms depends primarily on the varying appeals of each experience as well as the factors that students consider most important when working with a mentor. Therefore, this question will be answered by addressing two sub-questions pertaining to student satisfaction with different aspects of mentorship across each platform and the value that students place on each of these aspects when selecting a mentor.

Question 3a: Does mentorship in-person versus over social media platforms satisfy students in different ways?

Hypothesis 3a: Students will report higher satisfaction with the accessibility of social media mentors but higher satisfaction with the interpersonal experience of in-person mentorship. Given the vast access that the Internet gives students to information instantly, it would make sense for students to be better satisfied by the accessibility offered by social media. Technological strides in the 21st century have left a lasting impact on Generation Z who now value and even expect instant results to their queries. With this in mind, studies have shown that they have similar expectations of mentors whom they anticipate should be available on demand.⁴¹ This desire is much easier to maintain via online platforms, especially via Reddit and SDN forums where thousands of people may see a post and respond to it. In-person mentorship, on the other hand, is not as conducive to this form of instant gratification because it depends upon a much smaller circle of people who may or may not be available to give advice at a given moment. However, despite what it may lack in accessibility, students are also reported to value the interpersonal connection fostered by meeting with an in-person mentor. In prior studies, students have documented that despite their eagerness to establish social connections online, nothing compares to their experiences with face-to-face communication because it allows them to form deeper connections.⁴² Therefore, it would appear that despite the growing popularity of social media communication, Gen Z still values face-to-face contact to foster an interpersonal connection better than those they establish online. Thus,

⁴¹ Eckleberry-Hunt, Lick, and Hunt, "Is Medical Education Ready for Generation Z?"

⁴² Seemiller and Grace, *Generation Z Goes to College*.

for this study, although social media likely will provide more satisfying accessibility for students, the process of meeting with a mentor in person will create a more satisfying interpersonal experience.

Question 3b: Which form of mentorship—social media or in-person—better satisfies students in the areas they rank most important to their mentoring experience?

Hypothesis 3b: Generation Z students are most likely to rank the mentor's interpersonal characteristics as most important to their mentoring experience which will be better satisfied by in-person mentorship. When students decide to pursue a mentor, they are specifically going out of their way to seek out a connection with another person whom they hope will give them clarity and guidance. For students simply seeking greater knowledge to guide their career path, it is arguably much easier to flock to Google or the admissions page of their desired medical school to learn more about how to increase their odds of acceptance. Therefore, in order for a student to pursue an interaction with another person through mentorship, she is likely more focused on establishing a relationship and thus must be more intentional. To gain greater knowledge, it is more difficult for a student to pursue mentorship which points to the idea that something greater must be fueling her desire. Similarly, regarding accessibility of mentors, mentorship is not always as accessible of a resource to students looking for career guidance. Therefore, students seeking and participating in mentorship likely enter the arena with a preconceived understanding that it may not be as easily accessible as other resources.

Given this understanding, students who still make the effort to pursue mentorship are also probably not primarily fueled by the desire to utilize an immediately accessible

resource. Ultimately, the establishment of an interpersonal connection that will also create a link to a fount of support and guidance will most likely be the factor that students rank most important to their quest for a mentor. According to the existing literature on Generation Z, this generation values the input of mentors more than any previous generation. Potentially due to having a closer relationship with their parents, as Gen Z students enter the undergraduate world and leave their family units behind, it is likely that they pursue mentors during their college years to attempt to replicate the parental relationships they left behind.⁴³ Therefore, it is most likely that students will rank the feeling of an interpersonal connection with their mentor as most important to their mentor selection, which, as previously established, will be better satisfied by in-person sources.

Ultimately, these questions aim to address the central topic of inquiry of this study: do Generation Z premedical students prefer guidance from social media sources compared to traditional forms of in-person mentorship. In addition to merely answering this question by comparing usage and satisfaction rates across both platforms, this study also aims to elucidate potential causes of a preference for one source or the other. Following the suggestion of the literature, social media dependence will be analyzed as a cause of greater usage and satisfaction with social media mentorship. Further, this study will incorporate a measure of the features of mentorship that students most value to understand how that may lead them to prefer using in-person or social media mentors.

⁴³ Eckleberry-Hunt, Lick, and Hunt, "Is Medical Education Ready for Generation Z?"

CHAPTER TWO

Methodology

Sample

In the winter of 2022, a survey was crafted and administered to address these questions. The Baylor undergraduate premedical population served as the targeted sample to represent the larger population of premedical undergraduates across the United States' collegiate system. Although approximately 55% of Baylor University's student population derives solely from Texas, the racial and ethnic distribution mirrors that of the United States overall. Analyzing data regarding the first-year undergraduate class entering in the fall of 2020, Baylor University reported a student body that was 61.1% white, 5.1% black, 15.7% Hispanic, and 11.3% Asian.⁴⁴ The first-year enrollment data for the United States reflected a proportion of 54.1% white, 13.1% black, 20.3% Hispanic, and 7.4% Asian students.⁴⁵ Although the white and Asian populations are slightly overrepresented and the black and Hispanic populations are slightly underrepresented at Baylor University as compared to national data, there does appear to be a somewhat similar overall distribution.

⁴⁴ "Profile of First-Time Freshmen Fall 2020 and Fall 2021." *Baylor University IR Series*, vol. 21-22, no. 002 (September 2021). <https://www.baylor.edu/ir/doc.php/382060.pdf>

⁴⁵ "Total fall enrollment in degree-granting postsecondary institutions, by control and classification of institution, level of enrollment, and race/ethnicity or nonresident alien status of student: 2020." *Digest of Education Statistics*. (2020), Distributed by the National Center for Education Statistics, https://nces.ed.gov/programs/digest/d21/tables/dt21_306.50.asp

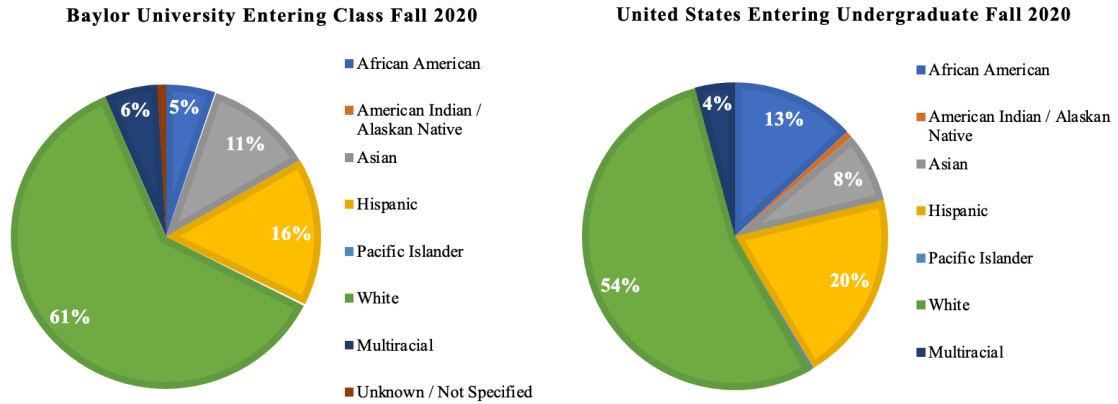


Figure 1: Racial Demographic Comparison of Baylor University and U.S.

Similarly, the distribution of males and females in the entering class of Baylor during the fall of 2020 was 59.9% female and 40.1% male.⁴⁶ National data from this same semester shows that the overall gender distribution of entering undergraduates in U.S. colleges was 59.4% female and 40.6% male.⁴⁷

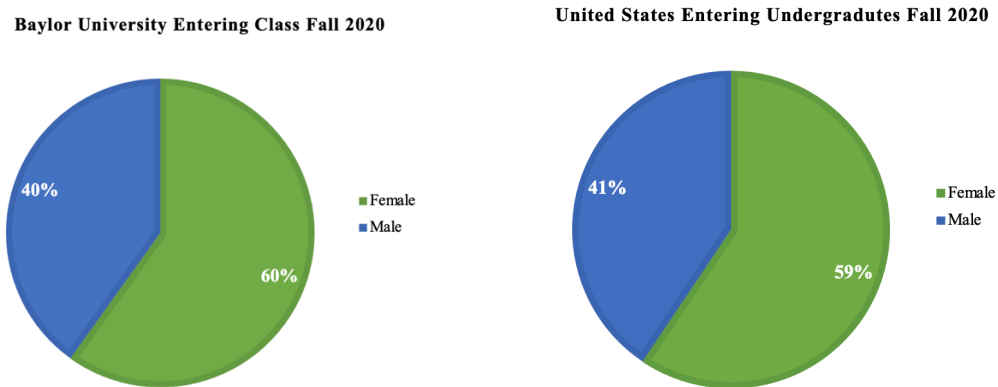


Figure 2: Gender Demographic Comparison of Baylor University and U.S.

⁴⁶ “Profile of First-Time Freshmen Fall 2020 and Fall 2021.”

⁴⁷ “Estimated National Enrollment by Institutional Sector and Gender: 2018 to 2020.” *Term Enrollment Estimates: Fall 2020* (2020), Distributed by National Student Clearinghouse Research Center, https://nscresearchcenter.org/wp-content/uploads/CTEE_Report_Fall_2020.pdf

Considering that racial and gender differences were the primary demographic categories taken into account within this survey, Baylor University can therefore be considered a relatively representative sample for the study. This survey was primarily distributed by mass email to the entire Baylor premedical population. Using a medium effect size for a power of 80% yielded a necessary sample size of 77.

Independent Variables

Demographics

The first page of the survey collected the general respondent demographics to aid the analysis of data trends beyond the primary hypotheses. The first question pertained to the age of the respondent and allowed for the isolation of data concerning Generation Z. Generation Z includes those born between 1996 and 2012. Thus, any subjects over the age of 26 were excluded from the analysis which specifically sought to better understand the trends amongst Generation Z.

The second question classified the respondent by their current year of college. This allowed for the analysis of reliance upon mentorship during differing stages in the undergraduate journey, enabling a greater investigation of when social media may begin to intersect students' views of their careers. If there is no difference in social media mentorship usage across the four undergraduate years, then student habits may be established prior to entering college. If, however, a greater number of upperclassmen have used social media for practical career insight, then there may be an additional factor at play within the college journey influencing students to use online resources. The question was strategically worded using "years in college" rather than by the traditional

year classifications (freshman, sophomore, junior, senior) to avoid students classifying themselves by hours of credit rather than year at the university. It is common for many students to enter college classifying as a sophomore rather than a freshman due to credit gained during high school classes. This survey, however, wanted to understand trends not according to credit but rather according to the journey across the four traditional years of undergraduate study.

The third question sought to ascertain the respondent's gender identity. This demographic enabled the analysis of differing gendered trends pertaining to mentorship use, social media use, and mentorship satisfaction across varying platforms. General social media usage trends show that women, on average, tend to be more likely to use social media. Based on a PEW research study on social media usage by gender, in 2021, 78% of women in the U.S. reported using social media whereas only 66% of men were engaged on at least one social media site.⁴⁸ However, when specifically analyzing trends for individual sites, it was found that 23% of men have reported using Reddit compared to only 12% of women.⁴⁹ Furthermore, an analysis of the distribution of Reddit users worldwide as of 2022 shows that 63.8% of users were men.⁵⁰ By isolating the respondent's gender, sub-trends were analyzed to determine how they fit with national usage data.

⁴⁸ "Social Media Fact Sheet." *Pew Research Center* (April 2021).
<https://www.pewresearch.org/internet/fact-sheet/social-media/>

⁴⁹ "Social Media Fact Sheet."

⁵⁰ S. Dixon, "Reddit: distribution of global audiences 2022, by gender." (March 2022), Distributed by Statista, <https://www.statista.com/statistics/1255182/distribution-of-users-on-reddit-worldwide-gender/>

The fourth and fifth questions pertaining to the respondent's racial and ethnic identity sought to analyze the impact of minority statuses on social media mentorship reliance and satisfaction amongst student groups. Prior research centered on the mentorship of minority groups, including racial and ethnic minorities as well as women, has shown that usage and satisfaction with mentorship may depend on access to similar-minority-status mentors for students identifying with a minority group.⁵¹ Depending on this institutional access therefore, women and racial minorities may be more likely to consult outside resources through social media platforms.

Finally, the sixth question asked for a classification of the respondent's professional goals. This question primarily allowed for the elimination of responses given by students not pursuing a professional goal designated within Baylor's premedical programming. If a non-premedical student were to somehow obtain this survey, their responses would insert inaccurate data into the dataset thus skewing the findings. Therefore, any responses beyond the designated acceptable premedical categories ("law", "academic", or "other") were eliminated from statistical analysis.

Social Media Usage

The Social Media Use Integration Scale (SMUIS) was used to measure social media usage and emotional connection and modified too fit the needs of this study. Pioneered by Jenkins-Guarinieri, Wright, and Johnson in 2009, a 10-item 2-factor scale was developed to analyze how users integrate social media into their daily lives and

⁵¹ Amanda Cornwall, "Mentoring Underrepresented Minority Students." *Inside Higher Ed.* (January 2020).

routines.⁵² This model is distinct from other attempts to measure an individual's attachment to social media because it evaluates more than basic, factual information about use such as hours of daily activity or account logins per week. Many other evaluative tools, relying on just these factors, neglect the influence of emotional connection which has also been found to impact social media attachment and routine-integration.⁵³ Poor predictive results of these one-factor scales increase the evidence that a two-factor model—accounting for both behavioral and emotional patterns—is necessary for proper evaluation of social media engagement patterns. Even amongst other scales that embrace the two-factor model, the SMUIS remains distinct due to its rigorous validity, reliability, and sensitivity-to-change testing prior to publication.

