

The Trickle-Down Effect of Academic Mentoring

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## **ABSTRACT**

The mentoring literature has not sufficiently explored the potential trickle-down effects of mentoring, and there has yet to be an examination of how and why amount of mentoring received might lead a person to mentor a greater number of protégés. This thesis seeks to address these gaps in the literature by examining the role of faculty support systems in promoting greater numbers of mentored students. To accomplish this, I examine career sponsorship as a means to increase number of student protégés through heightened faculty commitment to the mentoring process using a sample of 255 tenured and tenure-track faculty members across 25 public universities in the United States. The results support the proposed hypotheses and indicate that career sponsorship of faculty has a positive indirect effect on number of undergraduate and graduate protégés via increased faculty mentoring commitment.

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## The Trickle-Down Effect of Academic Mentoring

Throughout the world of academia, there is a significant level of interest in how to cultivate professionally successful and satisfied students and faculty. As a result, there is a growing body of research surrounding methods through which individuals and organizations can promote equal opportunities for career achievement. Mentoring relationships have emerged as one such factor that can impact the professional and social support a protégé receives as well as their future output and generativity. However, despite being positively related to career development and productivity (Allen, Eby, Poteet, Lentz & Lima, 2004), academic mentorship receives significantly fewer resources than more prominent concerns such as research and teaching (NASEM, 2019).

It is therefore necessary to consider the factors that influence the number and quality of faculty mentors available to these students. Faculty supports systems such as career sponsorship, or endorsement from a senior-level colleague, may be one way to increase the level at which a faculty member is receptive to the concept of mentorship. Of the academics who do become mentors, those identified as outstanding by student protégés not only provide career guidance but also commit significant amounts of time to the mentoring relationship (Cho, Ramanan & Feldman, 2011). Consequently, mentoring commitment may play a role in effective mentorship and the promotion of benefits for both the mentor and protégé.

Future research is necessary that further identifies the outcomes of mentorship for students and faculty alike, as well as how productive and committed mentors can be developed and supported. Although there is support for the utility of prior mentorship experience in shaping willing and effective mentors (Bozionelos, 2004), and, given the criticality of quality mentoring to key student outcomes, there is a limited amount of research investigating how, when, and why

individuals decide to mentor others and invest in their protégés through these relationships. Bozionelos' (2004) work found that receiving greater amounts of mentoring leads an individual to provide greater amounts of mentoring to their own protégés. However, the study relied solely on subjective measures of mentoring provided, thus failing to examine hard outcomes such as an increase in number of protégés for the mentors who received more mentoring throughout their own careers. The overall goal of this paper is to address the gaps in the literature and delineate the role of faculty support systems in promoting greater numbers of mentored students. To accomplish this, I will examine career sponsorship of faculty as a means to increase student mentorship through heightened faculty commitment to the mentoring process.

### **Career Sponsorship and Mentoring Commitment**

High levels of career sponsorship are known to have many benefits for the person who receives it. Career-related support, according to Kram (1985), involves a mentor guiding their protégé via coaching, exposure, and provision of challenging assignments in order to foster career development. One of the primary career support functions performed by a mentor is career sponsorship. This sponsorship occurs when a senior level mentor advises a lower level professional, publicly acknowledges the protégé's accomplishments, and employs their influence to advocate on behalf of the protégé's career interests (Ibarra, Carter & Silva, 2010; NASEM, 2019). The relationship is also beneficial in that it facilitates protégé networking behaviors, which allow the protégé to develop relationships with superiors; networking behaviors are also predictors of income, hierarchical position, and career satisfaction (Blickle, Witzki & Schneider, 2009; Kram, 1985).

Individuals who receive career sponsorship have been shown to reap the benefits of both objective and subjective career success. In the shorter term, sponsored protégés report higher

compensation and number of promotions than their non-mentored peers, as well as higher perceptions of career satisfaction (Allen et al., 2004; Seibert, Kraimer & Liden, 2001). The long-term effects of career sponsorship are equally influential in regard to academic career success. Cameron & Blackburn (1981)'s results conclude that collaborating with a senior faculty member early in an academic career sets in motion a process that can increase future publication rates, grants received, rate of collaboration, and professional association.

