

Statistical Models of Faculty Retention: Logistic Regression, COACHE, and Support Mechanisms

Mack Shelley¹, Lisa Larson², Sandra Gahn³, Diane Rover⁴, Beate Schmittmann⁵, Megan Heitmann⁶

¹Iowa State University, 509 Ross Hall, Ames, IA 50011

²Iowa State University, W216 Lagomarcino Hall, Ames, IA 50011

³Iowa State University, 2420 Lincoln Way Suite 203, Ames, IA 50014

⁴Iowa State University, 333 Durham Hall, Ames, IA 50011

⁵Iowa State University, 202 Catt Hall, Ames, IA 50011

⁶Iowa State University, 104 Marston Hall, Ames, IA 50011

Abstract

The persistence of faculty members in higher education careers is fundamental to the strength of an academic institution, its research enterprise, and its instructional and service mission. The purpose of this study is to understand what motivates tenure-track faculty to stay at their institution. Faculty retention is enhanced by increasing faculty members' sense of perceived competence, autonomy, and institutional relatedness. Data were collected from 558 tenure-track faculty at a large Midwestern university responding to the Collaborative for Academic Careers in Higher Education survey. Full Professors are less likely than Assistant and Associate Professors to report that they are going to stay longer. STEM faculty are more likely than non-STEM faculty to respond that they are going to stay longer. Full Professors are more likely to know how long they are staying compared to other ranks. Assistant Professors are less likely to take actions to leave than are Full Professors. STEM faculty are less likely than non-STEM faculty to take actions to leave. Full Professors were more likely to have renegotiated their terms of employment compared to Assistant and Associate Professors.

Key Words: logistic regression; Collaborative for Academic Careers in Higher Education; faculty retention; self-determination theory

1. Data

Data for our statistical analysis were compiled from Iowa State University's 2013-2014 COACHE (The Collaborative on Academic Careers in Higher Education) Faculty Job Satisfaction Survey. Responses were received from 695 faculty, of whom 114 were non-tenure-track, 134 were pre-tenure (Assistant Professors), and 447 were tenured (264 Full Professors and 183 Associate Professors). A majority (58.8%; 409) of respondents were male and 41.2% (286) were female; the overall percentage of female faculty at ISU during this time was 38.4%. The large majority (81.9%; 569) of respondents were "White (non-Hispanic)," 11.8% (82) "Asian, Asian-American, or Pacific Islander," 2.6% (18) "Hispanic or Latino," 2.3% (16) "Black or African-American," 0.6% (4) "American Indian or Native Alaskan," 0.6% (4) "Multiracial," and 0.3% (2) "Other." Of all faculty 79.8% are white, 14.8% Asian, 2.8% Hispanic, 2.1% Black, 0.2% American Indian, 0.2% multiracial, and 0.1% Other. Women and White faculty are slightly overrepresented, but overall the respondents are a fairly representative sample of the population.

2. Data Analysis

Our analysis focused on tenured and tenure-track respondents. Non-tenure-track respondents were not included in the results reported below. In addition, a number of faculty who failed to respond to a large number of questions of interest were eliminated, as were a handful of additional respondents with dubious response patterns.

Detailed statistical analysis of the usable dataset ($n=558$ observations) was undertaken to ascertain the applicability of self-determination theory constructs to the COACHE responses, using selected survey items relevant to that theory. The reduced dataset included 126 Assistant Professors, 175 Associate Professors, and 257 Full Professors.

2.1 General Structure of STEM-FIT Statistical Modeling Strategy

In general the model consists of the following variables that were available to examine in the COACHE data set. The authors expected that three needs (perceived competence, perceived autonomy, and relatedness) directly related to self-determination theory would predict faculty satisfaction. Moreover, environmental supports (e.g., chair support, dean support, upper level administrative support, instrumental support) was expect to affect those needs positively). Furthermore, it was expected that those needs would mediate the relationship between those environmental supports and faculty satisfaction.