For this study, the SMUIS provided a measure of general social media integration. The survey questions included in Jenkin-Guarinieri et. al's model originally pertained to Facebook usage in particular, but the authors acknowledged that the survey was intended to be flexible to be adapted for use with other forms of social media.⁵⁴ Therefore, the original phrase "Facebook" included in each question was replaced with "social media" in question seven of this survey. In addition to this alteration, two questions were eliminated for the purpose of decreasing overall survey length. Due to the fact that this scale was incorporated into a larger survey, it was essential to condense the question-set as much as possible to increase the likelihood of respondents completing the entire survey. Therefore, "I get upset when I can't log onto social media" was eliminated

⁵² Michael Jenkins-Guarinieri, Stephen Wright, and Brian Johnson. "Development and validation of a social media use integration scale." *Psychology of Popular Media Culture* vol. 2 (2013), <https://doi.org/10.1037/a0030277>.

⁵³ Jenkins-Guarinieri, Wright, and Johnson.

⁵⁴ Jenkins-Guarinieri, Wright, and Johnson.

because the disappointment in an ability to be able to use social media was covered by item 3. “I respond to content that others share using social media” was also excluded because this study was more concerned with absorbing rather than sharing information on social media, so this data was deemed irrelevant.

Indicate your agreement with the following statements regarding your social media usage. Assume social media refers to any platform you use to communicate with others online.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
I feel disconnected from friends when I have not logged onto social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like it if everyone used social media to communicate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be disappointed if I could not use social media at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to communicate with others mainly through social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media plays an important role in my social relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy checking my social media accounts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't like to use social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using social media is part of my everyday routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 3: Modified 7-factor SMUIS included as question 7 in the survey.

For the purposes of analysis, certain items were grouped together based on the quality they measured. Items 2 and 4 analyzed the respondent’s preferred communication style. Items 1 and 5 reported the respondent’s integration of social media with social relationships. Item 8 evaluated the respondent’s inclusion of social media within his daily routine which provided a measure of frequency of use. Finally, items 3, 6, and 7 measured social media enjoyment. It should be noted that item 7 was a reverse coded question, intended to increase survey validity. Apart from item 7 (which was scored on a directly opposing scale), all items were scored on a Likert scale measuring 1-5 in which 1 represented “strongly disagree” and 5 represented “strongly agree.”

Mentorship Trends

The second page of the survey moved away from general demographics and social media factors to focus on the respondent's engagement with mentorship. Questions 10 and 11 aimed to eliminate the researcher's assumption that students utilize mentorship to aid their decision-making. Acknowledging that students may use mentorship for professional decisions but not personal decisions, or vice versa, questions 10 and 11 were separated to isolate these varying potentials for mentorship engagement. Question 10 assessed how often students sought mentorship for professional decision-making and question 11 analyzed the same for personal decision-making. Both were scored on a Likert scale in which 1 represented "never" and 5 represented "always."

Mentorship Importance

Question 12 asked respondents to evaluate the most important factors they consider as they select a mentor. This question was included because a correlation may exist between the factors a student considers important and his usage of social media mentorship versus in-person sources. Furthermore, in order to ensure that students continue to engage with mentors, it is essential to understand what they value most.

This question was derived from the Munich-Evaluation-of-Mentoring-Questionnaire (MEMeQ) originally developed to analyze protégé satisfaction with mentoring relationships in medical education.⁵⁵ This scale was chosen for its direct relevance to mentoring relationships within the field of medicine as well as for its ability

⁵⁵ Matthias Schäfer, et al. "The Munich-Evaluation-of-Mentoring-Questionnaire (MEMeQ) – a novel instrument for evaluating protégés' satisfaction with mentoring relationships in medical education." *BMC Medical Education* vol. 15, (2015), 10.1186/s12909-015-0469-0

to not only measure satisfaction, but to identify the specific contributors that lead to satisfaction. Schäfer et al's MEMeQ was both tested and validated within the context of medical education, unlike any previous questionnaire in the literature. Therefore, the MEMeQ was best suited for this study, focused on preparatory medical education. Furthermore, the MEMeQ was the first questionnaire developed to include individual characteristics that students evaluated in their assessment of their satisfaction with the mentoring relationship.⁵⁶ Thus, this scale enabled a deeper level of analysis that connects satisfaction with its causes. This feature was essential for this study because it allowed for the determination of which factors cause satisfaction across the two mentorship sources.

Despite its excellence as a metric tool, the MEMeQ needed to be slightly adjusted for the purposes of this survey. Schäfer's tool originally included a free response section (part two) in which respondents would identify seven features of mentorship that were important to them and then in the following question, rank their relative importance on a Likert scale. Including a free response portion on this survey, however, would limit the analysis of data because it would require the researcher to classify responses into varying pre-determined categories to analyze them effectively. This would open the door for copious sources of error to enter the dataset through researcher misinterpretation of a respondent's intent or the accumulation of responses irrelevant to the analysis. Additionally, free response questions increase the need for respondent engagement and critical thinking which increases the time and energy required to complete the survey, thus decreasing the likelihood of full submission of response.

⁵⁶ Schäfer, et al.

Therefore, to avoid these issues, this question was adapted by blending parts one and two of the original questionnaire. Part one of the MEMeQ tool pertained solely to measures of mentorship satisfaction. This portion of the questionnaire was used for this study to measure satisfaction by its original, intended structure. However, part two of the MEMeQ—analyzing what students value in their mentors—was fueled by fill-in-the-blank responses. Therefore, the integrity of completing the two parts concerning satisfaction and importance was maintained for this survey. However, in this study, students were simply asked to evaluate the mentor characteristics included in part one. This maintained the integrity of the survey in linking satisfaction with rated importance of individual factors while also eliminating error. The specific adjectives used by the MEMeQ were not edited with the exception of item 5 measuring “motivation in reaching objectives.” During survey pilot testing, ranking the importance of “motivation” was found to be confusing for respondents. Therefore, the researcher decided to eliminate this item from the finalized survey because this data was already covered by other items. “Timely response” (Item 4) was also added by the researcher to the finalized survey to provide a second measure of the “accessibility” factor. This category was not invented arbitrarily but rather taken from the clarifying example within another item. Further, all other analytic categories had two items devoted to its measurement to increase correlative reliability. “Accessibility” previously only included item one thus, the addition of “timely response” was necessary to increase data reliability.

How important are the following in your consideration of selecting a mentor?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Easily Accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supportive & Encouraging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career Direction & Guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timely Response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides Satisfactory Information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approachability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 4: Modified MEMeQ analysis of the factors considered in the selection of a mentor included as question 12 in the survey.

With regards to the categorical groupings for analysis, there were three primary categories measured, each with two contributing items. The first was interpersonal characteristics represented by items 2 and 6. Reported importance of receiving adequate knowledge from the source was represented by items 3 and 5. Mentor accessibility was represented by items 1 and 4. All items were be measured on a Likert scale from 1 to 5 in which 1 represented “strongly disagree” and 5 represented “strongly agree.”

Dependent Variables

Mentorship Use

Questions eight and nine initiated the measurement of the study’s dependent variables. Before evaluating a respondent’s satisfaction with differing mentorship sources, it was essential to ensure that the respondent had experience with each type of mentorship to maintain survey and response relevance and accuracy. Question 8 classified social media mentorship as “using an online social media source for [premedical] advice.” This study, in particular, was primarily targeted towards

understanding the impact of social media discussion forums on students. Therefore, the clarifying examples following the question included Reddit and Student Doctor Network use. Student Doctor Network was included here because, similar to Reddit, SDN has discussion forum threads specifically tied to the pursuit of a medical career. The data drawn from this question allowed the researcher to make connections between reliance on social media and its impact on the likelihood of also using social media as a tool for career mentorship. It also enabled the isolation of differences in usage of social media mentorship by students of varying demographics.

Question 9 sought to ascertain the respondent's experience with in-person mentorship sources. To further clarify the phrase "in-person mentorship," various sources were included to give respondents a picture of what types of relationships the researcher was studying. The categorization was left quite broad with any "professional advice from another student, professor, physician, academic advisor, etc" classifying as in-person mentorship. This was intentionally vague because the primary emphasis of this study was to determine the differences between digital and in-person contact. Therefore, this question served as a reference category to the primary comparison group of social media mentorship.

By responding "yes" to either of these questions, the respondent identified that she had prior experience with at least one of the mentorship sources and would then be given access to another page of the survey including a mentorship satisfaction measure. If, on the other hand, the respondent reported a negative answer suggesting that she had not used one of these sources, she was not shown the corresponding satisfaction question for that mentorship form. An affirmative response to question 8 provided the respondent

access to question 13, likewise for questions 9 and 14. This was intentionally designed to maintain question relevance and limit respondent confusion. Further, it served an additional purpose in reducing the length of the survey to increase response rates. Both questions were analyzed as dichotomous variables.

Mentorship Satisfaction

If the respondent answered question 8 or 9 affirmatively, she was given access to question 13 or 14 (or both if they responded “yes” to both questions 8 and 9) to gather data concerning mentorship satisfaction. Question 13 pertained to satisfaction with social media mentorship and question 14 measured satisfaction with in-person mentorship. These questions were derived from part one of the MEMeQ with the same edits as those made for question 12. Question 13, regarding social media mentorship, was defined using the term “media source” and the references to Reddit and Student Doctor Network were repeated in the leading question to remind respondents of the primary focus of this study. In this matrix table, respondents were asked to rate their satisfaction with the mentorship source’s display of a variety of characteristics. These were the same characteristics from question 12 and were grouped in the same manner according to interpersonal characteristics, adequate transfer of knowledge, and accessibility satisfaction. These measures were analyzed on a Likert scale from 1 to 5 in which 1 represented “strongly disagree” and 5 represented “strongly agree.”

Answer the following questions regarding your experiences using social media sources such as Reddit or Student Doctor Network.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
This media source was easy to access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt supported and encouraged by this media source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This media source provided direction and guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This media source answered my questions in a timely manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt satisfied by the information this media source provided me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt comfortable approaching this media source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 5: Modified MEMeQ analysis of student satisfaction with social media mentorship included as question 13 of the survey.

Answer the following questions regarding your experiences with an in-person mentor that you have consulted with.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My mentor was easy to access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt supported and encouraged by my mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My mentor provided direction and guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My mentor answered my questions in a timely manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt satisfied by the information my mentor provided me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt comfortable approaching my mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 6: Modified MEMeQ analysis of student satisfaction with in-person mentorship included as question 14 of the survey.

Statistical Analysis

Determining Sample Normality

Before analyzing data trends with comparative statistical measures, it was essential to determine whether the dataset could be treated as normal. The Shapiro-Wilk

normality test was used to compare the distribution of responses to each question with the expected distribution of the normal curve. If the generated p-value was less than 0.05, then the data had significant deviation from normality and must be analyzed using non-normal tests. Every set of tested responses corresponding to the questions of the survey displayed p-values less than 0.05 and thus, were assumed to be non-normal. Therefore, the tests used in this model corresponded to non-normal datasets.

Analyzing Demographic Trends

In order to analyze demographic trends resulting from the dataset, two primary questions were addressed for each of the demographic categories. The first was whether or not there was a significant difference in usage of either social media or in-person mentorship sources between the subcategories of each demographic choice. For instance, do males use social media mentorship more than females? To answer questions like this, responses to survey questions 8 and 9 were broken down according to the demographic category being analyzed and correlations were tested using Pearson's Chi-Squared test. The Chi-Squared test was chosen for this purpose because it is a non-parametric test that could be easily applied to this dataset that deviated from normality. Further, the Chi-Squared test is a categorical test which was essential because demographic categories are nominal and ordinal variables. Also, survey questions 8 and 9 were measured by binary outcomes which was not conducive to an ordered regression model. Ultimately, the Chi-Squared test highlighted whether the choice to pursue social media or in-person mentorship was dependent on a respondent's demographics.

The second question pertaining to demographic categories was whether reported satisfaction with social media or in-person mentorship depended on a respondent's

demographics. Rather than looking at survey questions 8 and 9, this question isolated satisfaction metrics given by survey questions 13 and 14. Therefore, a linear regression model was chosen to address this question because the dependent variable of satisfaction was able to be measured on an ordered scale, in contrast to the previously binary measure of questions 8 and 9. The regression model determined if there was a correlation between demographic categories and satisfaction responses.

Question 1-1a

To address Question 1 regarding the impact of social media dependence on the likelihood of using social media as a mentorship source, a Wilcoxon Signed Rank test with continuity correction was used. The Wilcoxon test is generally understood as the non-parametric form of the two-sample t-test and is used to evaluate the independence of two continuous variables. The desired correlation, in this case, was between an ordinal variable (social media dependence) and a binary nominal variable (use of social media mentorship). Therefore, a continuity correction was a necessary addition to this model because both of these variables were measured discretely. The continuity correction converted these discrete measurements into continuous measurements using an approximated probability distribution so the values could be analyzed and tested for independence. Since the data for survey question 7 measuring social media dependence consisted of a matrix table with multiple factoring variables scored on a Likert scale, the overall value of dependence variable was calculated by combining the scores from each of the 8 items within the question to obtain one numerical value of dependence ranging from 8-40. The Wilcoxon test was followed by an Odds Ratio (OR) assessment to identify the strength of association between dependence and usage of social media

mentorship. Therefore, the Wilcoxon indicated whether the two variables were independent and the Odds Ratio indicated to what extent they were related.

Question 1a, analyzed the correlation between specific dependence factors and the use of social media as a mentorship source. The same Wilcoxon and Odds Ratio model as Question 1 was also employed here to test for independence and correlation strength. Question 1a served an additional purpose in this study because its findings would identify whether this sample exhibited Simpson's Paradox in which a significant result occurs at the individual level without occurring amongst the overall results of the analysis for Question 1.

Question 2

Question 2 pertained to the correlation between social media dependence and satisfaction with social media mentorship. Due to the fact that both of these matrices were scored on a Likert scale, both variables were ordinal in nature and thus, a simple linear regression model was applied to the data. For this analysis, separate regression analyses were performed for every item of survey question 13 and correlations were calculated with every item of survey question 7.

