



Original Research

The impact of gender in mentor–mentee success: Results from the Women's Dermatologic Society Mentorship Survey



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ABSTRACT

Background: Mentorship can have a profound impact on the success and happiness of a mentee while also providing a sense of fulfillment and enrichment for the mentor. Both officially designated and spontaneously chosen mentors can be useful for protégés as they navigate through their training and professional work environment while striving to obtain the optimal work–life balance. Different genders can have variable experiences, in both their personal lives managing family obligations and their professional lives as dermatologists, which may affect the advice and guidance offered.

Objective: We studied the impact of gender on the mentor–mentee relationship for both official and spontaneous mentorships through a voluntary survey with a focus on reported outcomes from the perspective of the mentee.

Methods: Participants were selected through e-mail invitation via the Women's Dermatologic Society and program directors of the Association of Professors of Dermatology membership lists and given a link to the anonymous survey tool. The survey included 13 questions looking at official and spontaneous mentorships, the role of gender, and success in the dermatology field.

Results: Of the 288 respondents, 202 (69.9%) were women, 86 (29.8%) were men, and one identified as other. Of the survey participants, 81% had official mentors and 91% had spontaneous mentors, with the overlap indicating that there may have been a history of multiple mentors per individual. Mentoring had an overall significant positive impact, and 98.5% of those in the spontaneous-mentor group rated the mentor as helpful compared with 87.6% in the official-mentor cohort. For official mentorships, 60.1% involved gender-similar mentors, and of those who had officially designated mentors of any type, 55% indicated a preference for mentors of the same gender. When specifically looking at respondents who participated in same-gender official mentorships, 65.5% preferred this type; of those who had a gender-dissimilar equivalent, only 36.7% indicated a preference for gender similarity in a mentor. Comparably, 59% of protégés with spontaneous mentors had a gender-similar one, and of those who had spontaneous mentors of any type, 59.2% preferred gender similarity. When considering only those in gender-similar spontaneous mentorships, 74.5% favored a same-gender pairing compared with 32.9% of those in the gender-dissimilar group. For female–female official mentorships, 75% preferred a female mentor, similar to 80.5% of the spontaneous-mentor cohort.

Conclusion: Spontaneous mentors may provide a greater benefit than officially designated ones. For the majority of the categories, there was no statistical difference between female same-gender mentorships and gender-dissimilar relationships, which is in contrast with previously published literature. Overall, based on the feedback provided, the respondents believed that the quality of the relationship was the most important defining factor, but some noted that same-gender mentorships can provide additional benefit geared toward similar interests and experiences in life.

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Introduction

Mentorship can have a profound impact on both the mentor and mentee and is widely regarded as a beneficial experience for both parties (Donovan, 2009; Farah et al., 2020; Grant-Kels, 2015; Henry-Noel et al., 2019; Sambunjak et al., 2006; Vasquez and Pandya, 2020). Specifically, in the field of dermatology, program directors have found that mentoring is critical for professional development (Donovan, 2009), and there are those who believe mentorship should be awarded the same level of recognition as publications and research and further incentivized (Freiman et al., 2005). A survey of dermatology residents showed that those who spend more time with an individual they defined as a mentor had higher satisfaction with their training, and this was associated with the availability of the mentor and quality of their relationship (Freeman et al., 2008).

Mentors can provide advice regarding a multitude of diverse topics, ranging from career opportunities and publications to work–life balance. Recently, there has been increasing awareness of and focus on physician burnout given the numerous demands made on medical professionals compared with those in other fields (Shanafelt et al., 2012). The recent COVID-19 pandemic created additional challenges for physicians and compounded this stress by highlighting the importance of mentorship during this tumultuous time.

A recently retracted publication in *Nature Communications* argued against female same-gender mentor–mentee relationships in science because the authors found that those mentored by women had less success in their future careers than those mentored by men (Alshebli et al., 2020 - retracted). Based on their analysis, the authors concluded that women in science were less likely to be successful; however, in our opinion, the authors failed to understand the inherent bias associated with their study design because the current leadership is still mainly composed of the previous male-dominated generation. Despite this, significant strides have been made by women to close this gap. For example, there has been a steady increase in the number of female-authored publications in the last 3 decades in the three major dermatology journals, from 12% to 48% and from 6.2% to 31% for first and senior authors, respectively (Feramisco et al., 2009). With younger female generations seeking greater equality and success, this is likely to have a significant impact in the future.

