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Impact of Mentors on Overall Faculty Experience and Reason for Leaving

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Skillful mentorship may be the single most influential way to retain new faculty. Inadequately mentored faculty, especially those from under-represented backgrounds, are less likely to be retained in academic careers and demonstrate lower productivity on promotion metrics, and have lower satisfaction with their careers. This study investigates relationships among faculty satisfaction with their mentors, their overall faculty experience and reasons for leaving a school of medicine (SOM), with a focus on mentorship's role in retention and potential return. This cross-sectional, descriptive study was designed primarily for theory generation rather than theory testing, and as such, did not use an explicit theoretical framework. Faculty leaving their SOM position from July 2017 through June 2024 were surveyed to collect data on their employment experiences, which included perceived helpfulness and performance of mentors, primary and secondary reasons for leaving, critical factors for faculty development and retention and overall employment experience. Ordinal variables were analyzed using Kruskal-Wallis tests. Reasons-for-leaving variables association with categorical variables were analyzed using chisquare tests and generalized linear models. Faculty analyzed (N=380) were 53% female, 13% Hispanic, 55% Assistant Professor, 27% Associate, 10% Professor, 75% clinician educators, and 11% tenured/tenure-track. Satisfaction with mentoring resources was associated with inadequate mentorship as a reason for leaving (p<.001) but not with work-life balance (p=.144). Mediation analyses indicated there was a direct effect of mentoring helpfulness on likelihood of returning to a SOM and an indirect effect on likelihood of returning through mentoring effects on overall faculty experience at the SOM. Mentor training programs may impact overall faculty experiences by improving perceived helpfulness of mentors.

Keywords: Satisfaction with mentoring, mediation analysis, exit interview, reasons for faculty exit

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Introduction

Skillful and extended mentorship that encourages early socialization into the work environment and developmental pathways for the future may be the most influential way to retain new faculty through long-term career maturation (Dunham-Taylor et al., 2008). Inadequately mentored faculty, especially those from under-represented backgrounds, are less likely to be retained in academic careers and demonstrate lower productivity on promotion metrics, and have lower satisfaction with their careers (Kalet et al., 2022). This study investigates relationships among faculty satisfaction with four types of mentoring resources, their overall faculty experience in a school of medicine (SOM), reasons for leaving their SOM and their self-reported likelihood of returning to their SOM.

Literature Review

Greenberg et al. 2021 examined whether work-life balance (WLB) as a reason for faculty exits were associated with demographics and self-reported critical factors for retention and development and relationships. The current study examines similar critical factors for retention but instead studies associations between faculty satisfaction with mentoring resources and overall career satisfaction. We hypothesized faculty with better mentoring satisfaction will report better overall career experiences and be more likely to report desire to return to a SOM. We also hypothesized overall experience at the SOM may be an important mediator between mentor helpfulness and desire to return to a SOM.

Methods

Participants and Procedures

Faculty leaving their SOM position from July 2017 through June 2024 were surveyed to collect data on their employment experiences. The survey was administered using the Research Electronic Data Capture or REDCap database (Harris et al., 2009) and was supplemented by a structured interview with the Office of Faculty Affairs and Career Development (OFACD). The interview was used to obtain additional details and clarifications for responses in the REDCap database. An administrative employee database was used to augment faculty demographics. The study was approved by the institutional review board (HRPO-17-347).

The survey included demographic variables: age, gender, ethnicity, years employed, rank, and track. Non-demographic variables included 16 primary and secondary reasons for leaving, overall faculty experience at their SOM, likelihood of returning to their SOM, and helpfulness of four mentor resources (designated mentors, Division/Department chairs, other Senior faculty and OFACD). Exiting faculty were asked to characterize the mentoring and career advice they from received from each mentoring resource as 1 very helpful, 2 helpful, 3 uncertain, 4 not helpful, and not applicable (N/A). The overall faculty experience at their SOM question was characterized as 1 excellent, 2 good, 3 fair, and 4 poor, and likelihood of returning to their SOM was scored as 1 yes, 2 no and 3 maybe. The likelihood or returning variable was recoded to 1 yes, 2 maybe and 3 no before analyses. Retiring faculty, faculty with missing appointment codes, invalid ages, less than 25% full time equivalent appointments or that had worked less than 6 months at the SOM were excluded from analyses.