Commitment is a key property of relationship quality that promotes pro-relationship behaviors and trust (Wieselquist, Rusbult, Foster & Agnew, 1999). Even organizations with formal mentoring programs in place cannot produce successful mentorship outcomes without the commitment of mentors (Ragins, Cotton & Miller, 2000). Mentoring commitment can be defined as the level to which a mentor devotes time, is invested in, and prioritizes the development of their relationship with a protégé (Allen & Eby, 2008). In Allen & Eby's (2008) examination, this commitment relates positively to both mentor and protégé reports of relationship quality and satisfaction. Accordingly, Poteat, Shockley & Allen (2009) suggest that protégés and mentors are most satisfied when commitment is mutually high, or when they are more committed than their relationship counterpart. Thus, mentoring commitment is a crucial piece when examining the generative aspects of mentoring.

As shown in the literature, there are a multitude of advantages associated with mentoring and career sponsorship. It follows that individuals who have been on the receiving end of the advantages of career sponsorship and who have a realistic preview of mentorship may be more likely to continue the process by passing on their experience and knowledge to benefit their own protégés. Role modeling, an important mentoring function (Scandura, 1992), explains this process. Those who receive high levels of mentoring support are more likely to model their

mentors, and in turn be more committed to mentoring their protégés. Research provides evidence that there is a positive correlation between mentoring experience, as either the mentor or protégé, and intention or willingness to mentor others (Allen, 2007; Allen & Eby, 2004; Bozionelos, 2004; Ragins & Scandura, 1999). Thus, I propose the following:

*Hypothesis 1: Career sponsorship relates positively to mentoring commitment.*

### **Mentoring Commitment and Number of Protégés**

Mentoring commitment benefits the mentors as well as the protégés. Mentors' commitment may be motivated not only by previous experience but also by potential benefits to their own personal lives and careers. A greater understanding of the advantages that arise from this commitment is conducive to encouraging larger numbers of faculty members to engage in and prioritize their relationships with protégés. On a personal level, mentors may gain a sense of fulfillment and generativity through their work with protégés; they may also benefit from any peer or organizational recognition received for their efforts (Ragins & Scandura, 1999). As a result of their investment, mentors may also receive benefits regarding their objective and subjective career success. Ghosh & Reio Jr (2013) suggest that mentors report higher career satisfaction and commitment to their organizations, as well as higher work performance and perceived career success than do their colleagues. Their commitment may also be rewarded through the increased productivity of their research teams and the development of their own communication and teaching abilities (NASEM, 2019).

The other, more obvious beneficiaries of mentor commitment are protégés. In the academic world, the most common recipients of faculty mentoring commitment are undergraduate and graduate students. Johnson's (2007) review of student-faculty mentoring highlights the positive outcomes for students engaged in these relationships. Broadly,

undergraduate and graduate students report that their mentors encourage further pursuit of academia and the development of professional skills. As outcomes of their mentorship, student protégés may also possess more developed professional skills and attitudes as well as higher prospects for initial employment. Further, mentored students report increased scholarly productivity, including higher rates of publication and presentation at conferences (Hollingsworth & Fassinger, 2002). Benefits for undergraduates specifically can be seen in lower drop-out rates and higher GPAs in mentored students compared to their non-mentored peers; however, these correlations must be analyzed with caution as they may be caused by self-selection bias in mentoring programs and studies (Johnson, 2007). Additionally, graduate students are more likely to be satisfied with their doctoral program as well as place greater emphasis on the importance of mentoring in their education if they are part of a mentoring relationship (Clark, Harden & Johnson, 2000).