Despite initiatives promoting women in the historically male-dominated scientific and medical fields, there is still progress to be made (Gollins et al., 2017; Grant-Kels, 2019; House, 2021; Nambudiri et al., 2018; Sadeghpour et al., 2020; Shinohara, 2020). A recent survey-based study found that the current dermatology leadership cohort still predominantly consists of men (77%), and those who hold leadership positions have higher career satisfaction (Sadeghpour et al., 2020). Mentoring, in addition to its other established benefits, may help address the gender inequalities seen in academic medicine (House et al., 2021; Nambudiri et al., 2018). Moreover, female dermatologists may face other challenges, such as pregnancy, breastfeeding, childbearing, and household responsibilities in addition to their careers, that men do not necessarily experience (Raffi et al., 2019). Societies such as the Women's Dermatologic Society (WDS) have provided a structured avenue for female dermatologists to seek and provide mentorship while also offering advice and tools for professional and personal development. Ongoing efforts have increased the presence of women within the nationally recognized American Academy of Dermatology through attendance at the annual meeting, leadership positions, and committees (Bergfeld and Drake, 2015).

Table 1
Descriptive statistics

Parameter	Options	n (%)
Gender	Female	202 (69.9)
	Male	86 (29.8)
	Other	1 (0.35)
Type of mentorship	Official	234 (81.0)
	Spontaneous	263 (91.0)
Official mentorship	Gender-similar	107 (60.1)
	Gender-dissimilar	71 (39.9)
Spontaneous mentorship	Gender-similar	125 (59.2)
	Gender-dissimilar	86 (40.8)

Relative frequencies reported with exclusion of missing data.

Objective

This survey-based study of dermatology residents and attendings was undertaken to report data on mentor–mentee relationships with regard to gender. The study also assessed any inadequacies with different aspects of mentoring.

Methods

We generated a 13-question online survey, and participants were sent an e-mail from the WDS office with the study information, instructions, and anonymous survey link. The respondents included dermatology residents, fellows, and attendings either holding an MD or DO who were chosen through the WDS, as well as program directors from the Association of Professors of Dermatology membership lists. In addition, respondents were encouraged to forward the survey e-mail to other qualifying participants to reach a broader audience. No incentives were provided for participation in this study.

The questionnaire covered topics related to official and spontaneous mentorships. An “official mentor” was defined as one specifically designated by a department or organization to provide guidance through their knowledge and experience. In contradistinction, a “spontaneous mentor” was defined as someone who was not officially assigned by a department or organization but chosen by the respondent based on shared interests, a good working relationship, and/or knowledge or experience that the mentor could impart. The questions focused on the impact of the mentor on the protégé through job opportunities, fellowships, work–life balance, work politics, and research publications. All survey responses were anonymous and compiled into a spreadsheet for data collection.

The analysis was performed using Fisher exact tests to compare gender-similar and dissimilar mentor–mentee combinations. In addition, McNemar tests were used to compare the results for official and spontaneous mentors. For the purposes of this study, the one participant who identified as “other” for gender was not included in the final data analysis portion specifically regarding gender given the ambiguity of defining gender similar and dissimilar for the mentor–mentee combinations. There were some missing data for the questions, so some percentage calculations were relative frequencies based on those who provided answers to that specific question. A *p* value <.05 was considered statistically significant. Institutional review board exemption was granted through the University of Connecticut Institutional Review Board Department.

Results and discussion

Of the 288 respondents, 202 (69.9%) were women, 86 (29.8%) were men, and one identified as other (Table 1). These numbers

Table 2
Official and spontaneous mentorships

Question	Options	Official mentor, %	Spontaneous mentor, %	p-value
Was this mentorship helpful to you and had a positive impact on your career?	Yes	87.6	98.5	<
	No	12.4	1.5	.0001
Has your mentorship experience inspired you to become a mentor for future generations?	Yes	94.2	93.0	<
	No	5.8	7.0	.0001
Was your mentor helpful regarding work politics?	Yes	65.5	70.9	.0004
	No	34.5	29.1	
Was your mentor helpful regarding research ideas?	Yes	75.6	72.4	<
	No	24.4	27.6	.0001
Was your mentor helpful regarding research publications?	Yes	68.6	69.6	.0001
	No	31.2	30.4	
Was your mentor helpful getting onto editorial boards?	Yes	30.5	33.7	<
	No	69.5	66.3	.0001
Was your mentor helpful regarding career advancement?	Yes	79.7	86.8	<
	No	20.3	13.2	.0001
Was your mentor helpful regarding achieving grants?	Yes	27.0	28.7	<
	No	73.0	71.3	.0001
Was your mentor helpful regarding achieving fellowships?	Yes	37.1	37.4	<
	No	62.9	62.6	.0001
Was your mentor helpful regarding achieving a long-term job?	Yes	60.3	66.7	.027
	No	39.7	33.3	