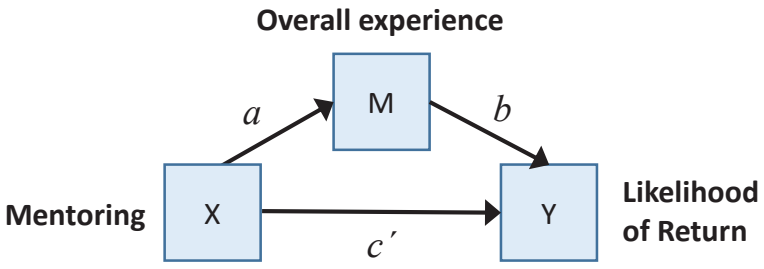
Analytic Techniques

Categorical variables were summarized using frequencies and percentages. Means and standard deviations were used to summarize continuous variables. Categorical variables were analyzed for subgroup differences using chisquare tests. Non-parametric Kruskal-Wallis tests were used to compare subgroups for continuous variables. Associations between reasons for leaving (binary dependent variables) and the average of the four mentoring resource scores were analyzed using generalized linear models (GLM) assuming a Poisson error distribution to obtain relative risk (RR) measures of association. The outcome variables were not rare so Poisson GLM with log-link was used instead of logistic regression to model the probability of observing each reason for leaving. In addition, multivariable models that included demographic variables, mentoring variables, overall experience at the SOM and 2-way interactions were developed to further explore heterogeneity in reasons for leaving. Variable selection was accomplished using the LASSO technique to reduce overfitting and improve accuracy when fitting multivariable models (Zhou et al., 2024).

Lastly, we conducted analyses to assess relationships among satisfaction with mentoring resources, overall faculty experience at their SOM and likelihood of returning to their SOM. Analyses were cast to estimate the direct effect of mentoring resources on likelihood of returning and the indirect effect of mentoring on likelihood of returning as mediated through mentoring effects on overall experience (Fig 1.) (Valeri & Vanderweele, 2013; Vanderweele &Vansteelandt, 2010). Linear regression was used to estimate coefficient, *a*, the association between mentoring and overall experience. The dependent variable, likelihood of returning, was a non-rare binary outcome so a multivariable Poisson GLM was used to estimate coefficients *b* and *c'*. A separate Poisson GLM was used to estimate the uncontrolled direct effect of mentoring on likelihood of returning. With Poisson GLM relative risk summaries for direct and indirect effects were obtained by $\exp(c') = RR_{\text{Direct Effect}}$ and $\exp(a'b) = RR_{\text{Indirect Effect}}$. Confidence intervals were estimated by bias-corrected bootstrap. Use of the term 'effect' when discussing models does not imply causality for these analyses. Data management, statistical analyses and report generation were conducted with SAS v9.4. Alpha = .05 was used to determine statistical significance without adjusting for multiple comparisons.

Figure 1

Conceptual model for effect of helpfulness of mentoring resources (X) on likelihood of returning to SOM (Y) as mediated by mentoring effects on overall faculty experience at their SOM (M).



Results

Characteristics of Exiting Faculty

Faculty exiting a SOM (N=380) were 53% female, 13% Hispanic, 56% assistant professor, 27% associate professor, 11% full professor, 66% clinician educators, and 11% tenured/tenure-track (Appendix 1). Helpfulness of mentoring resources (range 1-4, lower is more helpful) had an average of 2.5 for designated mentors, 2.5 for administrative leaders, 2.1 for other senior colleagues and 2.7 for the OFACD (Appendix 1). Designated mentor and Division/Department chair mentor resources varied with exiting faculty members' age with faculty 50+ years having larger (less helpful) average scores than younger faculty (p<.05 for both). The age of the exiting faculty was not associated with helpfulness of advice from other senior colleagues or OFACD (Appendix 1). Faculty with work-life balance as a reason for leaving was not associated with mentoring resources, but perceptions of mentoring resources were less helpful for faculty with inadequate mentorship as a reason for leaving (p<.001, Table 1). Faculty with poorer overall experiences at the SOM also had less helpful mentoring resource scores (p<.001 for all). Mentoring resource ratings were more helpful for faculty that would consider returning to the SOM (p<.02 for all, Table 1).