Faculty members with higher levels of commitment to the concept of mentoring may recognize the value in using mentorship as a tool for mutual benefit. Thus, a faculty mentor more committed to reaping the benefits of mentorship and the provision of protégé support may be more likely to engage in a greater number of mentoring relationships. Thus, I posit,

*Hypothesis 2a: Mentoring commitment relates positively to number of undergraduate protégés.*

*Hypothesis 2b: Mentoring commitment relates positively to number of graduate protégés.*

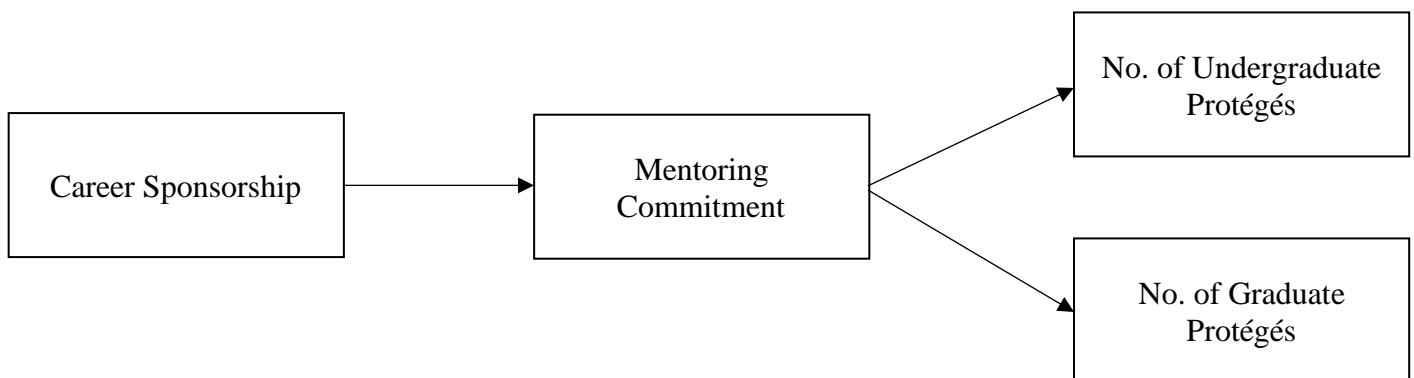
### **Indirect Effects of Career Sponsorship on Number of Protégés**

In order to maximize the utility of mentorship as a strategy to support undergraduate and graduate students, faculty mentors must possess the appropriate skills and traits necessary to contribute to successful mentoring relationships. It is possible that effective and committed

mentors can be created, in part, as a result of career sponsorship. Therefore, I argue that faculty members who receive more career sponsorship early in their careers are more likely to develop a commitment to mentoring others effectively, and subsequently are more likely to accept more protégés. Thus, considering the relationships between career sponsorship and mentoring commitment, and mentoring commitment and the number of protégés that were hypothesized earlier from a temporal point of view, it is logical to assume that career sponsorship acts as a mediator in the relationship. More specifically, sponsorship may trigger a process that both aids mentor development and increases their willingness to mentor students. Thus, one way to increase the number of students who benefit from mentorship is to support the development of mentors themselves. Therefore, I propose:

*Hypothesis 3a: Career sponsorship has a positive indirect effect on number of undergraduate protégés through mentoring commitment.*

*Hypothesis 3b: Career sponsorship has a positive indirect effect on number of graduate protégés through mentoring commitment.*



*Figure 1. Proposed Conceptual Model*

## Method

### Sample

Data was collected through an online survey that was sent out via email to 3956 number of tenured and tenure-track faculty members at 25 public universities across the United States. 458 number of participants responded, of which 203 were incomplete survey responses. Thus, the final sample for this study consisted of 255 participants of which 65.1% were men, 34.9% were women, and 29.4%, 31.4%, and 39.2% were assistant, associate, and full professors, respectively.

### Measures

*Career Sponsorship.* The amount of career sponsorship that participants received was measured using three items ( $\alpha = .90$ ), utilizing a shorter version of Dreher and Ash's (1990) career sponsorship scale. The instructions for the measure were modified to reflect the context of the academic job, such that participants were asked to consider their career history since starting their 'faculty job' and indicate the degree to which 'senior faculty member(s)' have served as their sponsor or mentor when answering each item. A sample item of this scale is "...Gone out of his/her way to promote your career interests". Participants responded on a 7-point Likert scale, where 1= extremely small extent and 7=extremely large extent.