Question 3

Question 3 moved away from the connection between social media dependence and mentorship trends. Instead, this question primarily pertained to the comparison of the rated satisfaction between the two forms of mentorship: in-person and social media sources. To compare overall satisfaction with social media mentorship and in-person mentorship, a similar procedure to that used in Question 1 was employed. The Wilcoxon

Signed Rank test with continuity correction calculated the correlations between two ordinal variables. The data from questions 13 and 14 was collected using a matrix table and scored on a Likert scale. Thus, the overall satisfaction value was calculated by combining the scores for each individual matrix item to produce one value for comparison for each respondent measuring from 6-30. Those discrete values were then converted into a continuous range as necessitated by the Wilcoxon test using the continuity correction and tested for independence.

Question 3a

To further understand this relationship and address Question 3a, the individual factors of social media and in-person satisfaction were analyzed. Question 3a provided a more detailed analysis of the findings of Question 3, looking specifically at whether there were differing trends in satisfaction between the individual items of the matrices in survey questions 13 and 14. This step of the analysis isolated each individual item from survey questions 13 and 14 (matrix tables regarding social media and in-person mentorship satisfaction) and computed a mean satisfaction value from all of the responses for each item ranging in value from 1-5 (following the Likert scale). First, a Wilcoxon signed rank test with continuity correction was completed to determine whether the mean satisfaction value for each item was significant in itself. This is similar to a one sample t-test, in which one experimental group is compared to the assumed average value, but computed using non-parametric statistics to match the data characteristics. In this case, the assumed average was the Likert value 3 which represented the “neutral” response category. Therefore, any item that tested statistically significant represented a noteworthy satisfaction or dissatisfaction on the overall behalf of the respondents. After the

individual significance of each average was computed, the corresponding items from each matrix table in survey questions 13 and 14 were compared using the Wilcoxon signed rank test in a similar manner to the comparison of overall satisfaction values for Question 3.

Question 3b

Finally, Question 3b sought to ascertain whether social media or in-person mentorship better satisfies students in the areas of mentorship that they identify as most important in their selection of a mentor. Answering this question involved a very similar procedure to that outlined for Question 3a. The primary survey question of interest for this analysis was question 12, which asked students to rank the importance of six factors in their consideration of a mentor. First, the mean importance value for each of the six categories was calculated using data from all the respondents (scoring between 1-5). The Wilcoxon test was again used to identify if each of these averages differed from the neutral score of 3 which would suggest significant importance or non-importance. Then, the average scores for each item were compared to one another using another Wilcoxon test which would clarify if the means could be considered more important than one another to a significant degree. This process was repeated for the 3 overarching categories combining the 6 items into their corresponding variable—mentor accessibility, interpersonal characteristics, and knowledge. These findings would denote which categories students considered most important in their evaluation of a potential mentor. Then, this conclusion was combined with data from Question 3a to indicate which form of mentorship better satisfied students in the corresponding areas they deemed important.

CHAPTER 3

Results

Sample

After the elimination of data from respondents over the age of 26 (beyond the scope of Generation Z) and not pursuing a career within the classification of premedical studies (academic, law, and other), the total sample size was 190 students.

Year of College

Of the 190 respondents, there was greater overall representation of the underclassmen experience. 26% of students who completed the survey were in their first year, 49% were in their second year, 17% were in their third year, and 8% were in their fourth year of college. None of the respondents were in the process of completing their fifth year or more.

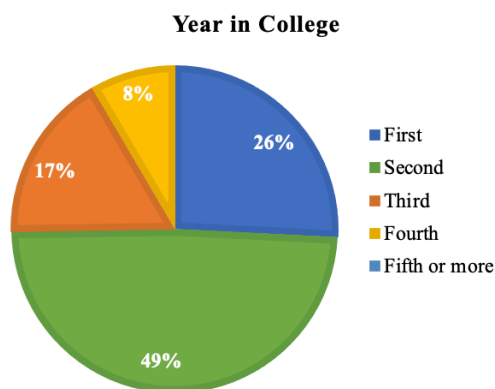


Figure 7: Percentage of respondents in each year of college.

To determine if there is an association between mentorship platforms and a student's year in college, a Chi-Squared test was employed. First, usage data was analyzed to determine if the student's reported year in school was correlated with greater usage of either social media or in-person mentorship. The p-value generated from this test was 0.1677 which suggests that there is no significant relationship between years in college and mentorship use. Similarly, regression analyses of the satisfaction reported on survey questions 13 and 14 produced p-values of 0.664 and 0.5187 respectively. This means that mentor satisfaction with both platforms is not significantly correlated with a particular year in college.

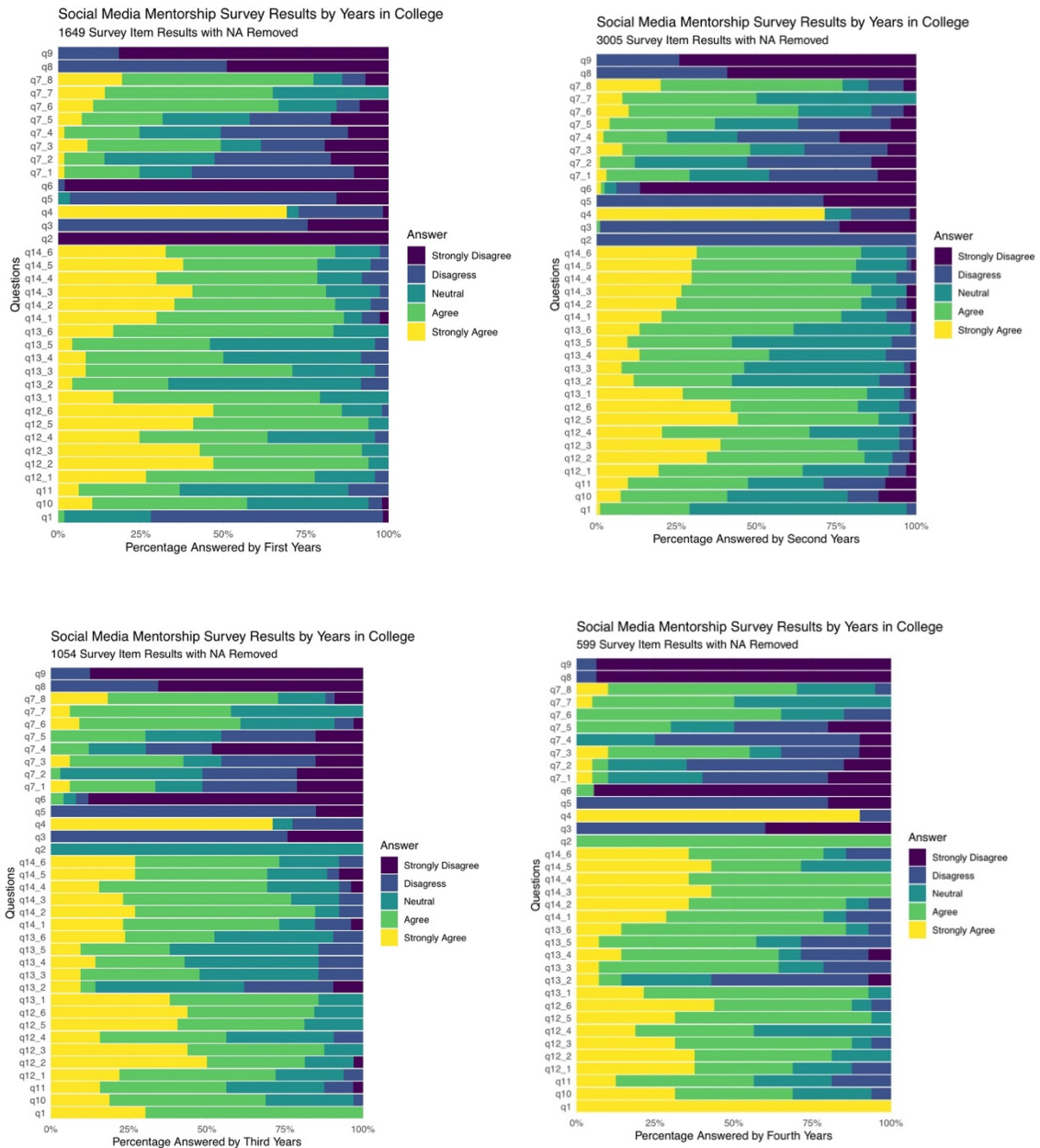


Figure 8: Comparison of survey responses by year in college. Overall, response trends are fairly similar corresponding with the nonsignificant statistical findings.

Gender

This sample included 141 students who identified as female, 48 who identified as male, and one who preferred not to share their gender identity. Therefore, the sample was

74% female and 25% male (remaining 1% did not disclose), exhibiting slightly more extreme proportions compared to both the Baylor undergraduate population as well as the U.S. collegiate population at large.

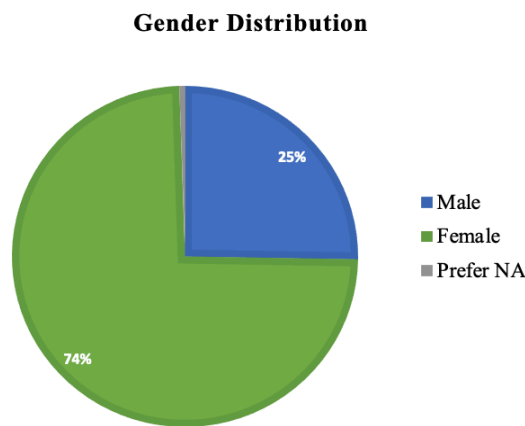


Figure 9: Gender distribution of respondents.

Analyzing the correlation of mentorship use and satisfaction with gender produced nonsignificant results. The Chi-Squared test comparing social media and in-person mentorship with gender produced a p-value of 0.1912 which is not statistically significant. Therefore, it can be concluded that mentorship use does not differ by gender. Further, the regression analysis of satisfaction across social media and in-person mentorship platforms differentiated by gender produced two nonsignificant p-values—0.5071 (social media) and 0.9044 (in-person). These results also suggest that there is no difference in mentorship satisfaction by gender.



Figure 10: Comparison of survey responses by gender. Overall, response trends are fairly similar corresponding with the nonsignificant statistical findings.

Race & Ethnicity

Similar to the proportions of the gender distribution of this sample, the racial distribution was also skewed towards a more extreme percentage of the dominant group. Survey question 4 collected data for participant race providing white, black, Asian, American Indian or Alaskan Native, and Pacific Islander as selections as well as the option not to disclose. 69% of respondents identified as white, 6% as black, 21% as Asian, and 1% as American Indian. 3% of the sampled population preferred not to answer. Ethnicity was separately addressed by survey question 5 which provided Hispanic and non-Hispanic as the two answer choices along with the option not to respond. Within this sample, 77% of respondents identified as non-Hispanic and 23% identified as Hispanic. It is important to note that in university and U.S. collegiate-wide data previously referenced in chapter 2, “Hispanic” was regarded as a racial category similar to white, black, and Asian. In this study, however, ethnicity was analyzed

separately to honor the distinction between race and ethnicity recognized by the field of sociology.⁵⁷ It is likely, therefore, that if “Hispanic” were included as a measure of race, the percentage of students identifying as white may decrease. This would produce racial percentages more similar to the overall Baylor University and U.S. undergraduate populations.

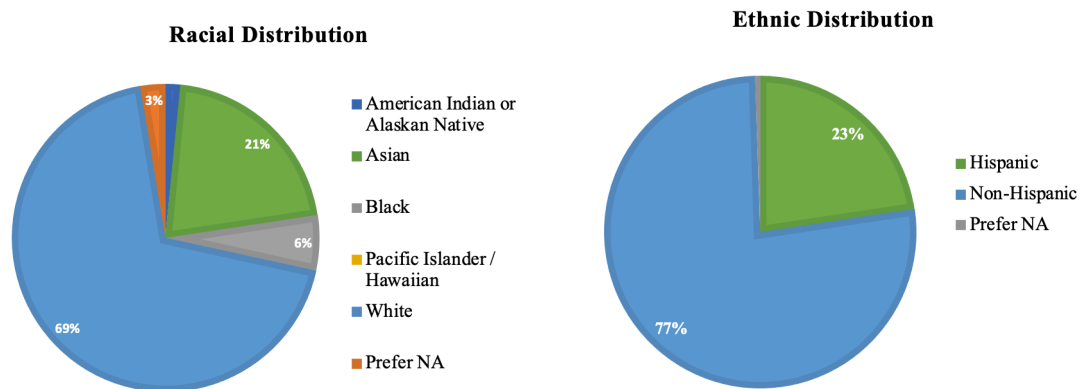


Figure 11: Racial and ethnic distributions of respondents.

In order to compare differences in usage and satisfaction across racial and ethnic categories, a primary distinction between majority and minority groups was highlighted in accordance with the existing literature on racial differences in mentorship.

Acknowledging the pre-established finding that strong mentorship has an especially important impact on students from racial minority groups, the data from racial categories in the minority were combined and compared to the dominant “white” responses.⁵⁸ In this analysis, there was found to be no significant difference in mentorship usage—whether

⁵⁷ William Little, *Introduction to Sociology – 1st Canadian Edition* (British Columbia: Pressbooks, 2012).

⁵⁸ Cornwall.

social media or in-person—between students who identified as a racial minority and their white counterparts ($p = 0.962$). Comparing satisfaction between racial minority and white students as reported from survey questions 13 and 14 suggests that there is also no significant difference in satisfaction between the two groups ($p_{13} = 0.5829$ and $p_{14} = 0.7053$). Overall, racial differences between majority and minority groups do not seem to be a cause of differing usage and satisfaction with social media and in-person mentorship.



Figure 12: Comparison of survey responses by race. Minority represents responses from non-white groups and majority represents white responses. Overall, response trends are fairly similar corresponding with the nonsignificant statistical findings.

A separate analysis was also performed for difference in ethnicity because ethnicity was measured separately on the survey. Despite the distinction on the survey, the findings were the same as the racial findings mentioned above. There was no significant difference between usage of social media and in-person mentorship when

white and Hispanic responses were compared ($p = 0.4221$). Regression analyses for satisfaction with each mentorship form by ethnicity also produced nonsignificant results ($p_{13} = 0.8017$ and $p_{14} = 0.1329$). Therefore, similar to race, there does not seem to be an association between ethnicity and use or satisfaction with a particular form of mentorship.