The fundamental tenet of self-determination theory is that individuals, including university faculty, prefer to work and remain in environments that meet their basic needs. Lack of a perceived sense of belonging in an institution is related to increased intent to leave and to actual turnover. Individuals tend to seek out and remain in environments in which their basic psychological needs (autonomy, competence, and relatedness) are met. Workplaces that meet these needs are regarded as intrinsically motivating. Relatedness is also conceptually related to the notion of belonging, which suggests that individuals thrive when they have frequent interaction with others with whom there is a sense of mutual caring/concern. Deficits in the basic psychological needs are associated with higher levels of burnout, which significantly increases employee intention to leave. Research has especially shown that a lack of perceived belonging (e.g., feeling that there is a poor fit with the organization and perceived lack of social support) is associated with increased intention to leave and actual employee turnover.

3. Theoretical Framework

3.1 Self-Determination Theory

Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) is a meta-theoretical approach to human motivation and personality positing that intrinsically-motivated work helps individuals actualize their tendency for growth, function optimally, and attain a state of wellbeing. This level of superior functioning is contingent upon three basic psychological needs being met (Ryan & Deci, 2000): perceived competence (a sense of self-efficacy or mastery), volitional autonomy (making one's own work/life choices), and perceived relatedness (mutual caring, concern, and connection with others). A subtheory of SDT, Cognitive Evaluation Theory (CET; Deci & Ryan, 1985), specifies that in many cases these basic needs mediate the relation between various environmental factors/supports and wellbeing (e.g., faculty satisfaction). CET most directly supported competence and autonomy as mediators, and a second SDT subtheory, Organismic Integration Theory (OIT; Deci & Ryan, 1985), further explicated the potential for

relatedness to mediate the relation between the environment and wellbeing. Taken together, these subtheories suggest that certain contextual factors (e.g., the climate in one's academic department) may directly or indirectly impact one's sense of wellbeing through at least one of the psychological needs (e.g., perceived relatedness).

SDT as a framework has generated several recent meta-analyses that provide wide empirical support in various settings (e.g., Ng et al., 2012; Li, Wang, & Kee, 2013; Plotnikoff, Costigan, Karunamuni, & Lubans, 2013; Hummel & Randler, 2012). Additionally, empirical studies have validated the applicability of the SDT framework (particularly the importance of autonomy support) across diverse cultural and national groups (e.g., Sheldon et al., 2004). Of particular relevance to the present study, multiple recent empirical studies have found the SDT needs are significant predictors of various work outcomes (e.g., satisfaction) across diverse settings (e.g., Gillet, Colombat, Michinov, Pronost, & Fouquereau, 2013). However, the SDT literature has not been extended to faculty regardless of rank. The purpose of this study was to apply SDT as the conceptual framework for predicting key indices of NTT faculty wellbeing.

3.1.1 Faculty Satisfaction

As mentioned previously, we were able to locate only seven articles that provided a direct, empirical examination of NTT faculty satisfaction. To supplement this knowledge base and inform the development of our model, the first author searched the PsycINFO database and located approximately 50 additional empirical studies that have examined faculty satisfaction across ranks since the year 2000. We review this body of literature beginning with an influential model and highlighting findings specific to NTT faculty where possible.

One model of faculty satisfaction by Hagedorn (2000) was used that posited environmental factors account for the satisfaction of faculty at all ranks. What is noticeably absent in Hagedorn's model is the person's translation of those various environmental factors. Deci and Ryan (1985) acknowledged the crucial impact that the perceived needs of the individual have in mediating the relation between contextual factors and satisfaction. While the environmental supports in our model have much in common with Hagedorn's conceptual framework, what makes our model unique is the central position it gives to the person.

Our SDT model of NTT faculty satisfaction, modeled after Larson, Shelley, and Gahn's (2015) adaptation of Deci and Ryan (1985), is displayed in Figure 1. Consistent with the CET and OIT components of SDT, we hypothesized that environmental supports would predict satisfaction both directly and indirectly via the basic psychological needs. Environmental supports that we examined included departmental supports, administrative supports, and personal and family supports. We chose to focus on the SDT needs of volitional autonomy and perceived relatedness because of their conceptual significance to NTT faculty. That is, NTT appointments vary widely in the autonomy that they grant to faculty, and perceived relatedness is often challenged as they attempt to maintain meaningful relationships and a sense of connection in institutions that are typically oriented toward tenure-track appointments. We now outline the evidence for the components of our model in turn.