*Mentoring Commitment.* Participants' mentoring commitment was assessed using three of the four items ( $\alpha = .59$ ) in Allen & Eby's (2008) mentoring commitment scale. A sample item for this scale is "I made the development of our mentorship a priority". Participants responded on a 7-point Likert scale, where 1 = strongly disagree and 7 = strongly agree.

*Number of undergraduate protégés.* Respondents were asked to indicate the number of undergraduate students that were currently working in their lab/research group.

*Number of graduate protégés.* Respondents were asked to indicate the number of graduate students that were currently working in their lab/research group.

*Controls.* Participants' rank, discipline and gender were controlled for to account for systematic differences in the outcome variables due to these factors. Rank and gender were self-reported, and discipline was pulled from school websites.

## **Results**

I conducted a confirmatory factor analysis (CFA) first, using the AMOS (IBM, 2018), to ensure that all items were loading properly on to their respective latent factors for the two scales used in the present study, career sponsorship and mentoring commitment. I also utilized the CFA to ensure that the two scales had discriminant validity. Table 1 displays the fit statistics for the single-factor and two-factor CFA models and Table 2 shows the factor loading for each scale for model that had the best fit. Items in Model 1 loaded on the respective latent factors they were meant to measure, i.e. career sponsorship and mentoring commitment. Model 2 combined all items on to a single factor to assess discriminant validity. Model 1 ( $\chi^2(8) = 12.67, p = .12, RMSEA [p_{\varepsilon_0 \leq 0.05} < .05] = .05, 90\% CI [.00, .10], CFI (.99), TLI (.98)$ ) had better fit statistics than Model 2 ( $\chi^2(9) = 152.83, p < .001, RMSEA [p_{\varepsilon_0 \leq 0.05} < .05] = .25, 90\% CI [.22, .29], CFI (.78), TLI (.48)$ ), i.e. the two-factor model fit the data better than the single-factor model which confirms that the two latent factors have discriminant validity. As exhibited in Table 2, all but one item had high factor-loadings for the two-factor model. The second item for mentoring commitment had a slightly lower factor loading compared to others, however it still loaded on significantly ( $p < .001$ ) on to the latent factor.

Table 1.

*Fit Statistics for Confirmatory Factor Analysis*

		<i>df</i>	RMSEA	LO	HI	CFI	TLI	AIC	BCC
				90	90				
Model 1: Correlated two-factor model	12.67	8	.05	.00	.10	.99	.98	50.67	51.75
Model 2: Single-factor model	152.83	9	.25	.22	.29	.78	.48	188.83	189.85

*Note.* The data fit the two-factor measurement model better than it did for a single-factor model.

*N*=255.

Table 2.

*Factor Loadings for Model 1 of the Confirmatory Factor Analysis.*

Item	Career Sponsorship	Mentoring Commitment
[My mentor(/s) has/have...] Given or recommended you for challenging assignments that present opportunities to learn new skills.	<b>.85</b>	
[My mentor(/s) has/have...] Gone out of his/her way to promote your career interests.	<b>.83</b>	
[My mentor(/s) has/have...] Given or recommended you for assignments that helped you meet new colleagues.	<b>.93</b>	
I am committed to developing an effective and productive mentoring relationship		<b>.88</b>
I often feel that I did not have enough time to devote to mentoring (reverse coded)		<b>.25</b>
I make the development of our mentorship a priority		<b>.73</b>

*Note.* The reason for the lower factor loading for second item for mentoring commitment may be that it was reverse coded, however the item still loaded significantly on to the latent factor at  $p < .001$ .

*N*=255.