Relative frequencies reported with exclusion of missing data.

may seem skewed toward a particular gender; however, the number of female dermatology residents is at least 64% with an average annual increase of 1.1% (Bae et al., 2016). Of the survey participants, 81% had official mentors and 91% had spontaneous mentors, with the overlap indicating that there may be multiple mentors per individual simultaneously and over the course of their career. Some have touted the importance of research publication quantity as a surrogate marker for success in the field (Alshebli et al., 2020 - retracted), but 84.6% of those in our study believed that this specific criterion was not the main defining factor of success. This highlights the fact that although publications are certainly excellent learning opportunities and bolster advancement in the academic field, this is by no means the only measure of achievement for an individual's career. Of note, at least 93% believed that their mentorship experience had inspired them to become a mentor for future generations, highlighting the powerful inspiration and motivation this pairing can invoke.

Official and spontaneous mentors

Overall, 87.6% of protégés believed that the official-mentoring relationship was advantageous and had a positive impact (Table 2). Spontaneous mentors, on the other hand, seemed to be even more beneficial: 98.5% ($p < .0001$) of respondents believed that this relationship was helpful and valuable for their career. There may be several reasons for this increased satisfaction: 1) Many residency programs do not offer official mentorships; 2) spontaneous mentors were chosen by the mentee, so they may find it easier to communicate or share information based on their mutual interests and personalities; and 3) there may be a limit to the number of official mentors an individual can have, but there is likely no limit to the quantity of spontaneous mentors leading to a potential synergistic positive effect.

Of the multitude of categories that survey participants were asked to evaluate, there were some notable differences between the two different types of mentorships. Spontaneous mentors were noted to be more helpful when dealing with politics in the workplace (70.9% vs. 65.5%; $p < .0004$), career advancement (86.8% vs. 79.7%; $p < .0001$), and achieving fellowships (66.7% vs. 60.3%; $p < .03$) than their official counterparts. The reasons for these differences may, in part, be explained by the factors discussed previously.

Gender in mentorships

For official mentorships, 60.1% involved gender-similar mentors, and of those who had officially designated mentors of any type, 55% indicated a preference for mentors of the same gender (Fig. 1). When specifically looking at respondents who participated in same-gender official mentorships, 65.5% preferred this type, but of those who had the gender-dissimilar equivalent mentorships, only 36.7% indicated a preference for gender similarity. Comparably, 59% of protégés with spontaneous mentors had a gender-similar one, and of those who had spontaneous mentors of any type, 59.2% preferred gender similarity.

When considering only those in gender-similar spontaneous mentorships, 74.5% favored a same-gender pairing compared with 32.9% of those in the gender-dissimilar group. For female–female official mentorships, 75% preferred a female mentor, which is similar to 80.5% of the spontaneous-mentor cohort. When looking specifically at female–female mentorships of both types, there was no statistical difference between female–female and other gender combinations with regard to job opportunities, fellowships, work politics, and research publications. The categories of time management and work–life balance, however, did show that female–female spontaneous mentorships outperformed other combinations (66.7% vs. 49.4%, $p = .03$; 81.1% vs. 49.4%, $p < .0001$).

Interestingly, for male mentees, <40% indicated that they would prefer an official or spontaneous mentor of the same gender, in contrast with their female counterparts. Based on the short-answer response questions, most participants believed that the quality of the mentorship was the most important factor, and many believed that mentors of both genders can be helpful in protégés' development and career. In addition, respondents provided key advice about maximizing the potential of mentorship for both parties (Table 3).

Limitations

There were a total of 288 respondents, who were drawn from the members within the WDS, program directors from the Association of Professors of Dermatology, and major dermatology departments, with the option for individuals to forward the survey link to others who met the criteria for the study. This potentially could have skewed the demographics of the study participants because the WDS includes more female dermatologists. Given the nature