3.1.2 Environmental supports and satisfaction

Departmental supports encompass various aspects of one's academic department, including support from the department chair, recognition for one's contributions and achievements, and support for both promotion and contract renewal. We found moderate

to large effect sizes in the small number of studies that examined these factors. Brown and Moshavi (2002) surveyed department chairs and faculty at land-grant universities and found a positive relation between chair behaviors and faculty satisfaction ($r = .69, p < .001$). Chen, Beck, and Amos (2005) examined satisfaction for a predominantly NTT sample of nursing faculty in Taiwan and found that individualized consideration and contingent rewards (i.e., recognition) were positive predictors, explaining 19.5% of the variance in satisfaction scores. Through analysis of NTT focus group data, Waltman and colleagues (2012) found that a majority of participants identified unclear, inconsistent, or nonexistent policies related to contract renewal and promotion as a source of dissatisfaction. Additionally, Schrodtt and colleagues (2003) found a significant relation between mentoring behaviors that targeted promotion and a key index of satisfaction (i.e., perception of having sufficient information; $r = .27, p < .01$).

Administrative supports include support received from deans and upper-level administration (e.g., Provosts). The available literature has found moderate to large effect sizes for their relation with faculty satisfaction. For example, Eagan, Jaeger, and Grantham (2015) found working relationships with upper administration to be a significant predictor of satisfaction ($b = 2.79, p < .001$) in a large sample of NTT faculty. Gormley (2003), in a conceptual review of nursing faculty satisfaction, cited correlations ranging from .69 to .80 for the relation between specific dean behaviors and faculty satisfaction. Larson, Shelley, and Gahn (2015) also found upper-level administrative support to be a significant, positive predictor of global satisfaction in tenure-track faculty.

Personal and family supports encompass benefits and work-life balance. The available data regarding the relation between benefits and faculty satisfaction are inconclusive. Waltman and colleagues (2012) found dissatisfaction with benefits to be a recurrent source of overall dissatisfaction for the NTT faculty in their focus groups. However, Crothers and colleagues (2010) found benefits to be related to satisfaction only for the men in their sample of school psychology faculty. Work-life balance has been a more consistent predictor of faculty satisfaction, typically displaying medium effect sizes. For example, Moors, Malley, and Stewart (2014) found support for family to be positively related to tenure-track faculty satisfaction ($r = .47, p < .001$), and Michel and Michel (2015) found work-family enrichment ($r = .51, p < .001$) and work schedule flexibility ($r = .32, p < .001$) to be predictive of satisfaction across faculty ranks in Bolivia. Providing qualitative support, Feldman and Turnley (2001) and Waltman and colleagues (2012) found scheduling flexibility (i.e., work-life balance) to be an emergent theme related to satisfaction in their NTT faculty samples.

3.1.1 SDT needs as mediators of satisfaction.

In the only study to date to use SDT as a conceptual framework for faculty satisfaction, Larson, Shelley, and Gahn (2015) examined the mediating effect of the SDT needs on the relation between environmental supports and the satisfaction of tenure-track and tenured faculty at a large Midwestern university. Environmental supports included in their model were similar to those used in the present study. Volitional autonomy significantly mediated the relation between both types of satisfaction (i.e., teaching/service and global) and dean support (i.e., administrative support), work-life balance support (i.e., personal and family supports), and recognition and department chair support (i.e., departmental supports). Perceived relatedness significantly mediated the relation between global satisfaction and work-life balance support (i.e., personal and family supports), and recognition and department chair support (i.e., departmental supports).

Other recent empirical studies have provided additional support for the mediating effect of the SDT needs on the relation between environmental supports and work-related wellbeing (i.e., in fields other than higher education). Gillet and colleagues (2013) found that environmental supports predicted job satisfaction both directly and indirectly via the SDT needs (i.e., volitional autonomy and perceived relatedness) for a sample of nurses in France. Guntert (2015) found that intrinsic motivation, as outlined by Ryan and Deci (2000; i.e., predicated upon volitional autonomy and perceived relatedness), fully mediated the relation between multiple contextual factors and job satisfaction in insurance industry employees in Switzerland. Nie, Chua, Yeung, Ryan, and Chan (2015) obtained similar findings using a sample of school teachers in China. They found that front-line supervisor support predicted job satisfaction indirectly via work motivation (e.g., intrinsic motivation; in this study discussed in terms of volitional autonomy).