Table 1

Helpfulness of mentoring resources, selected reasons to leave SOM (work-life balance, inadequate mentoring), overall faculty experience at SOM and likelihood of returning for exiting faculty (N=380).

			Mentoring resource (scoring: 1 very helpful 2 helpful 3 uncertain 4 not helpful)															
	All		Designated mentor				Division chief/ Dept chair				Other Senior colleagues				OFACD			
	N	%	N	$\bar{X}$	SD	*p*	N	$\bar{X}$	SD	*p*	N	$\bar{X}$	SD	*p*	N	$\bar{X}$	SD	*p*
Work life balance reason						.449				.475				.276				.116
Not selected	265	(70)	253	2.4	1.2		260	2.5	1.2		261	2.1	1.0		233	2.7	1.0	
Primary/Other Reason	115	(30)	104	2.5	1.1		112	2.5	1.1		113	2.2	1.1		91	2.9	1.0	
Inadequate mentorship at UNM reason						**<.001**				**<.001**				**<.001**				**<.001**
Not selected	315	(83)	296	2.3	1.2		309	2.3	1.2		310	2.1	1.0		270	2.6	1.0	
Primary/Other Reason	65	(17)	61	3.4	0.9		63	3.3	0.9		64	2.6	1.1		54	2.8	1.0	
Overall SOM experience						**<.001**				**<.001**				**<.001**				**<.001**
Excellent	64	(17)	64	1.8	1.0		63	1.5	0.8		64	1.5	0.7		51	2.1	0.9	
Good	180	(47)	172	2.5	1.1		178	2.2	1.0		177	2.1	1.0		156	2.7	1.0	
Fair	94	(25)	81	2.7	1.2		90	3.2	1.0		92	2.5	1.0		80	3.0	1.0	
Poor	42	(11)	40	2.9	1.3		41	3.7	0.7		41	2.7	1.2		37	3.1	1.0	
Ever consider returning						**.019**				**<.001**				**<.001**				**<.001**
Yes	158	(42)	148	2.3	1.1		155	2.1	1.1		156	1.8	0.9		135	2.5	1.0	
Maybe	139	(39)	129	2.5	1.2		146	2.7	1.1		146	2.3	1.1		124	2.9	1.0	
No	73	(19)	70	2.7	1.2		71	3.0	1.2		72	2.7	1.1		65	3.0	1.0	

Mentor Resources and Reasons for Leaving

Mentoring resource satisfaction, measured as the average of all four mentoring resources variables (range 1-4, lower is more helpful), showed that less helpful mentoring resources were associated with higher risk of leaving due to lack of recognition, leadership, work environment, inadequate mentorship, inadequate FTE split and inadequate support services (RR>1.0, Fig.2). Personal/family matters as a reason for leaving became less common as mentoring resource scores became less favorable (RR<1.0), which could be due to faculty choosing other reasons for leaving when satisfaction with mentoring resources was low. Nine other reasons for leaving were not associated with helpfulness of mentoring resources (Fig. 2). When associations between reasons for leaving and helpfulness of mentors were assessed for effect modification by demographic factors, no significant interactions were detected (p>.05 for all).

