Tenured and Non-Tenured College of Education Faculty Motivators and Barriers in Grant Writing: A Public University in the South

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Author's Note

Abstract

The purpose of this investigation was to identify College of Education (COE) faculty members' perceptions of motivators and barriers to grant writing at a public university in the South, to compare the university's COE faculty perceptions to previously published survey results of Colleges of Education at Research I institutions, and to compare tenured and non-tenured faculty's responses. The survey instrument was adapted, with permission, from the instrument reported by Boyer and Cockriel (1998) for administration online. Several significant motivators were identified for the faculty: *opportunity to probe or research new information; personnel support such as graduate assistants and clerical help when proposals are funded; having travel money available for conferences; building my professional reputation as a capable researcher; personnel support such as graduate assistants and clerical help when preparing*

proposals; more flexibility in how time is allocated; and assistance in grant proposal preparation. One important barrier to grant writing was identified: inadequate support available to submit proposals in a timely manner. One significant difference (*heavy teaching load*) was identified between tenured and non-tenured faculty. Recommendations were suggested to increase the number of grant proposals written and submitted by faculty and to support the overall grant writing process at the institution.

Keywords: Grant writing, education faculty, motivators, barriers, tenured, non-tenured

Introduction

Securing funding to conduct research is increasingly important in today's higher education environment (Boyer & Cockriel, 1998; Sterner, 1999). Writing research grant proposals is a major means of seeking funding for research at institutions of higher education. For universities to increase research funding and subsequently increase research productivity, it is essential that university faculty members receive adequate support in writing research grant proposals. To provide such support, universities need a clearer understanding of faculty's perceptions of motivators and barriers in the research grant proposal writing process. While all faculty members have at least some academic writing experience, experience with grant writing may be limited to non-existent for some faculty. Academic and grant writing represent two distinctive genres of writing, each necessitating differing approaches.

Porter (2007) described grant writing as an activity that is geared toward the future, oriented toward service, focused on a single project, written to persuade the reader using a personal and lay tone, team-focused and brief. Academic writing, on the other hand, is geared toward the past, oriented toward individual pursuits, centered on a theme, uses an explanatory discourse genre with an impersonal tone, individual-focused and lengthy. Obviously, writing for academia and writing to obtain grant funds are two very different activities requiring varying skill sets. For many faculty, professional development in grant writing may be both needed and welcomed. These same faculty members may, however, require varying amounts of support from their research organization, which must probe employees regarding their past experiences and future goals for grant writing activities.

Similarly, understanding university faculty's perceptions of motivators and barriers is important in the development of organizational support to encourage faculty to write grants, subsequently carry out research, and publish. Campbell (1998) reported an increase in both the number of proposals submitted and the level of external funding at a small undergraduate teaching institution following a focused initiative by the university's Office of Grants and Research to write proposals with faculty. Banta et al. (2004) reported that a fellowship program award created at the University of Northern Colorado to support new faculty in writing grants is actively leading participants in pursuing grant funding as well as enhancing grant writing skills. Focused initiatives such as these may arise out of a greater understanding of what university faculty members deem important in pursuing grants (motivators) and what keeps them from moving forward (barriers) with grant proposals. Efforts to understand faculty perceptions are likely to vary from institution to institution according to variables such as institutional size, resources available, and the institution's culture regarding the grant-seeking and procurement process.

For instance, Boyer and Cockriel (1998) randomly surveyed 370 faculty members (67% response rate) within Colleges of Education (COE) at American Association of Universities (AAU) Research I institutions and found that *consideration in tenure and promotion, building professional research reputations,* and *a strong commitment from the college president* were significant motivators in writing grants. They also found that *lack of training in seeking and writing grants, lack of knowledge in the development of budgets,* and *lack of knowledge regarding potential funding sources* were significant barriers to grant writing. These motivators and barriers were more significant for non-tenured faculty than for tenured faculty.

Similarly, Cole (2007) reported that faculty need more administrative assistance with grant proposal preparation, as well as a more streamlined review procedure. Insights into what faculty consider motivators and barriers to grant writing, such as those reported by Cole as well as Boyer and Cockriel (1998), may better inform institutionally sponsored initiatives to increase grant writing activities and, ultimately, the level of funding received. The current study sought to accomplish just that within a Southern university's COE.