A schematic view of how these aspects of self-determination theory are related to environmental supports, demographic characteristics of faculty, and ultimately to intent to stay at or leave from the institution is provided in Figure 1.

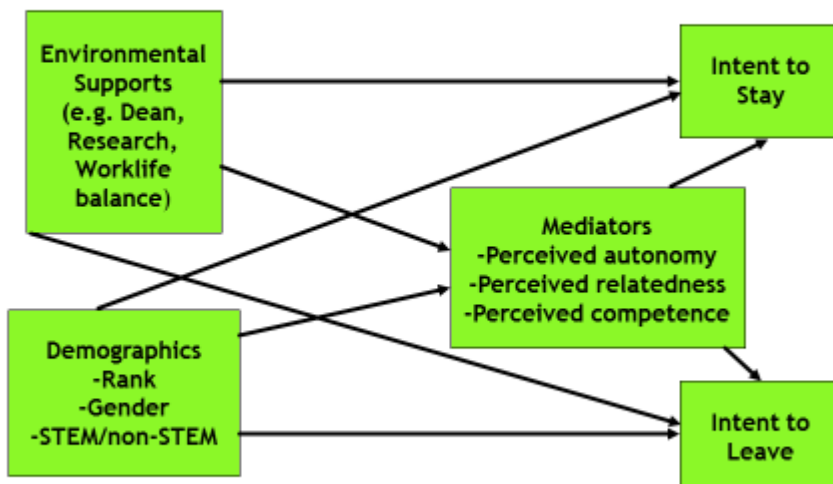


Figure 1: Relationships among Self-Determination Theory Mediators, Environmental Supports, Demographics, and Intent to Stay/Leave

For the outcome of intent to stay, respondents indicated whether they intend to remain at the institution for no more than five years, more than five years but less than ten, or ten years or more. For the outcome of intent to leave, respondents are considered having intention to leave if they have actively sought an outside job offer, received a formal job offer, or renegotiated the terms of their employment.

Multinomial and binary hierarchical logistic regression models were employed to estimate these relationships for these categorical outcome measures. Logistic regression estimates the likelihood that a person is assigned to different levels of the outcome variable (e.g.,

how long do you plan to remain at this institution, or plans to stay at the university or take actions to leave university) based on one or more predictor variables.

The environmental supports constructs identified in the data include the following

1. Faculty teaching quality
2. Upper level administrative support
3. Dean support
4. Instrumental research support
5. Evaluation support
6. Recognition support
7. Promotion support (associate only)
8. Tenure clarity support (assistant only)
9. Worklife balance support
10. Interdisciplinary support
11. Chair support
12. Perceived competence support
13. Benefits support

As promotion support and tenure clarity support (items 7 and 8 listed above) were specific to Associate Professors only and Assistant Professors only, respectively, these supports were not included in the ensuing data analysis. Each of the 11 environmental supports that were retained for further investigation included multiple questionnaire items drawn from the COACHE dataset.

The mediators (that is, the perceived needs) are the multi-item constructs of *perceived autonomy*, *relatedness* (involving faculty interaction, intellectual vitality, collegial, and teaching), and *perceived competence* measured in terms of time spent on the faculty role.

The outcome variables include intent to leave, intent to stay, global satisfaction, and satisfaction with teaching/service. The analysis is based on the presumption that level of satisfaction is a necessary, but not sufficient, precondition for intent to leave or stay; accordingly initial analysis was undertaken to ascertain the predictors of satisfaction, using the mediators of perceived autonomy, relatedness, and perceived competence.

Three demographic variables were included in the model: *gender* (male/female), *area* (STEM/non-STEM), and *rank* (Assistant/Associate/Full). Distribution of the dataset's metric for race/ethnicity was severely skewed, with very few respondents in categories other than white (non-Hispanic; 81.4%) or Asian, Asian-American, or Pacific Islander (12.9%), so the authors decided not to incorporate that demographic variable in our analysis.