Next, I utilized SPSS 25.0 (IBM, 2018) to calculate the descriptive statistics and inter-correlations of all the variables of interest in the present study. Table 3 displays the descriptive statistics and inter-correlations, which provide initial support for the hypotheses. Career sponsorship and mentoring commitment were positively correlated ( $r = .21, p < .01$ ) and mentoring commitment was positively correlated with both number of undergraduate protégés ( $r = .16, p < .05$ ) and number of graduate protégés ( $r = .14, p < .05$ ).

Table 3.

*Descriptive Statistics and Correlation Matrix*

Variable	Mean	SD	1	2	3	4	5	6
1. Discipline	-	-	-					
2. Rank	-	-	.01	-				
3. Gender	-	-	.23**	-.14*	-			
4. Career Sponsorship	3.92	1.55	.10	.02	.07	-		
5. Mentoring Commitment	4.79	1.02	.06	.11	.11	.21**	-	
6. Undergraduate Students	2.73	2.74	.01	-.14*	.13*	-.02	.16*	-
7. Graduate Students	3.62	2.4	-.14*	.06	.01	.04	.14*	.18**

*Note.*  $N=255$ . Gender is coded 0=Man, 1=Woman.

\* $p < .05$ , \*\* $p < .01$

I tested the proposed hypotheses using Hayes' (2013) PROCESS model 4 with bootstrapping, which allows one to test simple mediation models that assess direct and indirect effects (Tables 4 and 5). Bootstrapping allows for more robust analyses, which is especially useful for smaller sample sizes (Preacher, Rucker, & Hayes, 2007); it also provides confidence intervals for the conditional and indirect effects of non-normal data, which cannot be tested with

the Sobel test (Hayes, 2013). In support of hypothesis 1, career sponsorship relates positively with mentoring commitment ( $B = .13, t = 3.19, p < .001$ ). In support of hypothesis 2a and 2b, mentoring commitment was positively related to number of undergraduate ( $B = .48, t = 2.82, p < .01$ ) and graduate protégés ( $B = .33, t = 2.16, p < .05$ ). Furthermore, hypotheses 3a and 3b speculated that there was an indirect effect of career sponsorship on number of undergraduate and graduate protégés via mentoring commitment. Confidence intervals for the indirect 95% CI [.01, .13] and direct 95% CI [-.33, .11] effects for the relationship between career sponsorship and number of undergraduate protégés through mentoring commitment provide support for hypothesis 3a. Whereas, confidence intervals for the indirect 95% CI [.00, .10] and direct 95% CI [-.16, .22] effects for the relationship between career sponsorship and number of graduate protégés through mentoring commitment provides marginal support for hypothesis 3b. Given that in both cases, the indirect path was significant, and the direct path was non-significant, the results suggest that the relationship between career sponsorship and number of protégés is fully mediated through mentoring commitment.

Table 4.

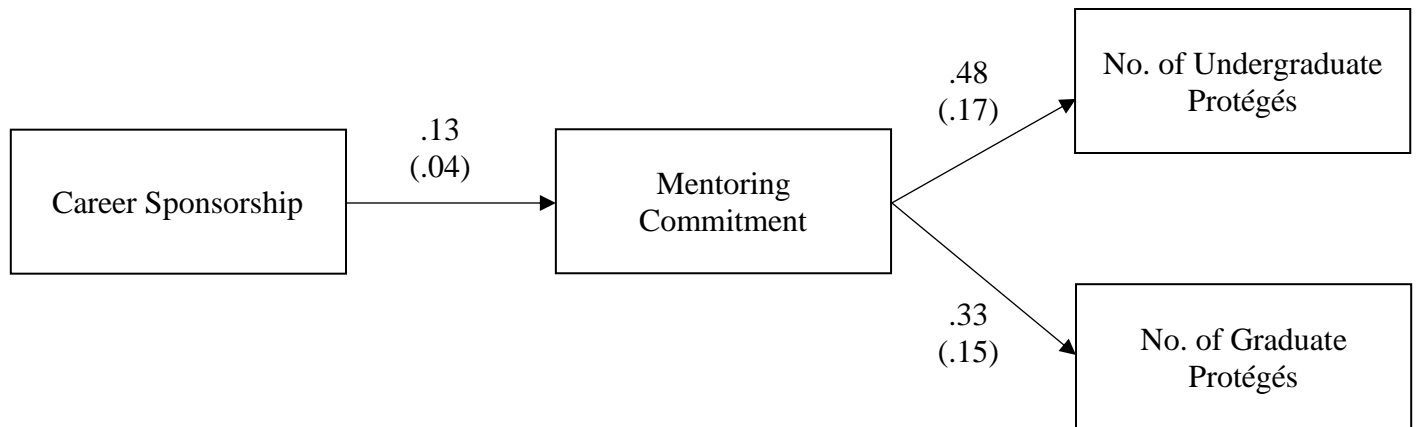
*Regression Results of Direct and Indirect Effects for Number of Undergraduate Protégés.*