The purpose of this investigation was to: (a) identify COE faculty perceptions of successful grant writing motivators and barriers at a public, four-year, coeducational, doctoral-granting university in the South classified as a Research University with high research activity by the Carnegie Foundation for the Advancement of Teaching; (b) compare the university's COE faculty perceptions to previously published survey results of Colleges of Education at Research I institutions; and (c) compare and contrast tenured and non-tenured faculty's responses.

Five research questions guided this study: (1) Which grant writing motivators are perceived as important to the faculty? (2) Which grant writing barriers are perceived as important to the faculty? (3) Is there a difference in tenured and non-tenured faculty in perceived importance of grant-writing motivators? (4) Is there a difference in tenured and non-tenured faculty in perceived importance of barriers to grant writing? (5) Are these survey findings similar to Boyer and Cockriel's (1998)?

These findings bore significance internally for the university in attempting to create programs that encourage, support, and remove barriers to grant writing. Externally, these findings demonstrated successful use of Boyer and Cockriel's (1998) instrument in surveying perceived importance of motivators and barriers to writing grants in higher education, as well as its utility in guiding recommendations for improvement. The information derived from this study provided the university with a useful perspective from which to begin to understand its COE faculty's perceptions of motivators for and barriers to grant writing. These data also provided insight into a comparison of the university's COE faculty to other COE faculty at AAU Research I institutions. Further, this information may be used by the university in creating future projects that focus on increasing the quantity and quality of faculty research grant writing activities.

Participant Recruitment, Survey Adaptation and Implementation

Before contacting any potential participants, Institutional Review Board (IRB) approval from the university was granted. Special attention in the IRB process was needed to

protect the anonymity of the respondents in the online environment. Individual permission was granted through the research office of the college within which the study was conducted. Written permission was also obtained from Dr. Patricia Boyer to use and adapt the survey instrument employed by Boyer and Cockriel (1998).

The survey instrument was then adapted for online use. The survey included 15 motivators and 15 barriers to grant writing and required that participants rate the perceived importance of each as Very Important, Moderately Important, Marginally Important, or Not Important. The only item altered from the original survey was the word "boilerplates," which, to avoid semantic confusion, was replaced with the term "templates." In addition to the opportunity to add motivators and barriers, the participants were permitted to add comments at the end of the survey. See Boyer and Cockriel (1998) for the complete survey, including all motivator and barrier items.

The adapted survey was produced online with software provided by an educational grant from the Websurveyor Corporation. Communication with the COE faculty regarding this study was accomplished through a solicitation email in which a hypertext link guided participants to the survey site to read the informed consent document. After agreeing to continue in the study, participants completed the online survey. To obtain the largest sample possible, the entire 131-member COE faculty was solicited via email addresses obtained through the university's mailing list. Faculty members chose whether or not to participate in the survey.

Data Analysis

Participant responses were coded from 0 to 3 according to perceived level of importance, where 0 represented Not Important; 1, Marginally Important; 2, Moderately Important; and 3, Very Important. Appendix A describes the mean participant responses for both motivators and barriers to grant writing. Results of this study were interpreted with the use of descriptive statistics and a univariate Analysis of Variance (ANOVA) to compare the tenured and non-tenured groups' perceptions of importance. Appendix A also reports the ANOVA results obtained for both motivators and barriers. The Chi Squared analysis employed by Boyer and Cockriel (1998) was rejected in the current study due to the presence of low raw observed frequencies (less than five) for many items.

Participants were also given the opportunity to add both motivators and barriers to the survey by responding to an open-ended solicitation. The textual data derived from the open-ended solicitation were subjected to thematic analysis (Creswell, 2005). Starting with one document, specific text segments were chosen and coded as they pertained to the segments' meaning(s). Coding and subsequent thematic analysis were aided through use of the Atlas.ti 5.2 software package. Codes established in the first document were then used with subsequent documents to test fit and to see if any new codes appeared. New codes were added as necessary. After reading and coding all the documents, codes were collapsed into themes or "similar codes aggregated together to form a major idea in the database" (Creswell, p. 239).