4. Summary of Structural Equation Model Results

Following extensive estimation of prospective structural equation models three preliminary models were selected as the best preliminary results, based on key fit criteria:

- the chi-square measure of lack of fit between the sample covariance matrix and the reproduced covariance matrix under the model specification, where a smaller value of chi-square indicates a superior fit (that is, less lack of fit),
- the root mean square error of approximation (RMSEA), where a value less than about 0.05 is taken to be an indicator of a good fit,

- the normed fit index (NFI), where values closer to 1.000 indicate a better fit,
- the comparative fit index (CFI), where values closer to 1.000 indicate a better fit, and
- squared multiple correlations, measuring the proportion of the variance in each endogenous variable by the combined effects within the model, where a value closer to 1.00 identifies a stronger model.

For all models examined, each of the environmental support constructs is treated as correlated with all of the environmental support constructs that were included in that model. All such correlations were statistically significant and positive. Model results reported below were obtained from baseline models by successive deletion of nonsignificant model components until all remaining parameter estimates are significant ($p < .05$).

4.1 Demographics

- Area directly relates to global satisfaction across all three models (STEM higher; code is STEM=1, non-STEM=0)
- Area directly relates to teaching service satisfaction across perceived autonomy model and relatedness model (STEM higher; females)
- Gender directly relates teaching service satisfaction across perceived competence model and relatedness model (Women higher; males 0 females 1)
- Area directly relates to perceived competence time spent (STEM higher)

4.2 Supports Predicting Mediators Directly

- Dean support positively directly relates to perceived autonomy and relatedness overall
- Evaluation support positively directly relates to all three mediators
- Recognition support positively directly relates to perceived autonomy and relatedness
- Work life balance positively directly relates to all three mediators'
- Chair support positively directly relates to relatedness but negatively relates to perceived autonomy and competence time spent
- Perceived competence support (help take on leadership roles, improve teaching, presenting conference, office, equipment) positively directly relates to perceived autonomy and competence time spent
- Faculty teaching quality positively directly relates to perceived autonomy and relatedness
- Instrumental research support positively directly relates to perceived autonomy and perceived competence time spent
- Benefit support positively directly relates to relatedness

4.3 Mediators Predicting Outcomes Directly

- Perceived autonomy positively directly predicted global satisfaction and teaching/service satisfaction
- Relatedness overall positively directly predicted global satisfaction
- Perceived competence time spent positively directly predicted teaching/service satisfaction

4.4 Supports Predicting Teaching/Service Satisfaction

- Instrumental research support positively directly relates to teaching/service satisfaction across all three models

- Evaluation support positively directly relates to teaching / service satisfaction across all three models
- Benefits support positively directly relates to teaching / service satisfaction across all three models
- Perceived competence support positively directly relates to teaching / service satisfaction across all three models
- Worklife balance positively directly relates to teaching / service satisfaction across the perceived autonomy model and the relatedness model
- Chair support negatively directly relates to teaching / service satisfaction across the perceived autonomy model

4.5 Supports Predicting Global Satisfaction

- Upper level administration support positively directly relates to global satisfaction across all three models
- Recognition support positively directly relates to global satisfaction across all three models
- Evaluation support positively directly relates to global satisfaction across all three models
- Benefits support positively directly relates to global satisfaction across all three models
- Perceived competence support positively directly relates to global satisfaction across all three models
- Worklife balance positively directly relates to global satisfaction across all three models
- Faculty teaching quality positively directly relates to global satisfaction across perceived autonomy model and competence time spent
- Chair support positively directly relates to global satisfaction across the perceived competence time spent model
- Instrumental research support positively directly predicts global satisfaction across the relatedness model

5. Summary of Logistic Regression Model Results

5.1 How long do you plan to remain at this institution?

Outcomes related to willingness to stay at the institution are in the form of categorical variables. The nature of these dependent variables requires the use of logistic regression models, which estimate into which outcome category a faculty member is most likely to belong based on the same predictor variables as were used for structural equation model estimation.

One outcome metric (Q255A) was in response to the question: “How long do you plan to remain at this institution?” Response categories were: For no more than five years, More than five years but less than ten, and Ten years or more (with Missing, I don't know, and Decline to answer responses treated as missing).