Figure 13: Comparison of survey responses by ethnicity. Minority represents Hispanic responses and majority represents non-Hispanic responses. Overall, response trends are fairly similar corresponding with the nonsignificant statistical findings.

Addressing the Survey Assumption

For this project, it was necessary to make the assumption that students use mentorship when making decisions. Based on the existing literature, especially concerning Generation Z, this appeared to be a fair assumption due to the fact that other researchers have come to the conclusion that students in the modern era rely heavily on

mentorship for guidance.⁵⁹ However, to add greater validity to the findings from this population, survey questions 10 and 11 sought to provide data to better understand the prevalence of the use of mentorship in student decision making. Regarding decisions pertaining to professional goals (evaluated by survey question 10), 6% of students report that they never consult a mentor, 7% rarely consult a mentor, 35% sometimes, 40% often, and 12% always reach out to a mentor. Dividing this into negative and positive categories, assuming that a “sometimes” response is neutral, means that 13% of students are unlikely to consult a mentor for professional decision-making whereas 52% of students are likely to participate in professional mentorship. Even without counting “sometimes” as a response indicative of mentorship usage, more than half of students regularly incorporate mentorship into their decision-making.

"Do you seek mentorship when making decisions about your professional goals?"

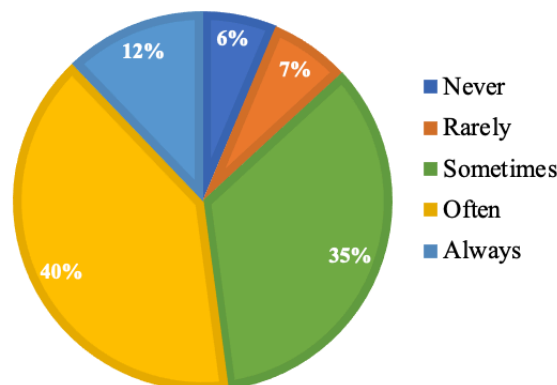


Figure 14: Distribution of data from survey question 10 highlighting the frequency of respondent-use of mentorship for professional decisions.

⁵⁹ Eckleberry-Hunt, Lick, and Hunt, “Is Medical Education Ready for Generation Z?”

Analyzing the usage of mentorship to guide a student's personal decisions produced similar results. Survey question 11 gathered this data by describing personal decisions as those pertaining to relational, emotional, and spiritual needs. 5% of students indicated they never consulted mentors for help with personal decisions, 16% stated that they rarely did, 32% sometimes, 37% often, and 10% always. Again, assuming that "sometimes" is a neutral response, 21% of students do not regularly engage with mentors for personal matters and 47% of respondents do. This finding, though slightly less distinct compared to professional decisions, points toward the same conclusion, validating the usage of mentorship for both professional and personal decisions.

"Do you seek mentorship when making personal decisions (i.e. relational, spiritual, emotional)?"

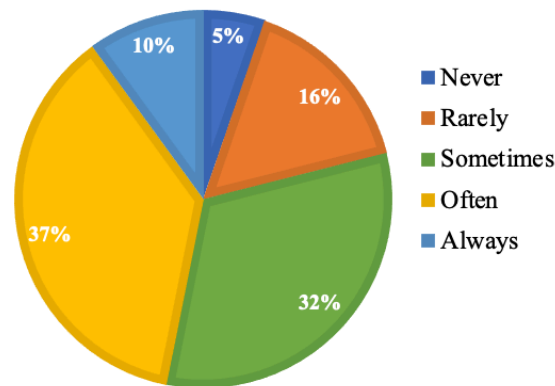


Figure 15: Distribution of data from survey question 11 highlighting the frequency of respondent-use of mentorship for personal decisions.

Question 1

After analyzing the correlation between overall social media dependence and the likelihood of using social media as a form of mentorship, it would appear that these two variables are independent of one another. Within this test, the average social media

dependency score of each respondent—measured by survey question 7—was correlated with the likelihood of choosing “yes” or “no” on question 8 regarding prior usage of social media for premedical advice. The p-value for this model was 0.947 which implies that any finding of dependence between these variables is statistically insignificant and cannot be supported by this data. Therefore, social media dependence does not impact the likelihood of using social media as a form of mentorship since there is no statistically significant effect. Thus, this fails to confirm Hypothesis 1.

For this test, the Odds Ratio (OR) value measured 0.998 which means that those who responded “no” to ever having used social media as a form of mentorship are 0.2% less likely to be dependent upon social media. While this does indicate directionality that corresponds with the original hypothesis stating social media dependence and use of social media mentorship would be positively correlated, it is such an insignificant result that it cannot be confidently used to confirm anything regarding this relationship. This is especially apparent given the fact that the 95% Confidence Interval for this finding spanned both below and above one.

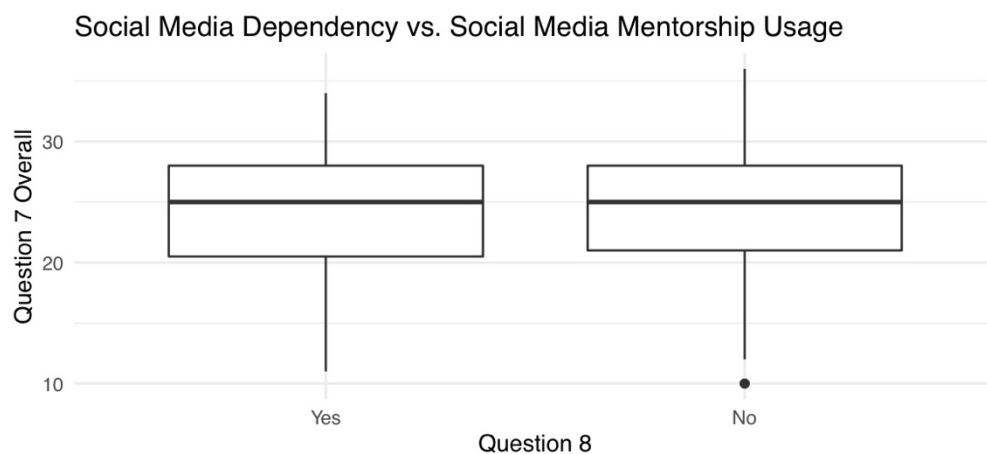


Figure 16: Average social media dependency of respondents and social media usage.

Question 1a

Considering these same two survey questions, Question 1a investigated the individual scores of each item within survey question 7 and its correlation with the response to question 8. Similar to Question 1, this analysis also produced insignificant findings. Therefore, it would appear that there is no individual dependence factor that more strongly influences the likelihood of using social media as a form of mentorship comparatively. The finding that none of these factors produced a significant p-value also reaffirms the finding from Question 1 that social media dependence and usage of social media as a form of mentorship are independent variables. This shows that there is no Simpson's Paradox in which findings at the individual level contradict findings at the overall level. This analysis also fails to support Hypothesis 1a because none of the findings were significant and thus, cannot be reasonably compared.

Characteristic	N	OR	95% CI	p-value
q7_1	190	1.03	0.787, 1.34	0.845
q7_2	190	0.917	0.666, 1.26	0.589
q7_3	190	0.969	0.765, 1.23	0.797
q7_4	190	1.10	0.843, 1.44	0.482
q7_5	190	0.917	0.706, 1.19	0.514
q7_6	190	0.797	0.585, 1.08	0.144
q7_7	190	1.29	0.814, 2.05	0.279
q7_8	190	1.14	0.857, 1.54	0.373
q7_2n4	190	1.01	0.858, 1.20	0.879
q7_1n5	190	0.980	0.844, 1.14	0.790
q7_3n6n7	190	0.969	0.850, 1.11	0.641

Figure 17: Correlation of the 8 items of question 7, along with the combined items that contribute to the three main factors of dependence—communication style, integration into social relationships, and inclusion in daily routine—with the likelihood of reporting social media usage for mentorship measured by question 8.

Question 2

To answer the question of whether social media dependence predicts greater satisfaction with social media mentorship, data from survey questions 7 and 13 were correlated. The sample size for this analysis was less than the total 190 responses because survey question 13 was only shown to students who reported ever having used social media as a form of mentorship. 111 students confirmed prior use of social media mentorship and thus provided data for their satisfaction with that resource.

In general, there does not appear to be a correlation between greater social media dependence and the likelihood of being satisfied with social media as a resource for mentorship. Of the 48 separate analyses run, only 9 correlations produced a p-value of less than 0.10, indicating significance (See Appendix B). Therefore, many of the findings are overall nonsignificant and would suggest that social media dependence and social media mentorship satisfaction are independent variables.

With that said, however, it is interesting to note the trends among the 9 findings found to be significant. Survey question 7 item 4 had the most significant results, correlating with three items in survey question 13, all with a p-value of less than 0.05 indicating that they are statistically significant. A higher score on question 7.4 indicates that the respondent prefers to communicate with others via social media. There existed a positive, statistically significant correlation between this item and a person's feeling of support and encouragement, comfort accessing social media mentors, and satisfaction with provided information (13.2, 13.5, and 13.6 respectively). Survey questions 13.2 and 13.6 both pertain to a respondent's satisfaction with the interpersonal experience of using the social media source. Therefore, this suggests that there is a positive correlation

between a student preferring to communicate via social media and their satisfaction with the interpersonal relatability of the social media mentor. This finding is also supported in part by the statistically significant ($p < .10$) correlation between question 7.2 and question 13.2. Question 7.2 depicted a slightly more extreme version of question 7.4 in which a higher score indicated that the respondent “would like it if everyone used social media to communicate.” Items 2 and 4 of question 7 are the two indicators that social media is a preferred method of communication for the respondent and thus, significant correlations with factors of satisfaction with the interpersonal characteristics variable seems to suggest that there may be a relationship between these two variables.

Question 7.8 was the only measure of a respondent’s integration of social media into their daily routine—thus entirely representing this variable—and significantly correlated with three items from question 13. These positive correlations were all significant at the $p < 0.10$ level which suggests moderate significance. According to this analysis, incorporation of social media into one’s daily routine is positively correlated with finding social media mentorship easily accessible (13.1), satisfactorily informative (13.5), and approachable (13.6).

Additionally, there were two other items of question 7 with significant correlations to a single item of question 13. Question 7.5 pertains to the role social media plays within the respondent’s social relationships and encompasses one of the measures of social integration of media. This question had a positive correlation with feeling satisfied by the information provided by social media mentorship (13.5) at the $p < 0.05$ level, suggesting relatively strong significance. Question 7.6 also correlated with one item of question 13. Within question 7, item 6 served primarily as a measure of social

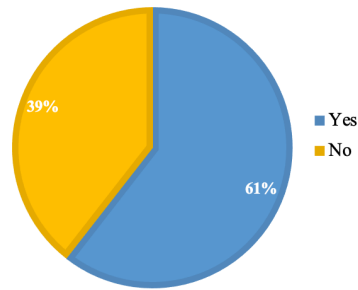
media enjoyment. Therefore, with an increase in reported enjoyment of social media, there was also a documented increase in the perceived timeliness of social media's response to questions.

Overall, the general association between social media dependence and satisfaction with social media mentorship is weak and relatively insignificant suggesting that these factors are independent from one another. However, diving deeper into the individual variables that encompass both dependence and satisfaction, a few trends appear. First, there is likely a connection between preferring social media as a communication style and being satisfied by the personal connection provided by social media mentorship. Further, individual variables of dependence may relate to certain factors of satisfaction differently.

Question 3

For Question 3, the analyses of survey questions 13 and 14 were based on different sample sizes because not every respondent had previously interacted with in-person or social media mentorship. Therefore, the sample size for question 13 was 111, meaning that 111 respondents had used social media mentorship in some form. It is interesting to note that this value represents 61% of respondents, meaning over half of the respondents have interacted with mentorship on an online platform. However, this still represents a smaller portion of respondents than those who have utilized in-person mentorship. Comparatively, 152 respondents reported that they had previously used in-person mentorship for premedical advice, representing 80% of the respondent population.

"Have you ever consulted a social media forum for advice regarding your premedical career?"



"Have you ever consulted an in-person mentor for advice regarding your premedical career?"

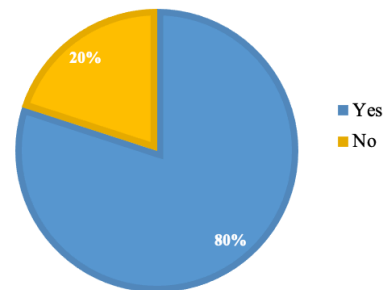


Figure 18: Comparison of respondents who have used social media and in-person mentorship sources (Questions 8 and 9).

Looking at the mean value of overall satisfaction for both of these sources, it appears that respondents reported a higher average level of satisfaction with in-person mentorship. Combining the scores of the 6 items within the matrix tables of both questions, each respondent was assigned an overall satisfaction total. The average satisfaction for social media mentorship (question 13) was 21.5 and the average satisfaction for in-person mentorship (question 14) was 24.16. Based on these values, students appear to be more generally satisfied with in-person mentorship. This was further validated through the subsequent analysis of respondents who reported utilizing both in-person and social media sources. This category consisted of 94 respondents who filled out both matrix tables for survey questions 13 and 14. Within this group, a very similar finding is identified. The overall average satisfaction with social media mentorship was 21.52 and the corresponding in-person average was 24.11 (which shows very little deviation from the averages of the total population). Overall, in-person mentorship seems to produce greater satisfaction within the total respondent population as well as amongst students who had experience with both forms.