Results

Following one email reminder that also included a link to the survey, 35 faculty members of the 131 solicited (26.7%) chose to complete the online survey. Hamilton (2003) reported that the average response to online surveys is 30%. While the actual response rate of 26.7% is slightly lower, the current study's response rate approximates the 30% average closely enough to draw preliminary conclusions regarding the perspectives of the faculty under study. Of the respondents, 15 (42.9%) were male and 20 (57.1%) were female. Fourteen of the faculty (40%) were non-tenured and 21 (60%) were tenured. The faculty ranks were Professor (9 or 25.7%), Associate Professor (15 or 42.9%), Assistant Professor (5 or 14.3%), and Other (6 or 17.1%). Associate Professors made up the highest percentage of participants in the study.

To discern motivators and barriers considered important by all faculty, motivator and barrier items for which the mean value for both the tenured and non-tenured groups was greater than 2 (Moderately Important) were reported. Table 1 lists the motivators and barriers identified as important (greater than 2) for tenured and non-tenured faculty separately, the motivators and barriers considered important for both tenured and non-tenured faculty, as well as the rank of importance between these two groups. Only those motivators and barriers considered important for both tenured and non-tenured faculty were used in generating recommendations to increase the grant writing activities in this COE.

Table 1. Rank of Importance of Motivators and Barriers for Tenured and Non-Tenured Groups

Motivator	Tenured Rank	Non-Tenured Rank	Barrier	Tenured Rank	Non-Tenured Rank
Personnel support such as graduate assistants and clerical help when preparing proposals	6	3	Inadequate support available to submit a proposal in a timely manner	2	1
Personnel support such as graduate assistants and clerical help when proposals are funded	1	2	Heavy teaching load	1	-
Consideration in tenure or promotion decisions	-	4	Too many committee assignments	3	-
More flexibility in how time is allocated	4: Equal mean	9			
Opportunity to probe or research new information	2	1			
Having travel money available for conferences	3	6			
Contact with funding sources	-	8			
Assistance in grant proposal preparation	5	7			
Building my professional reputation as a capable researcher	4: Equal mean	5			

Motivators

The following motivators for writing grants (in rank order with mean importance score for both tenured and non-tenured faculty reported) were identified as important to the faculty in addressing research question (1) Which grant writing motivators are perceived important to the faculty?

1. *Opportunity to probe or research new information* (mean = 2.61 on 3-point scale of importance for both tenured and non-tenured faculty);

2. *Personnel support such as graduate assistants and clerical help when proposals are funded* (mean = 2.59 on 3-point scale of importance for both tenured and non-tenured faculty);

3. *Having travel money available for conferences* (mean 2.26 on 3-point scale of importance for both tenured and non-tenured faculty);

4. *Building my professional reputation as a capable researcher*: (mean = 2.26 on 3-point scale of importance for both tenured and non-tenured faculty);

5. *Personnel support such as graduate assistants and clerical help when preparing proposals*: (mean = 2.21 on 3-point scale of importance for both tenured and non-tenured faculty);

6. *More flexibility in how time is allocated*: (mean = 2.12 on 3-point scale of importance for both tenured and non-tenured faculty);

7. *Assistance in grant proposal preparation*: (mean = 2.11 on 3-point scale of importance for both tenured and non-tenured faculty).

Barriers

The following barrier item had a mean value greater than 2 (Moderately Important) for both the tenured and non-tenured groups in addressing research question (2) *Which grant writing barriers are perceived as important to the faculty?*

1. *Inadequate support available to submit proposals in a timely manner*: (mean = 2.18 on 3-point scale of importance for both tenured and non-tenured faculty).

Tenured Versus Non-Tenured: Motivators and Barriers

Responses to research questions (3) *Is there a difference in tenured and non-tenured faculty in perceived importance of grant writing motivators?* and (4) *Is there a difference in tenured and non-tenured faculty in perceived importance of barriers to grant writing?* revealed one statistically significant difference (p<.05) between tenured and non-tenured faculty. Tenured COE faculty at the university found heavy teaching load to be a significantly more important barrier than non-tenured faculty. No statistically significant difference was found

between tenured and non-tenured faculty in perceived importance of the motivators used in the survey. Appendix A reports the results of the univariate ANOVA for both motivators and barriers to grant writing.