Likelihood of Returning, Mentoring and Mediation by Overall Faculty Experience

A simple mediation analysis showed that mentoring associated with likelihood of return directly and indirectly through its influence on overall faculty experience at their SOM. Overall experience of exiting faculty was positively associated with perceived helpfulness of mentors with excellent-good experiences when mentors were very helpful and fair-poor experiences when mentors were not helpful (Fig 3A). Likelihood of returning was much higher when faculty experience was excellent than when experience was rated fair-poor (Fig 3B). Helpful mentors were also associated with higher likelihood of returning compared to not-helpful mentoring (Fig 3C, unadjusted Direct Effect RR = 0.63 [0.52, 0.76], p<.001). Fig 3D shows coefficients from our simple mediation model analyses, which are a function of slopes of curves from Figs 3A-3C. Mentoring had an indirect effect on likelihood of returning that was mediated by overall experience as exp(*axb*) = RR = 0.79 [0.70, 0.86]. The RR<1.0 because less helpful mentoring leads to a poorer overall experience that predicts a lower probability returning compared to helpful mentoring promoting better overall experience and higher probability of indicating they may return to their SOM. The magnitude of the controlled direct effect of mentoring on likelihood of returning is exp*(c')* = RR = 0.79 [0.67, 0.94], which is virtually identical to the indirect effect.

Figure 2
*Relative risk (RR) measures of association between primary/other reasons for leaving (dependent variables) and faculty-reported helpfulness of mentors (average of four mentoring resource types, scale with range 1-4 lower is more helpful). RR > 1.0 indicate greater risk of selecting this reason for leaving. p<.05 * p<.001 ** p<.001 ****

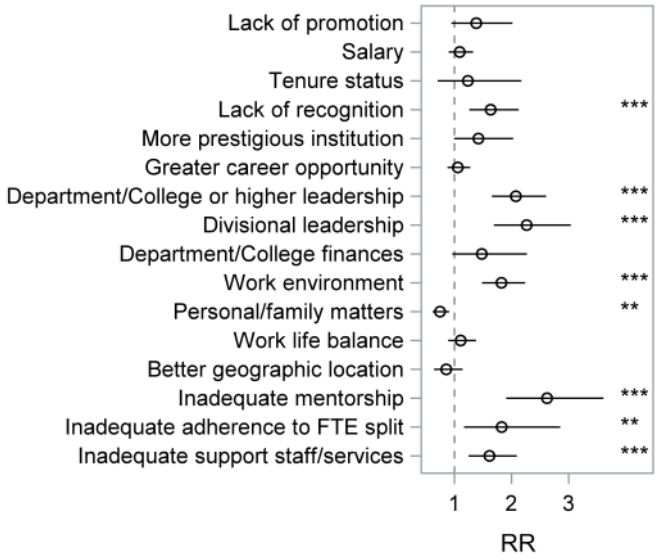
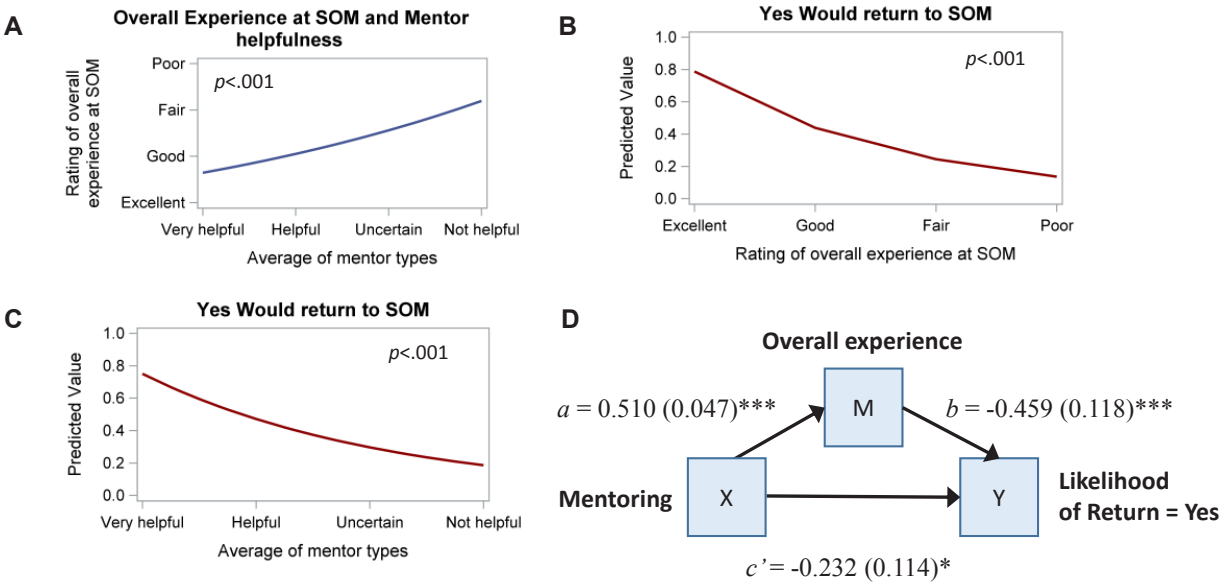