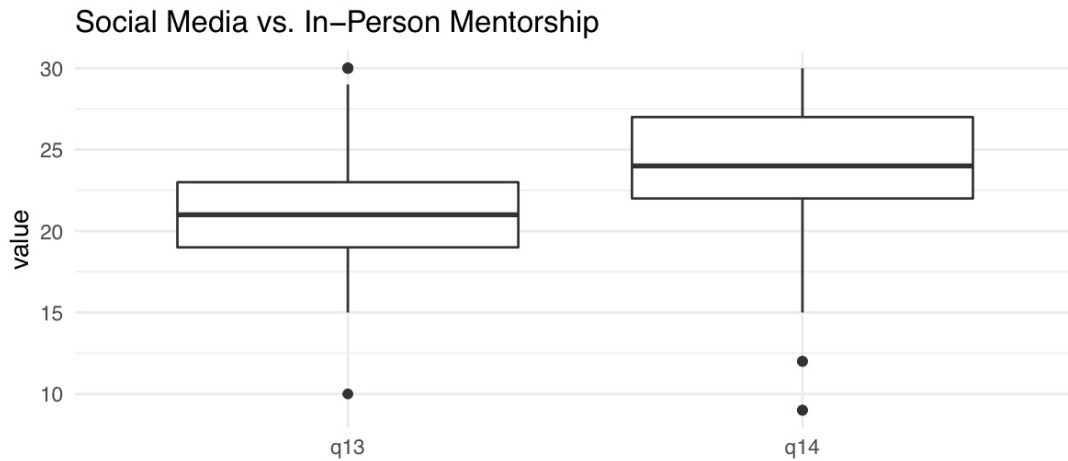


Figure 19: Comparison of average satisfaction with social media (question 13) and in-person (question 14) mentorship.

In order to confirm Hypothesis 3, however, statistical analyses must identify a statistically significant difference between these averages. Considering the samples of students who responded to either matrix table first, the Wilcoxon Signed Rank test produced a p-value of 1.49×10^{-6} . This value is significant at the $p < 0.001$ level which is exceptionally significant. Therefore, the difference between the two average satisfaction levels is statistically significant, thus confirming Hypothesis 3. For the comparison of the 94 students who responded to both question 13 and 14, the p-value was found to be 1.12×10^{-5} . This value is also significant at the $p < 0.001$ level suggesting that this difference is also statistically significant and further confirming Hypothesis 3; overall, students are more satisfied by in-person mentors.

Question 3a

Question 3a was also analyzed using the 111-respondent sample size for survey question 13 and the 152-person sample size for question 14. Rather than comparing

overall satisfaction values, however, this analysis was broken down into 6 separate comparative tests by item which were then combined according to the 3 primary independent variable measures: mentor accessibility, interpersonal characteristics, and knowledge.

Accessibility

The measures of mentor accessibility are encompassed by items 1 and 4 on the identical matrix tables of survey questions 13 and 14. For question 13.1, the mean satisfaction score was 4.08, found to be statistically significant ($p < 2.2 \times 10^{-16}$).

Therefore, it can be concluded that respondents are satisfied by how easily they are able to access social media mentorship. Similarly, for the corresponding item on the in-person satisfaction question (14.1), the mean satisfaction score was 3.90 which was also found to be significant ($p = 1.07 \times 10^{-15}$). Thus, students are also satisfied with the ease of access to in-person mentors. Interestingly, the satisfaction score for social media is slightly higher than the satisfaction score for in-person mentorship; however, the difference is very small.

The second measure of accessibility was addressed by matrix item 4, surveying satisfaction with mentor timeliness to answering questions. For social media (13.4), the average satisfaction value was 3.51 and significant ($p = 1.75 \times 10^{-7}$). The satisfaction score for in-person mentors was also significant ($p < 2.2 \times 10^{-16}$) and equaled 4.00. In this case, students were found to be more satisfied with the timeliness of in-person mentors.

When these two items were combined to analyze the overall satisfaction with accessibility for each form of mentorship, the satisfaction with social media measured 3.797 and the satisfaction for in-person mentors measured 3.950. Comparing these

averages with the Wilcoxon test to identify a significant difference generated a p-value of 0.0072 suggesting that the difference was statistically significant. Overall, therefore, students are more satisfied by the accessibility of in-person mentors.

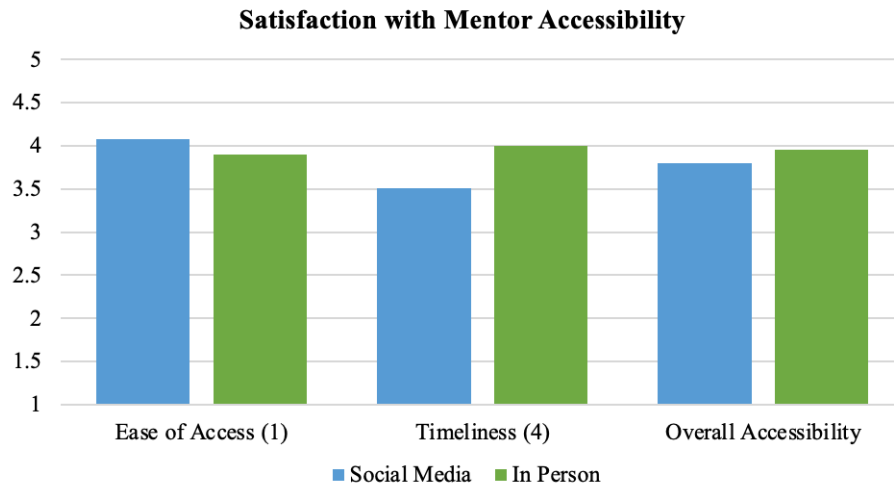


Figure 20: Comparison of average values of satisfaction between items 1 and 4 as well as the overall, combined measure of mentor accessibility.

Interpersonal Characteristics

The measures of interpersonal characteristic satisfaction were analyzed using the same process, applied to items 2 and 6 of survey questions 13 and 14. Satisfaction on item 2 signified that the respondent felt supported and encouraged by their mentor. For question 13.2, the mean satisfaction score was 3.15. The p-value produced by this one-sample mean comparison was 0.086, which is much larger than every other p-value produced by these tests. Therefore, despite ruling a p-value less than 0.10 significant for prior analyses within this project, the p-value here was insignificant. This indicates that students reported neither satisfaction nor dissatisfaction with the encouragement provided by social media mentorship. Question 14.2, on the other hand, had a mean value of 4.05

and a p-value of less than 2.2×10^{-16} . Therefore, students are satisfied with the support of their in-person mentors to a statistically significant degree.

Item 6 addressed the student's assessment of the approachability of their mentor. The average satisfaction with this feature using social media (13.6) was 3.80 with a significant p-value ($p = 3.90 \times 10^{-14}$). Additionally, the in-person mentorship satisfaction from question 14.6 was 4.08, also with a statistically significant p-value ($p < 2.2 \times 10^{-16}$). Therefore, in both cases, students reported significant satisfaction with the approachability of their mentors.

As seen above, for both items 2 and 6, the satisfaction value for in-person mentors was higher than that of social media mentors. Therefore, it naturally follows that the combined satisfaction for interpersonal characteristics for in-person mentors was higher than satisfaction with social media sources (4.06 and 3.48 respectively). Comparing these two averages generated a p-value of 7.18×10^{-11} , suggesting that the difference between them is statistically significant. It can be concluded, therefore, that students are more satisfied with the interpersonal experience of working with an in-person mentor.

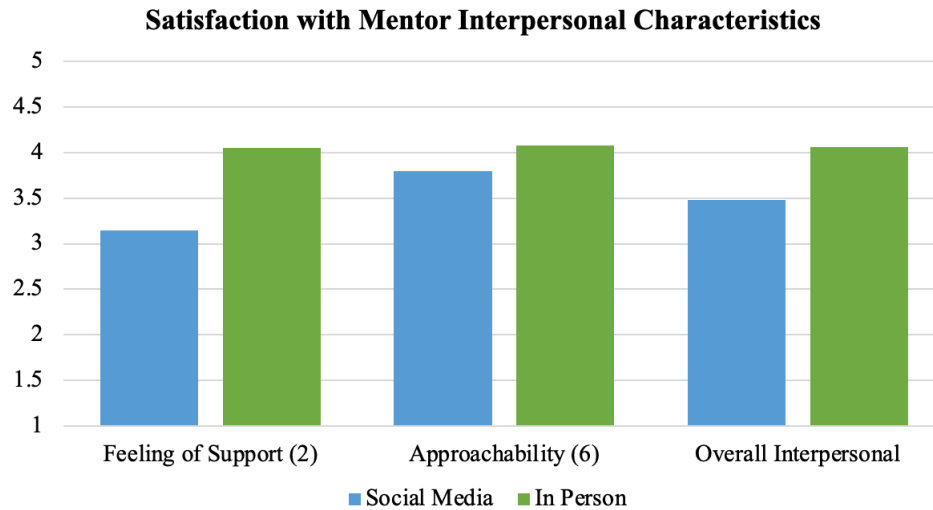


Figure 21: Comparison of average values of satisfaction between items 2 and 6 as well as the overall, combined measure of mentor interpersonal characteristics.

Knowledge

Finally, this procedure was applied to items 3 and 5 of survey questions 13 and 14 to assess the respondent's reported satisfaction with the knowledge provided by each respective mentorship source. Item 3 indicates the measure to which the student felt satisfied with the direction and guidance provided by their mentor. For social media sources, as measured by question 13.3, the mean satisfaction score was 3.53, found to be significant by a p-value of 4.48×10^{-9} . Similarly, for in-person sources (14.3), the mean satisfaction was found to be 4.11 and was concluded to be statistically significant ($p < 2.2 \times 10^{-16}$). It would appear, therefore, that students are significantly satisfied by the direction and guidance provided by both types of mentors. However, the difference between their mean values shows that on average, students attribute higher satisfaction to in-person guidance.

Item 5 also addresses the knowledge provided by the mentor by measuring the respondent's satisfaction with information provided by the source. On survey question 13, the average satisfaction was 3.41 with a p-value of 1.01×10^{-6} . This suggests that overall, students are satisfied by the information provided by social media at a statistically significant level. The results for survey question 14 produced an average of 4.03 and p-value less than 2.2×10^{-16} . Therefore, it can be concluded that students are also satisfied by the information provided by in-person mentors to a statistically significant degree. Similar to the results found through the analysis of item 3, both mentorship sources produced significant satisfaction but overall, in-person sources maintained a higher mean.

When these factors were combined to produce an overall measure of satisfaction with knowledge, a similar result was found. The total average satisfaction with knowledge for social media sources was 3.47 and for in-person mentors was 4.07. The comparison of these means via the Wilcoxon test produced a p-value of 7.79×10^{-11} meaning that the difference between the means is statistically significant. Therefore, it is concluded that students are more satisfied with the knowledge provided to them by in-person mentors than by social media mentors.

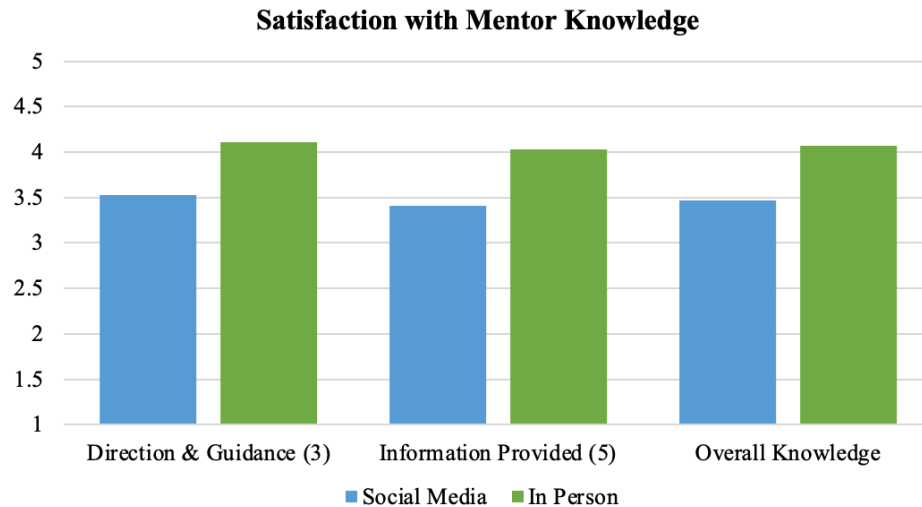


Figure 22: Comparison of average values of satisfaction between items 3 and 5 as well as the overall, combined measure of mentor knowledge.

Hypothesis 3a

These findings only partially support Hypothesis 3a. Based on the above analyses, in-person mentors had higher satisfaction scores than social media mentors to a significantly different degree for every metric. Therefore, the original hypothesis was correct in the assumption that students would report higher satisfaction with the interpersonal experience of working with an in-person mentor. This case is interesting to note, because it was the only factor that produced a mean satisfaction score that was not significantly different from neutral satisfaction. Survey question 13 item 2 indicated that students were neither satisfied nor dissatisfied with the interpersonal experience of using a social media mentor which was the only case in which a non-significant result was seen. This finding provides additional support for the disparity between satisfaction with interpersonal relatability of the mentor across both platforms that was specifically highlighted in Hypothesis 3a.

However, despite the initial assumption that students would be better satisfied by the accessibility of social media sources, in-person mentors still averaged significantly higher rates of satisfaction. This finding, therefore, seems to disprove this portion of the hypothesis. It is also worthwhile to note a few important distinctions that stood out in this analysis. First, when comparing the differences between the means of the in-person and social media satisfaction scores, the accessibility category exhibited the smallest difference. The disparity between knowledge was 0.59 and between interpersonal characteristics was 0.58, but between accessibility was only 0.15. Therefore, despite the fact that students reported an overall satisfaction with the accessibility of in-person mentors, the disparity between their satisfaction with social media mentors was notably smaller than the other two categories which reported similar values. Therefore, there appears to be something different about satisfaction with accessibility.