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Total and direct effects				
Total effect of career sponsorship on undergraduate students	-.05	.11	-.41	.69
Mentoring commitment regressed on career sponsorship	.13	.04	3.19	.00
Undergraduate students regressed on mentoring commitment, controlling for career sponsorship	.48	.17	2.82	.01
Undergraduate students regressed on career sponsorship, controlling for mentoring commitment	-.11	.11	-.10	.33
Bootstrapping results for direct and indirect effect				
	<i>M</i>	<i>SE</i>	Lower Level 95% CI	Upper Level 95% CI
Direct Effect	-.11	.11	-.33	.11
Indirect Effect	.06	.03	.01	.13
<i>Note:</i> Process Model 4.				
<i>N</i> = 255.				

Table 5.

*Regression Results of Direct and Indirect Effects for Number of Graduate Protégés.*

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Total and direct effects				
Total effect of career sponsorship on graduate students	.07	.10	.78	.43
Mentoring commitment regressed on career sponsorship	.13	.04	3.19	.00
Graduate students regressed on mentoring commitment, controlling for career sponsorship	.33	.15	2.16	.03
Graduate students regressed on career sponsorship, controlling for mentoring commitment	.03	.10	.34	.73
Bootstrapping results for direct and indirect effect				
	<i>M</i>	<i>SE</i>	Lower Level 95% CI	Upper Level 95% CI
Direct Effect	.03	.09	-.16	.22
Indirect Effect	.04	.03	.00	.10
<i>Note:</i> Process Model 4.				
<i>N</i> = 255.				



*Figure 2. Results of Mediation Analyses*

## Discussion

The overall goal of the present study was to investigate the role faculty support systems in promoting greater numbers of mentored undergraduate and graduate students. In order to accomplish this, I examined career sponsorship as a means to increase the number of mentored students through elevated faculty commitment to mentoring relationships.

First, I proposed a positive relationship between career sponsorship and mentoring commitment. Individuals with experience regarding the benefits and realistic challenges of the mentoring process may have a greater desire to foster these relationships themselves. Several studies, including Allen & Eby (2004), Bozionelos (2004), and Ragins & Scandura (1999), suggest a positive correlation between experience as either a protégé or mentor and future willingness and intention to enter into mentoring relationships. Consistent with previous research, the present study found that faculty career sponsorship relates positively to mentoring commitment.

I then examined the relationship between commitment to mentor and number of undergraduate and graduate protégés. Both academic professionals and student protégés can

potentially receive a multitude of benefits as a result of their involvement in a mentoring relationship, including increased generativity and heightened professional development, respectively (Ghosh & Reio Jr, 2013; Johnson, 2007; Ragins & Scandura, 1999). Accordingly, I hypothesized that mentoring commitment relates positively to both number of undergraduate and number of graduate protégés. The results support the hypotheses and suggest that individuals more aware of and dedicated to providing and obtaining the benefits of mentorship may engage in a greater number of mentoring relationships.