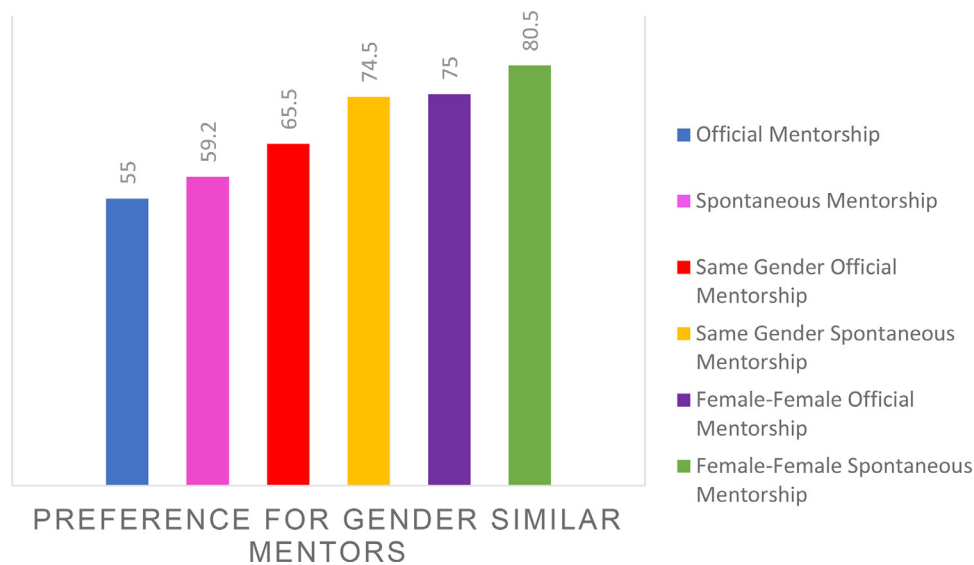


Fig. 1. Preference for gender-similar mentors.

Table 3
Pearls of mentorship

Advice for maximizing the potential of the mentor–mentee relationship
<ul style="list-style-type: none"> • Choose someone you feel comfortable with who has shared values and experiences • Conduct regularly scheduled meetings with set goals and clear expectations • Be actively present, available, and committed • Respect each other's time • Listen to each other and communicate effectively • Be proactive and seek help when needed • Encourage honest feedback and incorporate constructive advice when given • Connect the mentee with other great potential mentors in the field • Make time for personal and mental health check-ins • Be realistic about the challenging aspects of patient care, research, politics, work–life balance, and the business side of medicine • Advocate for the mentee and give credit when it is due • Inspire the mentee through your actions and professional conduct • Educate whenever possible because knowledge is meant to be shared and not hoarded • Give mentees autonomy and provide the confidence and encouragement they need to succeed

of this online-based survey, participants may have some variation in the interpretation of different questions and their answers. For most questions, only “yes” or “no” answers were available; however, some of the question stems may not have applied to that individual. Consequently, respondents may have left the answer blank or put “no” as the response, which can alter the data.

In addition, responses were not mandatory for each question with consequent missing data, but we reported relative frequencies to exclude those. We focused on official and spontaneous mentors; however, there is a possibility that each protégé had more than one for each of these categories, so choosing options based on the variable experiences with different mentors may be difficult. There may also be selection and recall bias that is inherent to this specific study design. Typically, stronger emotions, whether positive or negative, may increase the likelihood of participation and, based on the individuals' experiences, can lead to recall bias in survey responses. Lastly, capturing the full breadth and depth that a mentoring relationship can have on an individual through binary questions is difficult, so we allowed for open-ended responses at the end of the survey, but this may not adequately describe all facets of this connection.

Conclusion

To have a successful mentoring relationship, both parties must have open communication and clear expectations of their roles (Farah et al., 2020; Grant-Kels, 2015; Kim et al., 2013; Vasquez and Pandya, 2019). Our study underscores the critical role that mentorship plays in the field of dermatology, and having multiple different mentors can be beneficial to provide varied perspectives and advice. These experiences will help educate and inspire future generations, creating a lasting legacy and continuation of lifelong learning and distinction within the field (Blattner et al., 2015).

Based on the individual comments provided by the participants, the quality of the relationship seemed to be the most important defining feature. For specific individuals, however, having a gender-similar mentor can be important because they may feel a stronger connection and ease of communication. For example, female gender-similar relationships can be important when dealing with pregnancy issues and work–life balance. Many female participants preferred a gender-similar mentor, whether an official or spontaneous mentorship, and indicated that these women positively affected their success in both their career path and life. In contrast with the previous literature arguing against female–female mentor–protégé relationships (Alshebli et al., 2020 - retracted), the results of our study support that gender-similar and dissimilar pairings are both beneficial depending on the individuals' needs.

As women continue to strive for even greater success through leadership roles, publications, and other traditional markers of success, we will continue to see the positive effects this can have, because many respondents lamented the fact that there were no female mentors available when they were training. Further investigation into specific areas of mentorship that require improvement may be helpful. In addition, increased awareness of the inequalities of women in the medical and scientific fields, with specific initiatives to address this disparity, remains important.

Conflicts of interest

Authors have no conflict of interest.

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