Seven different logistic regression models were estimated, with various combinations of the 11 environmental support constructs, mediators, and demographics. To avoid overinterpretation of results that are specific to only a unique combination of predictors, and thereby to avoid inflating Type I error, the Bonferroni correction procedure was employed (which involves dividing the usual .05 Type I error level by the number of models estimated [7] and using that result [about 0.07] as the “protected” level of

significance that would result in all interpretations of results being statistically significant with a 95% level of confidence).

Across all three outcome categories, area (STEM/non-STEM) and rank are significant predictors of planned length of stay. Full professors are less likely than Assistant and Associate professors to report that they are going to be here longer. STEM faculty are more likely than non-STEM faculty to respond that they are going to be here longer. Professors are more likely to know how long they are staying at ISU compared to the other ranks.

Complete data were available for 170 observations. Results for the final model are summarized below.

Table 1: Model Fitting Information for “How long do you plan to remain at this institution?”

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	373.244	379.516	369.244			
Final	379.696	511.400	295.696	73.548	40	.001

Table 2: Goodness-of-Fit for “How long do you plan to remain at this institution?”

	Chi-Square	df	Sig.
Pearson	365.858	298	.004
Deviance	295.696	298	.527

Table 3: Pseudo R-Square for “How long do you plan to remain at this institution?”

Cox and Snell	.351
Nagelkerke	.396
McFadden	.199

Table 4: Likelihood Ratio Tests for “How long do you plan to remain at this institution?” The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Effect	Model Fitting Criteria		Likelihood Ratio Tests	
	AIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi-Square ($df=2$)	Sig.
Intercept	379.646	299.646	3.949	.139
Facultyteachingqualitymean50	380.319	300.319	4.622	.099
Deansupportmean50	383.976	303.976	8.280	.016
Instrumentalresearchsupportmeanrev50	376.890	296.890	1.194	.551
Evaluationsupportmean50	375.751	295.751	.054	.973
Recognitionsupportmeanrev50	378.024	298.024	2.328	.312
worklifebalancesupportmeanrev50	377.357	297.357	1.660	.436
interdisciplinaryworksupportmeanrev50	376.102	296.102	.405	.817
chairsupportmean50	381.850	301.850	6.154	.046
perceivedcompetencesupportmean50	377.402	297.402	1.706	.426
benefitsupportmean50	376.528	296.528	.832	.660
Upperleveladministrationmean50	376.223	296.223	.527	.768
perceivedcompetencetimespentmean50	375.837	295.837	.141	.932
relatednessinteractionmean50	378.336	298.336	2.640	.267
relatednesscollegialmean50	378.718	298.718	3.022	.221
relatednessintellectualvitalitymean50	375.903	295.903	.206	.902
relatednessteachingmean50	377.530	297.530	1.834	.400
perceivedautonomymean50	378.879	298.879	3.183	.204
GENDER_RPT	376.656	296.656	.960	.619
RANK_RPT	393.647	313.647	17.951	.000
AREAre-coded	385.793	305.793	10.097	.006

Table 5: Classification for “How long do you plan to remain at this institution?”

Observed	Predicted			
	For no more than five years	More than five years but less than ten	Ten years or more	Percent Correct
For no more than five years	36	6	14	64.3%
More than five years but less than ten	14	17	15	37.0%
Ten years or more	9	8	51	75.0%
Overall Percentage	34.7%	18.2%	47.1%	61.2%

5.2 Actively sought outside job offer, received formal job offer, or renegotiated terms of employment

Another outcome metric (Q225x11_0) was a “None of the above” response to each of three questions about whether the faculty member in the last five years had “Actively sought an outside job offer,” “Received a formal job offer,” and “Renegotiated the terms of your

employment (with, for example, a department chair or dean).” Responding negatively to all three of these was treated as intent to stay at the institution, or similarly as the lack of intent to leave. As with the analysis for planned length of stay at the institution, the Bonferroni adjustment was used to ensure an across-the-board 95% level of confidence for all conclusions. Analysis was conducted using IBM SPSS version 23 statistical software.