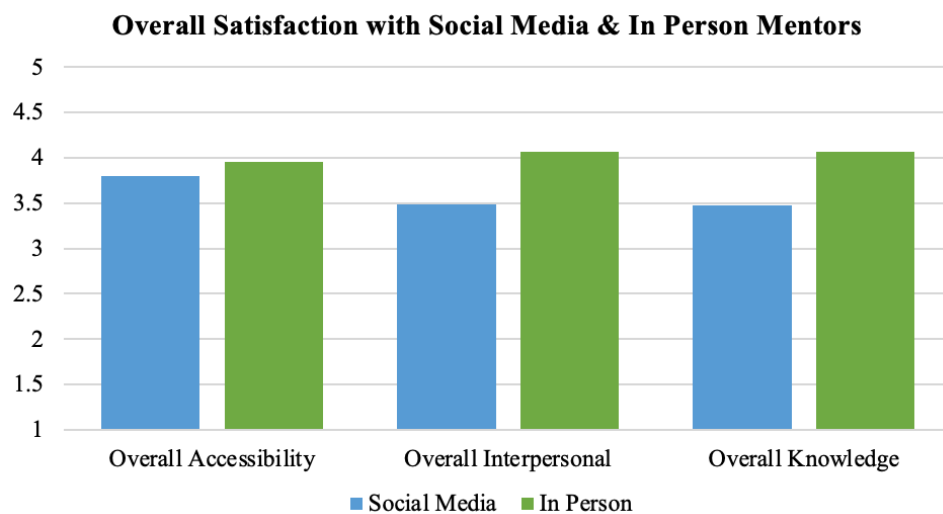


Figure 23: Overall, the disparities between satisfaction with mentor knowledge and interpersonal characteristics are larger than the difference between satisfaction with mentor accessibility for social media and in person platforms.

This smaller difference points to the second important feature of note with this variable. Although the overall accessibility value determined from the combination of items 1 and 4 showed that satisfaction was greater for in-person mentors, item 1 actually reported higher social media satisfaction. On average, in response to the prompt “this resource was easy to access,” students gave social media sources a score of 4.08 and in-person mentors a score of 3.90. This particular instance is important to note because it is the only case in which students reported higher satisfaction with social media mentorship. Further, this leads to the third point of interest: the overall accessibility satisfaction is the highest amongst the three measures of satisfaction pertaining to social media mentorship. While interpersonal characteristics and knowledge metrics had relatively similar means for social media (3.48 and 3.47 respectively), the average score for accessibility was 3.80. Despite the overall finding that students reported greater satisfaction with the accessibility of in-person mentorship, there are a few interesting discrepancies present within the details of this analysis that seem to suggest that this relationship is not as clear as it may seem.

Question 3b

To answer Question 3b and determine which form of mentorship better satisfies students in the areas they rank most important, the average values of the metrics measuring importance in survey question 12 must first be compared. Similarly to the above procedure used for Question 3a, this comparison proceeded via two steps: the assurance that each value was significant above a neutral response of 3 and then the comparison amongst measured items. Respondents answered this question on a Likert

scale from 1-5 in which 1 represented “not at all important,” 3 represented “moderately important,” and 5 represented “extremely important.”

Calculation of Averages

Just as in survey questions 13 and 14, question 12 items 1 and 4 represented the importance students place on features of accessibility in their consideration of a mentor. Item 1 regarding the mentor’s ease of access produced an average score of 3.84 found to be a statistically significant measure of importance ($p < 0.001$). Therefore, on average, students rate ease of access to be very important as they consider selecting a mentor. Item 4, pertaining to the mentor’s timeliness, had an average importance rating of 3.78 which also measured significant ($p < .001$). Combining both of these items to give an overall measure of the importance of mentor accessibility generated an average of 3.81 which tested as a measure of importance above the neutral response of 3 ($p < 0.001$). Therefore, mentor accessibility is a moderate-to-very important consideration for students in their selection of a mentor.

The next set of analyses pertained to the value students place on the mentor’s interpersonal characteristics covered by items 2 and 6 of survey question 12. Item 2 gathered data concerning how deeply students valued feeling supported and encouraged by their mentor and the average for this category was 4.21 with statistical significance above neutrality ($p < 0.001$). Item 4, covering the importance of mentor accessibility, produced a similar average of 4.24 and was also significant ($p < 0.001$). Both of these measures of a mentor’s interpersonal characteristics appear to rank as “very important” to students as they consider working with a mentor. This was further reflected by the

combined average of these items measuring 4.22 ($p < 0.001$). At first glance, this category appears to be of greater importance to students than the mentor's accessibility.

Finally, items 3 and 5 of survey question 12 collected the overall respondent perception of the importance of the mentor's knowledge. Item 3 pertained to the mentor's knowledge of the respondent's career field and ability to provide direction and guidance. This item had an average of 4.22 with statistical significance ($p < 0.001$). Item 5, evaluating the importance of information provided by a mentor, scored 4.29 on average ($p < 0.001$). This individual category had the highest score of rated importance compared to every other item. Similarly, the combination of items 3 and 5 to produce the overall measure of mentor knowledge also had the highest score concerning student value. On average, students rated overall mentor knowledge as 4.26, which, like the other two individual values, is significant ($p < 0.001$). Therefore, at first glance, mentor knowledge appears to be the most importance factor in the consideration of a mentor, and, more specifically, students place particular emphasis on the information their mentor is able to provide them.

Comparison of Averages

Due to the fact that many of these averages were close in value, statistical analyses were utilized to identify if mentor information and the combined knowledge category were valued more than the other factors to a statistically different degree. The closeness of these averages may suggest that although one number is technically higher than another, multiple categories may differ by an indistinguishable amount which renders their importance essentially equivalent.

For the comparison of the six individual items, the “provision of satisfactory information” variable (item 5) was found to have the highest average. Therefore, this average was compared to the other values to in order to determine if this item alone could be identified as more important to students than the other five. The five Wilcoxon tests that were performed (one for each of the remaining items) each produced a significant p-value to varying degrees. After item 5, item 6—evaluating the importance of mentor approachability—had the next highest average score. When comparing the difference between these two means utilizing the Wilcoxon test, a p-value of 0.025 was generated. This suggests significance on the $p < 0.05$ level, pointing towards a significant enough difference between the two averages to identify that mentor information is more important to students than mentor approachability. The remaining four Wilcoxon tests all produced p-values < 0.001 which suggests a very significant difference between the average scores. Therefore, it can be validated that students rank information provided by the mentor as the most important factor to consider in their selection to a statistically significant degree.

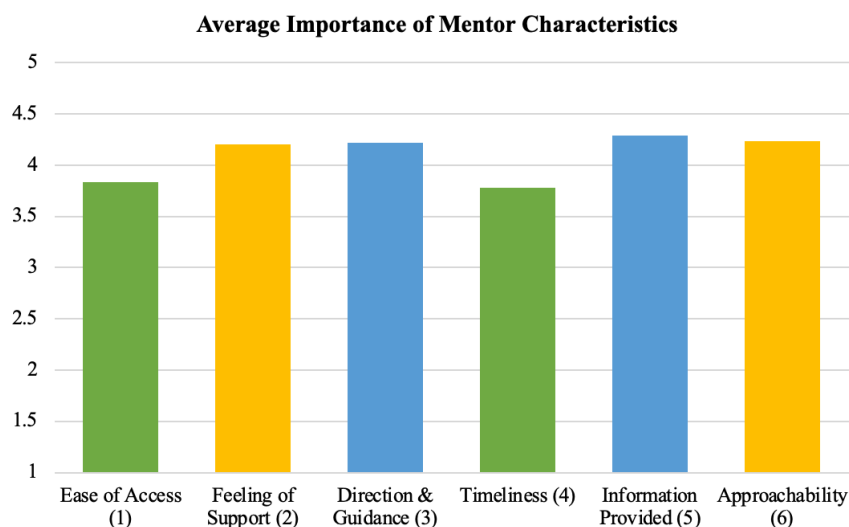


Figure 24: Comparison of the average rated importance of the 6 items from question 12.

Combining these 6 items into the 3 main measures of mentor characteristics, the importance of mentor knowledge had the highest average score. Similar to the above procedure, before claiming that this factor alone is most important to students, it is essential to ensure that the score for mentor knowledge is significantly different from the other averages. Two Wilcoxon tests were completed, comparing the calculated knowledge mean with the mean values of the “interpersonal characteristics” and “accessibility” categories. The mentor’s interpersonal characteristics were identified as the next most important factor for students to consider. When comparing the averages between this category and knowledge, the p-value produced was 0.009 which is significant at the $p < 0.01$ level. Therefore, mentor knowledge alone can be identified as the factor students render most important in their consideration of a mentor. The Wilcoxon test comparing mentor knowledge and accessibility produced a p-value < 0.001 which signifies another significant difference between their means. For further interest, a third Wilcoxon test was run to compare the means of the importance of mentor’s interpersonal characteristics and accessibility. This test also produced a p-value < 0.001 showing that there is another significant difference between these means as well. Therefore, students place the most importance on their mentor’s knowledge, then interpersonal characteristics, and finally they place the least importance on accessibility.

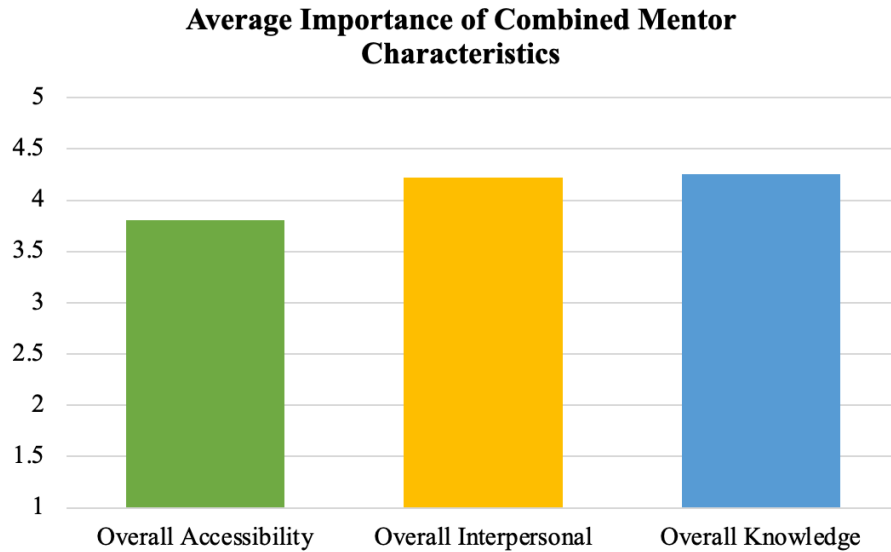


Figure 25: Comparison of the average rated importance of the 3 overarching categories of combined mentor characteristics evaluated by survey question 12.

Satisfaction

Highlighted by the analysis performed to address Question 3a, in-person mentorship was found to better satisfy students in every evaluated area. Therefore, the categories that students found most important—information provided by the mentor and overall mentor knowledge—were better satisfied by in-person mentorship sources. One interesting feature to reiterate within this finding is the large disparity present between social media and in-person sources and their respective satisfaction scores pertaining to mentor knowledge. Of the three primary categories combining the six survey items, mentor knowledge presented the largest difference between social media and in-person satisfaction measuring 0.594 (compared to 0.583 and 0.153). This means that students were least similarly satisfied with mentor knowledge between the two platforms of mentorship. This adds further strength to the argument that in-person mentorship better satisfies students in the category of mentor knowledge—esteemed as most important in

their consideration of a mentor. However, it also denies Hypothesis 3b stating that students would rank a mentor's interpersonal characteristics as the most important feature to consider in the selection of a mentor.

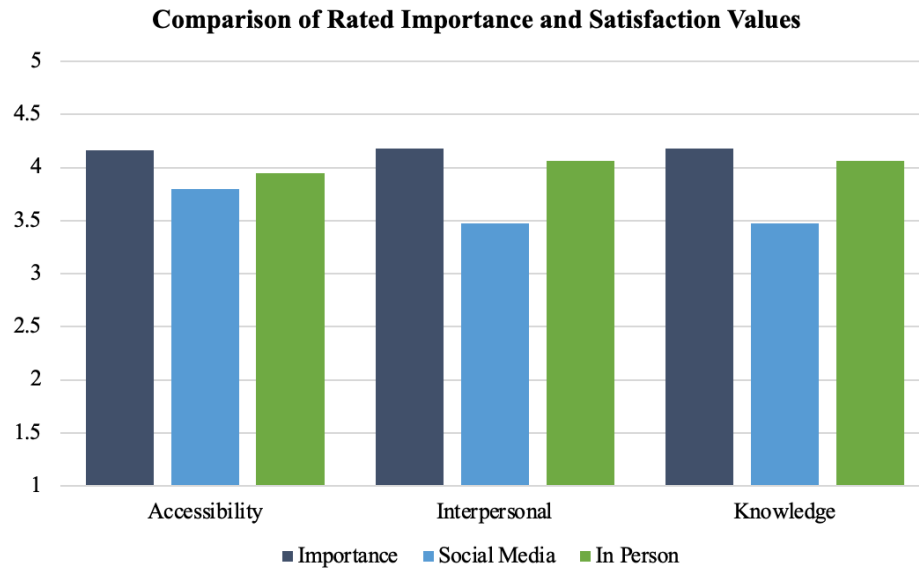


Figure 26: Comparison of the average scores of student-ranked importance of and satisfaction with the 3 primary mentor considerations across social media and in-person mentorship platforms, as evaluated by questions 12-14.

CHAPTER FOUR

Conclusions

Sample

After running a power analysis during the survey-development phase of this project, it was determined that the necessary sample size for a medium effect with a power of 80% was 77 respondents. Therefore, the final sample size of 190 students, including only fully completed responses, guaranteed that all findings from this study had the potential to properly predict the existence of a phenomenon. In other words, the survey sample was sufficiently large enough to minimize the risk of making a Type II Error: failing to reject a hypothesis that is false. A proper statistical understanding of the sample size, therefore, is essential to accepting the conclusions offered by this study.

Year of College

Ultimately, there were no significant correlations between demographic groups of the sample and their use of or satisfaction with mentorship of either form. With regards to year in college, this finding seems to suggest that there is no difference in the prevalence of mentorship use across the four years of college. Therefore, students do not appear to seek out mentors at one point in the undergraduate prehealth journey more than at other times. Further, looking at social media mentorship specifically, it seems that students enter college with a pre-established affinity for social media mentorship use that does not change throughout their four years. Therefore, social media mentorship reliance is likely not learned from the “hidden curriculum” of undergraduate education.