Figure 3
Mediation model for likelihood of returning to a school of medicine (SOM) (Y) with direct effects of mentor helpfulness (X) and indirect effects mediated by overall experience at the SOM (M).



Discussion

Our findings indicate that faculty perceive mentoring and career advice from other senior colleagues as more helpful than designated mentors or administrative leaders and offices. Older faculty were more likely than younger faculty to report advice from designated mentors and administrative leaders as less helpful but this association was not seen for advice from other senior colleagues. Overall, faculty mentoring resource helpfulness was associated with reasons for leaving. The likelihood of exiting faculty of returning to a school of medicine was directly associated with helpfulness of mentoring resources. Mentoring resources also had indirect effects of likelihood of returning through indirect, positive effects on overall faculty experience. The likelihood of exiting faculty of returning to a SOM with direct effects of mentoring resource helpfulness is mediated by overall experience at the SOM.

Faculty are often encouraged to build developmental networks for career and psychosocial support but best practices for choosing mentors in these networks is not known. These networks may include designated mentors, administrative leaders, other senior colleagues (the latter are often self-selected), and representation from administrative offices. Our findings indicate that faculty find mentoring and career advice to be less helpful from designated mentors, or administrative leaders or offices than self-selected senior colleagues, and this may be particularly true for older faculty than younger faculty. This finding suggests that developmental networks should contain a good proportion of self-selected senior colleagues.

The literature indicates that skillful mentorship may be the single most influential way to retain new faculty (Dunham-Taylor et al., 2008). What is, however, not known is how mentoring influences faculty reasons for leaving. Faculty with less helpful mentoring resources are more likely to report extrinsic (and more modifiable) reasons to leave, suggesting a missed opportunity (Myers, Greenberg et al. 2024). Faculty with more helpful mentoring resources are more likely to report intrinsic (and less modifiable) reasons to leave, possibly because their more modifiable concerns get addressed. Work life balance, a rising reason to leave for SOM faculty, is however not associated with helpfulness of mentoring resources.

Faculty recruitment literature has largely avoided studying re-recruitment of exiting faculty, which is a critical gap in the literature. Our study indicates that mentoring resource helpfulness is associated with likelihood of exiting faculty of returning to their SOM and their overall experience at the organization mediates this association. This indicates the long-term beneficial effects of mentoring on faculty re-recruitment that are inadequately studied.

The strengths of the study include its relatively large sample size, near universal participation, and a significant proportion of women and non-White faculty participants. Mentoring studies have not previously focused on mediation analyses and on re-recruitment of exiting faculty, which are novel concepts that our study utilized. The weaknesses

of the study include the single study site limiting generalizability of study findings and cross-sectional study design that does not establish causality. The study excluded retirees, faculty with incomplete data, and those with minimal institutional engagement. While this improves sample relevance, it may also omit important perspectives, especially from those with non-traditional career paths or brief appointments.

Conclusion

The study emphasizes the short-term and long-term beneficial effects of helpfulness of mentoring resources and suggests best practices for creating developmental networks for faculty at a SOM. Additionally, the study emphasizes the utility of exit surveys and interviews in understanding faculty departures and creating novel retention strategies. The use of mentor development programs may be a helpful strategy for strengthening the mentoring and career advice offered by mentoring resources to SOM faculty.