Results of Thematic Analysis

Of the 35 participants in this study, 22 (62.9%) responded to the open-ended solicitation. Of these 22, 15 (68.1%) were tenured and 7 (31.9%) were non-tenured. Twenty-four codes emerged from the participants' responses. Of these, 12 dealt with motivators to the grant writing process and 12 dealt with barriers. These codes were collapsed into themes, which were cross-referenced with the topics addressed in the survey (see Boyer & Cockriel, 1998 for full survey). Themes that were adequately described in the survey itself were eliminated and judged to be adequately addressed through use of the quantitative data analysis methods reported above.

Motivators to Grant Writing

Two themes emerged from the data analysis that represented the participants' perception of what motivates them to write grants: more control over resources and innovation. These themes were judged not to be fully addressed in Boyer and Cockriel's (1998) survey regarding the level of depth in understanding the categories allowed. While surveys provide a relatively quick and efficient way to garner information about a population, they also possess an inherent weakness in discovering matters that are not included or deeply probed. To their credit, Boyer and Cockriel showed foresight in including open-ended response solicitations to collect data not included in the survey's content areas. Regarding the current study, most faculty who responded to the open-ended solicitations identified barriers versus motivators. The most widely found themes regarding motivators were the two reported here. It is, however, noteworthy that the groundedness of the themes regarding motivators to grant writing is weak.

More Control over Resources

Three of the faculty reported that control over resources was a motivator to grant writing. One non-tenured faculty member responded that it was motivating to have the "ability to have and use resources at [name of university] at own discretion rather than at the demands of chair and dean."

Further, a tenured faculty member responded that it was motivating to "have … equipment or research opportunities for my students as a result of the grant." It is clear from the participants' responses that acquisition and control over resources is a motivating factor in writing research grants.

Innovation

Three tenured faculty members reported innovation in their discipline as a motivator to grant writing. A tenured faculty member responded that it is motivating to write a grant "because the proposal will focus on a needed innovation …. it's good work!" Another tenured faculty member responded that a perceived motivator was "making a contribution to my field in an area of needed research or service."

The final tenured faculty member who found innovation to be a particular motivator to grant writing stated that it is was motivating to have, "[the] ability to focus research work in particular areas that might have a greater impact and broader dissemination of results -- thus impacting the field." Interestingly, no non-tenured faculty members reported innovation as a significant motivator. Further, the participants for whom innovation was motivating all found that contributing to their field was more significant than getting published. This finding may be the result of these faculty members having achieved tenure and promotion and, as a result, the pressure or importance of being published has diminished.

Barriers to Grant Writing

One theme emerged from analysis of the textual data collected from participants' responses to the open-ended solicitation: *University culture as a barrier*. Of the 22 participants who responded to the solicitation, 14 felt that the university's culture did not support or reward the writing of grant proposals. These faculty members all felt that the lack of a culture conducive to grant writing was a major barrier in their proposal writing efforts.

In describing how the university's culture is perceived as a barrier, respondents cited two distinct areas: an inadequate grant process and lack of rewards. Regarding the process for grant writing at the university, a non-tenured faculty member responded, "It is too important to my professional career NOT to pursue a grant ... you just have to limp along with the poor infrastructure." A tenured faculty member responded, "I have no motivation because there is no REAL support, just MORE work."

Another tenured faculty member commented:

… de-motivators are a key here. [name of university] does not provide GA's [graduate assistants] for routine faculty work and grants are/can be more of a pain than an asset to a faculty member. Just more work without an infrastructure of support in that administrators take the support systems for themselves-sad. If funds are returned to a department, how does this benefit a faculty member? Benefits the administration, it seems. Loads are not reduced because of grants -- who else will do the work?????

These faculty members clearly felt there was no support system for grant writing and that the process in place at the university did not benefit them. A tenured faculty member summed up the perceived sentiment regarding the university's process for grant writing by stating, "I had a large Federal grant. The university took all the indirects and gave nothing back to me or my department."

Lastly, faculty members felt that the lack of rewards for those who write grant proposals was a barrier to their grant writing activities. One tenured faculty member responded that there was a "Lack of recognition for grants through P & T [promotion and tenure]." Further, one non-tenured faculty member felt that

In general, [name of university] does not value research — the rhetoric is great but the culture does not support doing really rigorous scholarship. Rather, the culture of [name of university] is administrative "busywork" that has little impact in advancing scholarship on a national scale.