Both rank and STEM/non-STEM area are significant predictors of intent to stay. Assistant professors are less likely to take actions to leave than are full professors. STEM faculty are less likely to take actions to leave compared to non-STEM faculty. Perceived competence time spent also is positively related to intent to stay. Full Professors were more likely to have renegotiated their terms of employment compared to Assistant and Associate Professors.

Nonmissing data were available on these variables for 370 observations. Results from the final bivariate regression model are summarized below.

Table 6: Omnibus Tests of Model Coefficients for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

		Chi-square	df	Sig.
Step 1	Step	38.611	18	.003
	Block	38.611	18	.003
	Model	38.611	18	.003

Table 7: Model Summary for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	474.307 ^a	.099	.132

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Table 8: Hosmer and Lemeshow Test for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

Step	Chi-square	df	Sig.
1	6.154	8	.630

Table 9: Contingency Table for Hosmer and Lemeshow Test for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

		Q225x11 - None of the above - Which of the following have you done at this institution in the past five years? = No		Q225x11 - None of the above - Which of the following have you done at this institution in the past five years? = Yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	31	28.122	6	8.878	37
	2	21	24.896	16	12.104	37
	3	21	22.891	16	14.109	37
	4	20	21.099	17	15.901	37
	5	18	19.815	19	17.185	37
	6	22	18.269	15	18.731	37
	7	17	16.289	20	20.711	37
	8	15	14.448	22	22.552	37
	9	14	12.175	23	24.825	37
	10	7	7.997	30	29.003	37

Table 10: Classification Table for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

	Predicted		Percentage Correct
	Q225x11 – Which of the following have you done at this institution in the past five years?		
Observed	No	Yes	
Q225x11 – Which of the following have you done at this institution in the past five years?	120 82	66 102	65.5% 55.4%
Overall percentage			60.0%

Table 11: Variables in the Equation for “Actively sought outside job offer, received formal job offer, or renegotiated terms of employment”

		B	Wald	Sig.	Exp(B)
Step 1 ^a	AREAre-coded(1)	-.535	4.520	.034	.586
	RANK_RPT		13.501	.001	
	RANK_RPT(1)	1.140	13.420	.000	3.127
	RANK_RPT(2)	.340	1.609	.205	1.405
	GENDER_RPT(1)	.071	.082	.775	1.074
	Facultyteachingqualitymean50	.105	.298	.585	1.110
	Deansupportmean50	.010	.004	.949	1.010
	Instrumentalresearchsupportmeanrev50	-.137	.248	.619	.872
	Evaluationsupportmean50	-.018	.011	.915	.982
	Recognitionsupportmeanrev50	.194	.893	.345	1.213
	worklifebalancesupportmeanrev50	.102	.384	.536	1.108
	interdisciplinaryworksupportmeanrev50	.097	.403	.526	1.101
	chairsupportmean50	-.003	.000	.985	.997
	perceivedcompetencesupportmean50	.063	.055	.815	1.065
	benefitsupportmean50	.089	.197	.657	1.093
	Upperleveladministrationmean50	.007	.002	.968	1.007
	perceivedautonomymeans50	.215	.472	.492	1.239
	perceivedcompetencetimespentmean50	-.004	.001	.978	.996
	relatednessoverallmean50	.103	.144	.705	1.109
	Constant	-3.116	9.548	.002	.044

6. Conclusions

This research has examined correlates of faculty retention in higher education careers. Faculty retention is integrally related to the research, teaching, and service strength of academic institutions. Our results demonstrate that faculty are more likely to stay at their current institution when they have stronger feelings of perceived competence, autonomy, and institutional relatedness. Further, Assistant Professors and Associate Professors are more likely to stay longer than are Full Professors, STEM faculty are more likely than non-STEM faculty to stay longer, Full Professors are more likely to know how long they are staying compared to Assistant and Associate Professors, Full Professors are more likely than Assistant Professors to take actions to leave, non-STEM faculty are more likely than STEM faculty to take actions to leave, and Full Professors were more likely to renegotiate their terms of employment than are Assistant Professors and Associate Professors. These results may be helpful to administrators of institutions of higher education as they seek to attract and retain high-quality faculty and enhance faculty career development.

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