While considering these findings, however, it is important to note that there was a much greater representation of underclassmen: years 1 and 2 of college made up 75% of the sample. A greater number of responses from students in their third or fourth year in college would have given a stronger picture of their trends of mentorship use. A future study could aim to be more intentional with survey distribution to ensure an equal frequency of respondents across the four years of the typical undergraduate journey.

Gender, Race, & Ethnicity

Similarly, mentorship usage and satisfaction trends were found to be equivalent between men and women. Despite the tendency for women to be more engaged on social media, it appears that men are just as likely to consult social media sources for mentors. Regarding Reddit use in particular, it seems that the greater national representation of men on Reddit does not align with undergraduate use of mentorship via Reddit. Additionally, the data did not highlight the existence of differences in mentorship use or satisfaction amongst racial and ethnic groups within the sample. The primary interest in studying the racial, ethnic, and gender trends of mentorship use was to analyze how social media mentorship may impact minority groups in particular. The current body of literature has confirmed that students who identify with a certain demographic minority group tend to seek out mentors who share this association.⁶⁰ One of social media's most distinguishing features is its ability to facilitate diversity because users are not bound by geographic restrictions. Therefore, social media may open the doors for students to interact with a more diverse collection of mentors than their institutional or personal connections may allow. Based on the literature that affirms the mindset of minority

⁶⁰ Cornwall.

students to seek like-mentors, it would make sense, therefore, for these students to utilize social media to a greater degree to find diverse mentors. However, this does not appear to be the case. Minority students utilize and are satisfied by social media and in-person mentorship to an undistinguishable degree when compared to majority students. An interesting question to fuel future research therefore would be to determine how important the acquisition of like-mentors is to students who identify with a minority demographic group. If minority students had to pick between social media mentorship with a mentor who shared their demographic qualities and an in-person mentor who did not, which would they select?

Survey Assumption

Overall, it was found that the assumption framing this study—that students rely on mentorship for decision-making—was verified as a reasonable assumption to make. The majority of this sample reported using mentorship for both professional and personal decisions frequently. The percentages of the sample using professional and personal mentorship were very similar suggesting that the choice to use mentorship for decision-making does not differ depending on the kind of mentorship a student is seeking but more so reflects the student’s general disposition towards using mentorship. This is a significant finding because it shows that students in Generation Z are not only seeking mentorship to reach their professional goals but also their personal wellbeing. Reflecting on the body of literature pertaining to this new generation, this finding may be due to their inclination to seek mentors as a result of their attachment to parental figures.⁶¹ Due

⁶¹ Eckleberry-Hunt, Lick, and Hunt, “Is Medical Education Ready for Generation Z?”

to the fact that people develop personal aspirations (such as emotional wellbeing) before professional ones, Generation Z may have become especially reliant on the guidance of parents through personal trials before they even encounter professional trials. Therefore, upon cresting adulthood and entering the professional world, they likely transfer these personal and professional needs for assurance onto mentors. However, more research would need to be conducted regarding this connection in order to validate it. Another interesting avenue for future research would be to study the boundaries students hold regarding their personal and professional mentoring. Given that students generally seek mentorship for both kinds of decision-making, would they most value a mentor who addressed both simultaneously? Or do they feel the need to have separate mentors for their personal and professional quandaries?

Social Media Dependence (Questions 1-2)

The measure of social media dependence used for this study did not predict that dependence has any relationship to usage or satisfaction with social media mentorship. This finding did not support the original hypotheses, based on the literature surrounding social media and attachment theory, that greater dependence would produce greater usage and satisfaction. This initially points to the idea that social media dependence is not a primary driver of a student's increased likelihood to use social media mentorship and that there may be other more important factors influencing them.

However, one potential limitation that may warrant testing using a different measure of social media dependence is that the effect of dependence may be more significant as a binary variable rather than a scaled variable. For example, the SMUIS used for this study ranked dependence on a 1-5 Likert scale. Therefore, measured

dependence gradually increased and was correlated with usage and satisfaction according to this increase. However, it may be more apt to regard dependence dichotomously: either “dependent on social media” or “not dependent.” It is possible that the effects of dependence may remain the same regardless of the degree of dependence which might have ruined the correlation model; however, further research would need to be conducted to identify whether or not this was the case.

Overall, the individual factors of social media dependence were not associated with any particular increase in the likelihood of usage or satisfaction. However, through the analysis of smaller trends within this finding, this project elucidated a few areas of potential interest for future study. The statistical analyses within this study identified a few individual factors of dependence that correlated with individual factors of satisfaction. The first was the potential connection between identifying social media as a primary form of communication and satisfaction with interpersonal relatability of social media. For students who use social media to regularly communicate with others, they are likely more comfortable relating to others through online platforms and thus, can be better satisfied by the connections social media offers. Integration of social media into one’s daily routine also appeared to impact at least one factor from every variable of mentorship satisfaction. Therefore, routine integration of social media seems to have the broadest effects on satisfaction. Acknowledging that only 9 of the 48 analyses produced significant results, it would be essential for a future study to provide further validation of these findings before fully incorporating them into the body of literature. Furthermore, it is important to note that this is the first study to attempt to draw a connection between social media dependence and satisfaction with social media mentorship. Therefore, there

may be other ways to analyze this relationship not performed in this study that would produce more significant results. Future researchers should keep the findings produced by this survey tool in mind when designing their own studies regarding this topic.

Mentorship Usage

The usage of mentorship by undergraduate premedical students is a well-known phenomenon in the current body of literature. This pervasive truth was supported by multiple measures within this study showing 80% of students had previously consulted an in-person mentor and over 50% of students reported frequently using mentors for decision-making. Therefore, this study provides further evidence that Generation Z premedical students utilize mentors which hopefully should continue to emphasize the importance of developing strong mentorship programs in undergraduate education.

However, this study also presents another novel finding for consideration in the discussion regarding premedical mentorship: the influence of social media. Current research on premedical mentorship bears no mention of how students are utilizing social media resources to gain information. In an age marked by the integration of technology into learning, this lack of attention paid to social media mentorship is shocking. Given the large expanse of internet resources via the web of social media, it was necessary for the researcher to narrow the focus of inquiry. Usage of Reddit and Student Doctor Network was the primary focus of this study to begin the exploration of this realm of mentorship, but future studies should continue to expand their reach and breadth of understanding about the resources available to students. Despite limiting this study to these two platforms, 61% of students reported prior experience using one of these sites for advice specifically related to their premedical career. More than half of students are being

influenced by a mentorship resource that has never been studied. Not only does this finding present an important potential for copious amounts of future research but it is also incredibly impactful for the development of mentorship programs. If students are utilizing social media resources for information, programs should be intentional about ensuring the right information is being presented online to properly aid students—they might even consider developing virtual resources of their own. Acknowledging the presence of mentorship in the virtual realm has the opportunity to revolutionize the way mentorship is approached and conducted.

Mentorship Satisfaction

Overall, despite the newly discovered presence of social media in the realm of mentorship, it would appear that in-person resources are not in any danger of being replaced. Students report higher satisfaction with in-person mentorship compared to social media mentorship on all accounts. With this finding, however, it is important to emphasize that students did report statistically significant satisfaction above neutrality with both social media and in-person resources. Therefore, although in-person mentorship is more satisfying to students, they are still satisfied by social media on every account with only one exception. This finding shows that although efforts for in-person mentorship should likely be prioritized over capitalizing on social media interactions, students still appreciate the resources they utilize online.

To glean a deeper understanding of the mechanisms through which social media and in-person mentorship may differ in satisfying student needs, the satisfaction category was analyzed with three sub-variables: accessibility, interpersonal characteristics and knowledge of the mentor. In addition to better satisfying students overall, in-person

mentorship also satisfied students better for each individual variable. For mentor knowledge, the difference was fairly clear with both individual measures of knowledge satisfaction scoring higher for in-person mentors. On average, social media resources procured satisfaction responses between “neutral” and “agree” on the Likert scale, whereas in-person mentors averages crested “agree.” This difference between the two resources may reflect the idea that students may regard knowledge gained from an in-person mentor as more trustworthy than an anonymous internet source and, therefore, more satisfactory for application to their career. Given the presence of thousands of social media posts within advice forums, in-person mentors would find it relatively difficult to compete with the surplus of knowledge available on the Internet. Therefore, this finding that students still value the knowledge of in-person mentors over social media suggests that students seek quality in the knowledge they want to glean from a mentor, not merely quantity.

The measures of the interpersonal characteristics of the mentor source also garnered a similar difference in satisfaction between social media and in-person mentorship. The average response for social media remained between “neutral” and “agree.” For in-person, the average hovered just beyond “agree.” However, students were not statistically satisfied above neutrality by the support and encouragement provided by social media mentors. This was the only measure on the entire survey that students were not satisfied enough to be deemed significant. Based on this therefore, one of the major weaknesses of social media mentorship seems to be its inability to adequately encourage students in their endeavors. Reflecting on the dependence of Generation Z on the positive feedback and encouragement of their mentors resulting from their lack of self-confidence,

the deficiency of social media in this area would likely contribute to a student's decision to pursue in-person mentorship instead of using social media.⁶²

Finally, satisfaction with mentor accessibility was closest between in-person and social media sources. For both categories, the average satisfaction value was just below the “agree” response. Therefore, this represented the lowest rated satisfaction for in-person sources but the highest rated satisfaction for social media sources. This was also the only scenario in which social media satisfaction was higher than in-person satisfaction as students reported social media was “easier to access.” The other measure of accessibility—concerning timeliness of mentor response—generated greater in-person satisfaction; however, it is significant to acknowledge that students may prefer social media if they are looking for an accessible mentor. For this measure, in particular, greater research should be conducted concerning the accessibility of mentors at Baylor University in comparison to other undergraduate institutions. The Baylor PreHealth department has a large mentorship program in which first-year premedical students are required to participate, as well as many other mentorship programs tailored to different aspects of the premedical journey: including the application cycle, research, service, and more. The prevalence of programs of this nature, as well as an abundance of faculty who are eager to engage with students, may influence student perception that in-person mentorship is a readily accessible resource more so than at other institutions. Ultimately, despite the representativeness of the Baylor population, this study should be replicated at

⁶² Twenge, *IGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us*.

other institutions to verify that findings are not due to particular features of the culture and structure of Baylor University.

Mentorship Values

One important aspect to better understanding why students may be using one mentorship resource over another is to further the scope of knowledge concerning how students select their mentors. A primary way to accomplish this is by measuring the value that undergraduates place on particular characteristics of their ideal mentor. This study found that compared to a mentor's accessibility and interpersonal characteristics, students consider the mentor's knowledge most important to a beneficial relationship. Similarly, the mentor's ability to provide satisfactory information is regarded as more important than their approachability, encouragement, or career guidance. Though, it is also valuable to acknowledge that despite rating mentor knowledge and information as most important, every measured metric of mentor characteristics was significantly important to students. Ultimately, however, it seems that students prioritize the acquisition of trustworthy information in mentoring relationships.

This finding may begin to explain why students have higher usage of in-person mentorship. One important facet of gathering trustworthy information is a firm understanding of the source providing the knowledge. For social media sources like Reddit and SDN, many users posting information to forums use anonymous usernames. Thus, it is very difficult to check the quality of information that students are receiving on these kinds of websites. Recognizing this, students may be less inclined to use social media as a primary source of guidance for their career and more so as a way to supplement the knowledge given to them by in-person mentors.

The original hypothesis supposed that interpersonal characteristics would be prioritized by students due to the unique nature of mentorship as the formation of a relationship between elder and student. Arguably, students could utilize accessible resources to gain knowledge independently of a mentor. However, they would struggle to replicate the support and encouragement that mentors are able to provide. Especially given the distinct dependence that young adults of Generation Z place on positive feedback, it was surprising to conclude that rather than this interpersonal experience, students place greater importance on their mentor's knowledge. This poses an interesting question of what students hope to gain from mentoring relationships. Do they enter a mentoring relationship hoping to hear affirmation from someone who has walked in their shoes before? Or, are they more focused on the transfer of knowledge to help guide them towards their goals? Understanding the primary motivators for students to work with mentors will enable mentoring program coordinators to design programs that will gain greater traction with students and likely lead to more satisfying encounters.

Conclusion

This study has found that Generation Z premedical students prefer traditional in-person mentors over the guidance provided by social media forum platforms. This was confirmed through the comparison of mentorship usage and satisfaction across both platforms. Not only is in-person mentorship utilized by a greater percentage of students, but it was also found to be more satisfactory to students when compared to social media by measures of accessibility, interpersonal characteristics, and knowledge. It has also been determined that students value mentor knowledge more than other factors of consideration. This finding may contribute to student preference for in-person mentors

because they were found to be highly satisfactory in the category of mentor knowledge. However, social media dependence does not appear to have a correlation with student mentor selection. Despite a preference for in-person mentorship among premedical students of Generation Z, there still exists notable usage and satisfaction with social media mentorship. This finding highlights the importance of increasing investigation of students' engagement with social media to gain advice during their premedical journeys.

APPENDICES

APPENDIX A

Survey Tool

Social Media Mentorship

Start of Block: Demographic Block

Q1 What is your age?

- ☐ 17 or younger (1)
 - ☐ 18 (2)
 - ☐ 19 (3)
 - ☐ 20 (4)
 - ☐ 21 (5)
 - ☐ 22 (6)
 - ☐ 23 (7)
 - ☐ 24 (11)
 - ☐ 25 (13)
 - ☐ 26 or older (14)
-

Q2 Which year of college are you in currently?

- ☐ First (1)
- ☐ Second (2)
- ☐ Third (3)
- ☐ Fourth (4)
- ☐ Fifth or more (5)

Q3 What is your gender?

- ☐ Male (1)
 - ☐ Female (2)
 - ☐ Non-binary / third gender (3)
 - ☐ Prefer not to say (4)
-

Q4 Which of the following best describes you?

- ☐ American Indian or Alaska Native (1)
 - ☐ Asian (2)
 - ☐ Black or African American (3)
 - ☐ Native Hawaiian or Pacific Islander (4)
 - ☐ White (5)
 - ☐ Prefer not to answer (6)
-

Q5 Are you of Hispanic, Latino, or Spanish origin?