Support of Boyer and Cockriel's Findings at Research I Institutions

Participants' responses to the last question, (5) *Are these survey findings similar to Boyer and Cockriel's (1998) findings?* did reveal one motivator to grant writing that corresponded to Boyer and Cockriel's findings. *Building a professional reputation as a capable researcher* was of significant importance to faculty, both tenured and non-tenured (mean = 2.26 on 3-point scale). The perceived importance of building a solid research reputation appears to be a common motivator to grant writing regardless of the research standing of the university in which the faculty member works.

Discussion

The authors acknowledge that the sample size achieved in this study is small; thus, based on the response to this study and the non-randomized sampling procedure employed, the results may not be generalized to the larger COE faculty population at the university under study. A larger response to this survey from a randomized sampling of the COE faculty may have resulted in different findings. Based solely on the 26.7% return in this study, however, the findings led to eight conclusions for both tenured and non-tenured faculty respondents:

1. Administrative encouragement of probing or researching new information is motivating;

2. Personnel support of the grant writing process and the faculty when grant proposals are funded is motivating;

3. Travel monies to aid grant procurement are motivating;

4. Building a professional reputation as a capable researcher is motivating;

5. Increased flexibility in time allocation (assignments) is motivating;

6. Increased support to submit proposals in a timely manner is motivating.

7. Control over resources and innovation appear to be motivating (groundedness is weak).

8. Inadequate or poor infrastructure and a culture not geared to grant writing support are barriers.

These findings differ from previous research. Boyer and Cockriel (1998) found the following significant motivators in a study of 248 COE faculty members (67% response rate) at Association of American Universities (AAU) Research I universities:

1. Consideration in tenure or promotion decisions;

2. Building my professional reputation as a capable researcher; and

3. A strong commitment from the college president.

In the same study, Boyer and Cockriel reported the following significant barriers (Each of the significant motivators and barriers was more important for non-tenured faculty than tenured faculty in their study.)

1. Lack of training in grant seeking and grant writing;

2. Lack of knowledge of budget development; and

3. Lack of knowledge of funding sources.

In this study, one difference between tenured and non-tenured faculty was considered statistically significant (p<.05). *Heavy teaching load* was more important as a barrier to tenured than non-tenured faculty. No other statistically significant differences between tenured and non-tenured faculty were found. *Heavy teaching load* was not a significant barrier to faculty surveyed by Boyer and Cockriel (1998). The nature of the differing institutions surveyed in these two studies and their support systems for grant research may be a factor in this analysis. Further, use of a self-elected, non-randomized sample in the current research may have further influenced the findings by way of eliciting perceived importance from those who hold the strongest opinions.

Likewise, the population factors in the current study may have also had an impact on the findings. Respondents to the current survey were 21 tenured faculty (60%) and 14 non-tenured faculty (40%). The tenured status of 60% of the respondents may have flavored the results. In Boyer and Cockriel's sample, 77.6% were tenured and 22.4% were non-tenured. Of interest as well is the fact that the college in the current study has undergone a high turnover of faculty in recent years. This turnover may have had an effect on the responses provided and the significance of grant writing in the professional lives of the respondents. Individuals striving for tenure early in their professional life may be less inclined to address grant writing as a way to express their scholarly works due to the nature of their promotion and tenure guidelines.

Further, a factor that may have had an impact on the return rate of this survey, and therefore its possible conclusion, was timing. The college under study was in the complex situation of going through numerous accrediting and credentialing processes in which all the potential faculty respondents were actively involved, in addition to their normal assignments.

Lastly, this survey was conducted using web-based technology, while Boyer and Cockriel (1998) used hard-copy mailing. The web-based delivery of the survey may have influenced the return rate and responses. In fact, several faculty members were concerned about the anonymity of their responses. Research has suggested that online surveys have a smaller response rate than traditional mail-based surveys, although results are inconclusive (Ilieva, Baron,

and Healey, 2002). These considerations make comparison of findings between the two studies more difficult, as the methods and population used in each study differ greatly.