Lastly, I proposed an indirect relationship between career sponsorship and number of undergraduate and graduate protégés through mentoring commitment. The literature lacks specific connections between mentoring experiences and the number of protégés a mentor will have. As previously discussed, the present study aimed to delineate these connections by first examining career sponsorship as a means through which academic professionals may become more committed to the concept of mentoring. Secondly, faculty who have mentorship experience may choose to mentor greater numbers of student protégés, thus increasing the number of undergraduates and graduates who can be aided through the mentoring process. The study found support for the proposed hypotheses, indicating that there is a positive relationship between career sponsorship and number of undergraduate and graduate protégés which is fully mediated by mentoring commitment. The results also speak to the generative nature of the mentoring process. It was found that supporting mentors led to increased mentoring commitment and increased number of protégés. It logically follows that the increased number of students helped through these mentoring relationships may in turn become committed mentors themselves, thus further promoting the utility and generativity of academic mentorships in the future.

Overall, the current study's results suggest that faculty support systems, specifically career sponsorship, play a role in encouraging mentoring commitment and successful mentorships. Thus, career sponsorship may be a useful tool for universities and mentoring programs when creating and implementing plans that foster successful mentorships and satisfied mentors and protégés. Although future research support would be necessary, increasing overall numbers of protégés through faculty support and mentoring commitment may also create a greater number of opportunities for diverse and underrepresented students to receive the benefits of mentorship. Students who are minorities in their respective fields, such as women, underrepresented racial and ethnic minorities, or people with disabilities, can certainly benefit from the advantages of mentoring and inclusion efforts within organizations (NASEM, 2019). Therefore, implementing plans, such as career sponsorship, to generally increase the number of students benefiting from mentorships may offer up higher chances of minority students becoming protégés and even future mentors.

### **Limitations and Future Directions**

The current study has several limitations that should be addressed in future research. First, as the literature lacks specific support for the proposed hypotheses, future studies should be conducted that can replicate and retest the present study's findings. More specifically, future researchers should address the indirect relationship between career sponsorship and number of protégés through mentoring commitment. Additionally, it may be beneficial to more broadly investigate the relationship between mentorship quality and the quantity of protégés a mentor takes under their wing. This could allow for a better understanding of the factors which influence total number of protégés and whether or not faculty support systems are the most practical methods to utilize.

One limitation of the sample used is the generalizability of the results to industries outside of academia and the higher education system. The sample was collected from tenured and tenure-track faculty members at public universities across the United States. It would be beneficial for future studies to retest the hypotheses in other industries in order to investigate whether the findings are applicable to other populations such as those in large corporations. Also, because the data were collected from self-report measures, it is important to note that measurements of career sponsorship and mentoring commitment may be vulnerable to issues with response styles such as social desirability bias and other confounding variables. Thus, additional research is needed to retest the hypotheses with a different sample population.

## **Conclusion**

The present study contributed to the literature of mentoring relationships in academia by examining the trickle-down effects of mentoring in academia by examining faculty support systems as methods through which to promote increased numbers of student protégés. Through my analyses, I was able to conclude that there is a positive, indirect relationship between faculty career sponsorship and number of both undergraduate and graduate protégés which is fully mediated by mentoring commitment. Future research should continue to expand on the outcomes of mentorship as well as methods that promote committed, satisfactory mentoring relationships.

## References

- Allen, T. D. (2007). Mentoring Relationships from the Perspective of the Mentor. In *The Handbook of Mentoring at Work: Theory, Research, and Practice* (pp. 123–148). SAGE Publications, Inc. <https://doi.org/10.4135/9781412976619.n5>
- Allen, T. D., & Eby, L. T. (2004). Factors Related to Mentor Reports of Mentoring Functions Provided: Gender and Relational Characteristics. *Sex Roles, 50*(1/2), 129–139. <https://doi.org/10.1023/B:SERS.0000011078.48570.25>
- Allen, T. D., & Eby, L. T. (2008). Mentor commitment in formal mentoring relationships. *Journal of Vocational Behavior, 72*(3), 309–316. <https://doi.org/10.1016/j.jvb.2007.10.016>
- Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. (2004). Career Benefits Associated With Mentoring for Proteges: A Meta-Analysis. *Journal of Applied Psychology, 89*(1), 127–136. <https://doi.org/10.1037/0021-9010.89.1.127>
- Baker, V. L., & Griffin, K. A. (2010). Beyond mentoring and advising: Toward understanding the role of faculty “developers” in student success. *About Campus, 14*(6), 2–8. <https://doi.org/10.1002/abc.20002>
- Blickle, G., Witzki, A. H., & Schneider, P. B. (2009). Mentoring support and power: A three year predictive field study on protégé networking and career success. *Journal of Vocational Behavior, 74*(2), 181–189. <https://doi.org/10.1016/j.jvb.2008.12.008>
- Bozionelos, N. (2004). Mentoring provided: Relation to mentor’s career success, personality, and mentoring received. *Journal of Vocational Behavior, 64*(1), 24–46. [https://doi.org/10.1016/S0001-8791\(03\)00033-2](https://doi.org/10.1016/S0001-8791(03)00033-2)