- ☐ Yes (1)
 - ☐ No (2)
 - ☐ Prefer not to answer (3)
-

Q6 Which of the following best describes your current professional goals?

- ☐ Medicine (1)
 - ☐ Dentistry (2)
 - ☐ Physical Therapy (3)
 - ☐ Occupational Therapy (4)
 - ☐ Optometry (5)
 - ☐ Pharmacy (6)
 - ☐ Veterinary (7)
 - ☐ Physician Assistant (8)
 - ☐ Nursing (9)
 - ☐ Law (10)
 - ☐ Academia (11)
 - ☐ Other (12)
-

Q7 Indicate your agreement with the following statements regarding your social media usage.
Assume social media refers to any platform you use to communicate with others online.

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I feel disconnected from friends when I have not logged onto social media. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like it if everyone used social media to communicate. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be disappointed if I could not use social media at all. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to communicate with others mainly through social media. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media plays an important role in my social relationships. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy checking my social media accounts. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't like to use social media. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using social media is part of my everyday routine. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Demographic Block

Start of Block: Importance

Q8 Have you ever consulted an online social media forum for advice regarding your premedical career? (i.e. looking at posts on Reddit or Student Doctor Network)

- ☐ Yes (1)
- ☐ No (2)
-

Q9 Have you ever consulted an in-person mentor for advice regarding your premedical career? (i.e. asking for professional advice from another student, professor, physician, academic advisor, etc)

- ☐ Yes (1)
- ☐ No (2)
-

Q10 Do you seek mentorship when making decisions about your professional goals?

- ☐ Never (1)
- ☐ Rarely (2)
- ☐ Sometimes (3)
- ☐ Often (4)
- ☐ Always (5)
-

Q11 Do you seek mentorship when making personal decisions? (i.e. relational, spiritual, emotional)

- ☐ Never (1)
- ☐ Rarely (2)
- ☐ Sometimes (3)
- ☐ Often (4)
- ☐ Always (5)

Q12 How important are the following in your consideration of selecting a mentor?

	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Extremely important (5)
Easily Accessible (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supportive & Encouraging (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career Direction & Guidance (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timely Response (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides Satisfactory Information (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approachability (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Importance

Start of Block: Social Media Satisfaction

Display This Question:

If Have you ever consulted an online social media forum for advice regarding your premedical career?... = Yes

Q13 Answer the following questions regarding your experiences using social media sources such as Reddit or Student Doctor Network.

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
This media source was easy to access (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt supported and encouraged by this media source (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This media source provided direction and guidance (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This media source answered my questions in a timely manner (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt satisfied by the information this media source provided me (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt comfortable approaching this media source (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Social Media Satisfaction

Start of Block: In-Person Mentorship

Display This Question:

If Have you ever consulted an in-person mentor for advice regarding your premedical career? (i.e. as... = Yes

Q14 Answer the following questions regarding your experiences with an in-person mentor that you have consulted with.

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
My mentor was easy to access (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt supported and encouraged by my mentor (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My mentor provided direction and guidance (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My mentor answered my questions in a timely manner (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt satisfied by the information my mentor provided me (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt comfortable approaching my mentor (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: In-Person Mentorship

APPENDIX B

Data for Question 2

For Question 13 item 1

Characteristic	N	Beta	95% CI	p-value
q7_1	111	-0.005	-0.140, 0.131	0.946
q7_2	111	0.016	-0.148, 0.180	0.849
q7_3	111	-0.004	-0.114, 0.105	0.938
q7_4	111	0.011	-0.127, 0.149	0.875
q7_5	111	-0.062	-0.188, 0.063	0.327
q7_6	111	0.062	-0.105, 0.229	0.463
q7_7	111	0.090	-0.133, 0.312	0.427
q7_8	111	0.118	-0.023, 0.259	0.100

For Question 13 item 2

Characteristic	N	Beta	95% CI	p-value
q7_1	111	-0.131	-0.308, 0.047	0.148
q7_2	111	0.184	-0.031, 0.398	0.092
q7_3	111	-0.020	-0.165, 0.125	0.784
q7_4	111	0.251	0.075, 0.428	0.006
q7_5	111	0.094	-0.072, 0.260	0.263
q7_6	111	0.077	-0.144, 0.298	0.490
q7_7	111	0.169	-0.124, 0.462	0.256
q7_8	111	0.072	-0.116, 0.261	0.448

For Question 13 item 3

Characteristic	N	Beta	95% CI	p-value
q7_1	111	-0.056	-0.204, 0.093	0.458
q7_2	111	-0.040	-0.220, 0.140	0.663
q7_3	111	-0.064	-0.184, 0.056	0.291
q7_4	111	0.108	-0.043, 0.258	0.159
q7_5	111	0.015	-0.123, 0.153	0.830
q7_6	111	-0.126	-0.308, 0.056	0.171
q7_7	111	0.072	-0.173, 0.316	0.562
q7_8	111	0.041	-0.115, 0.197	0.605

For Question 13 item 4

Characteristic	N	Beta	95% CI	p-value
q7_1	111	-0.017	-0.187, 0.152	0.839
q7_2	111	0.105	-0.099, 0.309	0.312
q7_3	111	0.091	-0.045, 0.227	0.186
q7_4	111	0.132	-0.039, 0.303	0.128
q7_5	111	-0.018	-0.176, 0.139	0.819
q7_6	111	0.181	-0.025, 0.387	0.085
q7_7	111	0.223	-0.052, 0.499	0.111
q7_8	111	0.105	-0.072, 0.282	0.242

For Question 13 item 5

Characteristic	N	Beta	95% CI	p-value
q7_1	111	-0.002	-0.152, 0.148	0.983
q7_2	111	0.113	-0.067, 0.294	0.216
q7_3	111	0.013	-0.108, 0.135	0.826
q7_4	111	0.184	0.035, 0.333	0.016
q7_5	111	0.136	-0.001, 0.274	0.051
q7_6	111	0.080	-0.104, 0.265	0.390
q7_7	111	0.188	-0.057, 0.432	0.131
q7_8	111	0.131	-0.025, 0.287	0.098

For Question 13 item 6

Characteristic	N	Beta	95% CI	p-value
q7_1	111	0.059	-0.083, 0.200	0.413
q7_2	111	0.044	-0.128, 0.216	0.612
q7_3	111	0.064	-0.050, 0.178	0.269
q7_4	111	0.160	0.018, 0.301	0.027
q7_5	111	-0.036	-0.168, 0.096	0.590
q7_6	111	0.076	-0.099, 0.250	0.392
q7_7	111	0.149	-0.083, 0.381	0.205
q7_8	111	0.123	-0.024, 0.271	0.101

BIBLIOGRAPHY

- “About The Student Doctor Network - SDN,” *Student Doctor Network* (blog), accessed January 26, 2023, <https://www.studentdoctor.net/about-sdn/>.
- Amanda Cornwall, “Mentoring Underrepresented Minority Students.” *Inside Higher Ed.* (January 2020).
- “Anatomy of an Applicant” (Association of American Medical Colleges, 2017), 7.
- Atul Gawande, *Better* (Picador, 2007), 8-29.
- Atul Gawande, *The Checklist Manifesto* (Henry Holt and Company, 2009), 34-44.
- Corey Seemiller and Meghan Grace, *Generation Z Goes to College* (New York, UNITED STATES: John Wiley & Sons, Incorporated, 2016),
<http://ebookcentral.proquest.com/lib/bayloru/detail.action?docID=4305728>.
- “Estimated National Enrollment by Institutional Sector and Gender: 2018 to 2020.” *Term Enrollment Estimates: Fall 2020* (2020), Distributed by National Student Clearinghouse Research Center, https://nscresearchcenter.org/wp-content/uploads/CTEE_Report_Fall_2020.pdf
- F. W. Hafferty and R. Franks, “The Hidden Curriculum, Ethics Teaching, and the Structure of Medical Education,” *Academic Medicine* 69, no. 11 (November 1994): 861–71.
- Gofton and Regehr, “What We Don’t Know We Are Teaching.”
- “How Does Health Spending in the U.S. Compare to Other Countries?,” *Peterson-KFF Health System Tracker* (blog), accessed May 27, 2022,
<https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries-2/>.
- Jean M. Twenge, *IGen: Why Today’s Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us* (Simon and Schuster, 2017).
- Jeffrey P. Gross et al., “Perspective: After a Century of Criticizing Premedical Education, Are We Missing the Point?,” *Academic Medicine* 83, no. 5 (May 2008): 516–20,
<https://doi.org/10.1097/ACM.0b013e31816bdb58>.

- Joachim O. Hero et al., “Understanding What Makes Americans Dissatisfied With Their Health Care System: An International Comparison,” *Health Affairs* 35, no. 3 (March 2016): 502–9, <https://doi.org/10.1377/hlthaff.2015.0978>.
- Jodie Eckleberry-Hunt, David Lick, and Ronald Hunt, “Is Medical Education Ready for Generation Z?,” *Journal of Graduate Medical Education* 10, no. 4 (August 2018): 378–81, <https://doi.org/10.4300/JGME-D-18-00466.1>.
- Jonathan White et al., “‘What Do They Want Me To Say?’ The Hidden Curriculum at Work in the Medical School Selection Process: A Qualitative Study,” *BMC Medical Education* 12, no. 1 (March 26, 2012): 17, <https://doi.org/10.1186/1472-6920-12-17>.
- Katherine Y. Lin et al., “The Undergraduate Premedical Experience in the United States: A Critical Review,” *International Journal of Medical Education* 4 (February 10, 2013): 26–37, <https://doi.org/10.5116/ijme.5103.a8d3>.
- Katherine Y. Lin et al., “What Must I Do to Succeed?: Narratives from the US Premedical Experience,” *Social Science & Medicine* 119 (October 1, 2014): 98–105, <https://doi.org/10.1016/j.socscimed.2014.08.017>.
- Matthias Schäfer, et al. “The Munich-Evaluation-of-Mentoring-Questionnaire (MEMeQ) – a novel instrument for evaluating protégés’ satisfaction with mentoring relationships in medical education.” *BMC Medical Education* vol. 15, (2015), 10.1186/s12909-015-0469-0
- “Medical School HQ - YouTube,” accessed March 23, 2023, <https://www.youtube.com/>.
- Michael Jenkins-Guarinieri, Stephen Wright, and Brian Johnson. “Development and validation of a social media use integration scale.” *Psychology of Popular Media Culture* vol. 2 (2013), <https://doi.org/10.1037/a0030277>.
- “Our History.” *The Student Doctor Network*. <https://www.studentdoctor.net/about-sdn/our-history/>
- Peter Conrad, “The Myth of Cut-Throats Among Premedical Students: On the Role of Stereotypes in Justifying Failure and Success,” *Journal of Health and Social Behavior* 27, no. 2 (1986): 150–60, <https://doi.org/10.2307/2136313>.
- “Profile of First-Time Freshmen Fall 2020 and Fall 2021.” *Baylor University IR Series*, vol. 21-22, no. 002 (September 2021). <https://www.baylor.edu/ir/doc.php/382060.pdf>
- Raymond G. De Vries and Jeffrey Gross, “The Winnowing Fork of Premedical Education: Are We Really Separating the Wheat from the Chaff?,” *AMA Journal*

of Ethics 11, no. 11 (November 1, 2009): 859–63,
<https://doi.org/10.1001/virtualmentor.2009.11.11.medu1-0911>.

Richard F. Mollica, Dinali B. Fernando, and Eugene F. Augusterfer, “Beyond Burnout: Responding to the COVID-19 Pandemic Challenges to Self-Care,” *Current Psychiatry Reports* 23, no. 4 (March 9, 2021): 21, <https://doi.org/10.1007/s11920-021-01230-2>.

S. Dixon, “Reddit: distribution of global audiences 2022, by gender.” (March 2022), Distributed by Statista, <https://www.statista.com/statistics/1255182/distribution-of-users-on-reddit-worldwide-gender/>

Shefaly Shorey et al., “Learning Styles, Preferences and Needs of Generation Z Healthcare Students: Scoping Review,” *Nurse Education in Practice* 57 (November 1, 2021): 103247, <https://doi.org/10.1016/j.nepr.2021.103247>.

“Social Media Fact Sheet.” *Pew Research Center* (April 2021).
<https://www.pewresearch.org/internet/fact-sheet/social-media/>

“Student Doctor Network Communities,” Student Doctor Network, January 18, 2023, <https://forums.studentdoctor.net/forums/>.

Sujay Kansagra, *Vault Insider Guide to Medical School Admissions* (Vault, 2006).

Tait D. Shanafelt et al., “Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014,” *Mayo Clinic Proceedings* 90, no. 12 (December 1, 2015): 1600–1613, <https://doi.org/10.1016/j.mayocp.2015.08.023>.

“The History of Reddit | Honor Society - Official Honor Society® Website,” accessed January 26, 2023, <https://www.honorsociety.org/articles/history-reddit>.

“Top Communities on Reddit - Page 3,” accessed March 23, 2023, https://www.reddit.com/best/communities/3/#t5_2rlp9.

“Total fall enrollment in degree-granting postsecondary institutions, by control and classification of institution, level of enrollment, and race/ethnicity or nonresident alien status of student: 2020.” *Digest of Education Statistics*. (2020), Distributed by the National Center for Education Statistics, https://nces.ed.gov/programs/digest/d21/tables/dt21_306.50.asp

Wade Gofton and Glenn Regehr, “What We Don’t Know We Are Teaching: Unveiling the Hidden Curriculum,” *Clinical Orthopaedics and Related Research*® 449 (August 2006): 20–27, <https://doi.org/10.1097/01.blo.0000224024.96034.b2>.

William Little, *Introduction to Sociology – 1st Canadian Edition* (British Columbia: Pressbooks, 2012).

Xiongfei Cao et al., “Exploring the Mechanism of Social Media Addiction: An Empirical Study from WeChat Users,” *Internet Research* 30, no. 4 (January 1, 2020): 1305–28, <https://doi.org/10.1108/INTR-08-2019-0347>.