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Appendix 1

Characteristics of exiting faculty (N=380) and helpfulness of mentoring resources.

	All		Mentoring resource (scoring: 1 very helpful 2 helpful 3 uncertain 4 not helpful)															
			Designated mentor				Division chief/ Dept chair				Other Senior colleagues				OFACD			
	N	%	N	$\bar{X}$	SD	*p*-value	N	$\bar{X}$	SD	*p*-value	N	$\bar{X}$	SD	*p*-value	N	$\bar{X}$	SD	*p*-value
Overall	380	(100)	357	2.5	1.2		372	2.5	1.2		374	2.1	1.1		324	2.7	1.0	
Age group (y)						**.048**				**.036**				.448				.992
<40	125	(33)	121	2.2	1.1		123	2.3	1.1		123	2.1	1.1		100	2.7	0.9	
40-49	152	(40)	141	2.5	1.2		149	2.5	1.2		151	2.1	1.0		131	2.7	1.1	
50-59	84	(22)	79	2.7	1.1		81	2.8	1.2		81	2.2	1.0		78	2.7	1.0	
60+	19	(5)	16	2.8	1.2		19	2.6	1.2		19	2.3	1.1		15	2.8	1.1	
Gender						.556				.053				.964				.248
Female	201	(53)	187	2.5	1.2		196	2.6	1.1		197	2.1	1.0		165	2.8	0.9	
Male	179	(47)	170	2.4	1.1		176	2.4	1.2		177	2.2	1.1		159	2.7	1.0	
Ethnicity						.769				.937				.950				.193
Hispanic	49	(13)	47	2.4	1.2		48	2.5	1.2		47	2.1	1.1		40	2.6	1.0	
Non-Hispanic	331	(87)	310	2.5	1.2		324	2.5	1.2		327	2.1	1.1		284	2.8	1.0	
Rank						.256				**.027**				.208				.477
Assistant Professor	211	(56)	200	2.3	1.1		205	2.4	1.1		206	2.1	1.1		172	2.8	1.0	
Associate Professor	104	(27)	98	2.5	1.2		103	2.6	1.2		103	2.1	1.1		93	2.6	1.1	
Professor	40	(11)	36	2.6	1.1		39	2.5	1.2		40	2.2	1.0		36	2.7	1.0	
Lecturer	25	(7)	23	2.7	1.3		25	3.2	1.1		25	2.6	1.2		23	3.0	0.9	
Years employed at SOM						.348				.298				.317				.209
0.5-<1	35	(9)	33	2.2	1.1		33	2.3	1.2		31	1.8	0.8		28	2.5	1.1	
1-2	50	(13)	47	2.4	1.2		48	2.2	1.1		50	2.2	1.0		43	2.8	0.9	
2.1-5	143	(38)	134	2.4	1.2		141	2.5	1.2		142	2.3	1.2		117	2.8	1.0	
5.1-8.0	72	(19)	67	2.6	1.2		70	2.6	1.2		71	2.0	0.9		61	2.5	1.1	
8.1-18	80	(21)	76	2.6	1.2		80	2.6	1.2		80	2.1	1.1		75	2.7	1.0	
Track						.289				**.016**				.276				.116
Clinician educator	249	(66)	232	2.5	1.2		245	2.4	1.2		247	2.1	1.1		210	2.8	1.0	
Tenure track	19	(5)	19	2.3	1.2		19	3.1	1.2		19	1.9	1.1		18	2.4	0.9	
Tenured	24	(6)	22	2.3	1.2		23	2.6	1.2		23	2.3	1.0		22	2.5	1.1	
Flex track	30	(8)	30	2.1	1.0		29	2.4	1.2		29	2.3	1.1		24	2.8	0.9	
Research track	33	(9)	31	2.3	1.2		31	2.3	1.1		31	2.0	0.7		27	2.3	1.0	
Non-continuing	25	(7)	23	2.7	1.3		25	3.2	1.1		25	2.6	1.2		23	3.0	0.9	