- Cameron, S. W., & Blackburn, R. T. (1981). Sponsorship and Academic Career Success. *The Journal of Higher Education*, 52(4), 369–377.  
<https://doi.org/10.1080/00221546.1981.11780155>
- Clark, R. A., Harden, S. L., & Johnson, W. B. (2000). *Mentor Relationships in Clinical Psychology Doctoral Training: Results of a National Survey*. 27(4), 262–268.
- Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology*, 75(5), 539–546. <https://doi.org/10.1037//0021-9010.75.5.539>
- Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & DuBois, D. L. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, 72(2), 254–267.  
<https://doi.org/10.1016/j.jvb.2007.04.005>
- Ghosh, R., & Reio, T. G. (2013). Career benefits associated with mentoring for mentors: A meta-analysis. *Journal of Vocational Behavior*, 83(1), 106–116.  
<https://doi.org/10.1016/j.jvb.2013.03.011>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hollingsworth, M. A., & Fassinger, R. E. (2002). The Role of Faculty Mentors in the Research Training of Counseling Psychology Doctoral Students. *Journal of Counseling Psychology*, 49(3), 324–330.
- Ibarra, H., Carter, N. M., & Silva, C. (2010). Why Men Still Get More Promotions Than Women. *Harvard Business Review*, 80–85.

- Johnson, W. B. (2007). Student-faculty mentorship outcomes. In *The Blackwell handbook of mentoring: A multiple perspectives approach* (pp. 189–210). Blackwell Publishing.
- Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*. Scott Foresman.
- NASEM. (2019). *The Science of Effective Mentorship in STEMM*. The National Academies of Sciences Engineering Medicine. <https://doi.org/10.17226/25568>
- Poteat, L. F., Shockley, K. M., & Allen, T. D. (2009). Mentor-protégé commitment fit and relationship satisfaction in academic mentoring. *Journal of Vocational Behavior*, 74(3), 332–337. <https://doi.org/10.1016/j.jvb.2009.02.003>
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing Moderated Mediation Hypotheses: Theory, Methods, and Prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227. <https://doi.org/10.1080/00273170701341316>
- Ragins, B. R., Cotton, J. L., & Miller, J. S. (2000). Marginal Mentoring: The Effects Of Type Of Mentor, Quality Of Relationship, And Program Design On Work And Career Attitudes. *Academy of Management Journal*, 43(6), 1177–1194. <https://doi.org/10.5465/1556344>
- Ragins, B. R., & Scandura, T. A. (1999). Burden or blessing? Expected costs and benefits of being a mentor. *Journal of Organizational Behavior*, 20, 493–509.
- Scandura, T. A. (1992). Mentorship and career mobility: An empirical investigation. *Journal of Organizational Behavior*, 13(2), 169–174. <https://doi.org/10.1002/job.4030130206>
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A SOCIAL CAPITAL THEORY OF CAREER SUCCESS. *Academy of Management Journal*, 44(2), 219–237. <https://doi.org/10.2307/3069452>

Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, Pro-Relationship Behavior, and Trust in Close Relationships. *Journal of Personality and Social Psychology*, 77(5), 942–966.