Recommendations

Based on this study and review of the literature, the following recommendations to increase the grant writing activities within this COE have emerged:

1. Provide a campus-wide system for administering grants (grant writing assistance, budgeting assistance, clerical aid for completing procedural functions, such as obtaining signatures, e.g.);

2. Provide incentives for grant writing (travel funds, flexibility in assignments, recognition for grant procurement, graduate assistants, professional development opportunities);

3. Provide instruction to enhance grant writing skills;

4. Include grant writing as part of the criteria for tenure and promotion;

5. Include grant procurement of various levels as significant scholarly work for promotion for tenured faculty;

6. Create a new formula for teaching, service, and research that allows time for grant writing skill development and grant procurement;

7. Further assess the faculty's perceptions of the university's culture regarding the writing and procurement of grants. It is clear from the analysis of the qualitative data that the participants in this study overwhelmingly felt that the university's culture was not conducive to the grant writing process. Aspects of organizational culture may also be included in future versions of Boyer and Cockriel's (1998) survey.

Conclusion

Boyer and Cockriel's (1998) survey was used to identify COE faculty perceptions of motivators and barriers to the grant writing process at a Southern university. The following motivators were identified as significant for both tenured and non-tenured faculty: (1) *Personnel support such as graduate assistants and clerical help when preparing proposals;* (2) *Personnel support such as graduate assistants and clerical help when proposals are funded;* (3) *More flexibility in how time is allocated; (4) Opportunity to probe or research new information;* (5) *Having travel money available to attend conferences; (6) Assistance in grant proposal preparation;* and (7) *Building my professional reputation as a capable researcher.*

Both tenured and non-tenured faculty found inadequate support available to submit a proposal in a timely manner a significant barrier to grant writing. This finding was both supported and further elucidated through analysis of the textual data derived from the survey's open-ended response solicitation. Faculty participants in this COE perceived the university's culture as not conducive to grant writing.

One significant difference emerged between tenured and non-tenured faculty members regarding perceptions of barriers to grant writing: Heavy teaching load. In future studies, it would be helpful to collect additional respondent demographic data to determine the impact of factors such as number of courses taught or other assignments. Further, one common motivator was found between the faculty surveyed in the current research and previous findings (Boyer & Cockriel, 1998) reported in the literature: Building a professional reputation as a capable researcher.

The research reported in this article demonstrated the use of Boyer and Cockriel's (1998) survey of faculty perceptions of motivators and barriers to grant writing to identify areas of both perceived strength and weakness regarding grant writing in one institution's COE. The research also highlighted the potential impact faculty perceptions of institutional culture may have on grant-writing activities. If research institutions wish to increase their faculty's grant writing activities, surveying (or otherwise assessing) faculty perceptions of motivators and barriers to the grant writing process lends invaluable information to guide the first steps in that direction. In the case of the university under study, it is likely that concentrating on the support systems would be one part of a multi-step process to increase the faculty's grant writing efforts. Similarly, according to the respondents in the current research, removing barriers such as the number of required signatures for the grant process may not have adequately addressed the faculty's needs. Therefore, it is necessary to measure faculty perceptions of motivators and barriers before efforts to improve or otherwise increase grant writing activities are undertaken.

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Appendix A

Mean Importance and ANOVA results for Motivators and Barriers for Tenured and Non-Tenured Faculty

Motivators	Mean	F(df,df)= F	p	Barriers	Mean	F(df,df)= F	p
Indirect Funds Tenured Non-Tenured	1.57 1.57	F(1,33)=0.00	1.0	*Lack of support* Tenured Non-Tenured	2.15 2.21	F(1,32)=0.03	.86
Support Tenured Non-Tenured	2.05 2.46	F(1,31)=1.14	.29	*Lack of training* Tenured Non-Tenured	1.43 1.57	F(1,33)=0.13	.72
Support when funded Tenured Non-Tenured	2.55 2.64	F(1,32)=0.094	.76	*Heavy teaching load* Tenured Non-Tenured	2.45 1.69	F(1,31)=5.45	.03*
Tenure & Promotion Tenured Non-Tenured	1.75 2.43	F(1,32)=3.45	.07	*Committee assignments* Tenured Non-Tenured	2.14 1.46	F(1,32)=3.75	.06
Publications Tenured Non-Tenured	0.85 1.21	F(1,32)=1.30	.26	*Knowledge* Tenured Non-Tenured	1.33 1.79	F(1,33)=1.26	.27
Time allocated Tenured Non-Tenured	2.20 2.00	F(1,32)=.338	.57	*Inconvenience* Tenured Non-Tenured	1.90 1.29	F(1,33)=2.61	.12
New information Tenured Non-Tenured	2.45 2.85	F(1,31)=2.06	.16	*Time consuming* Tenured Non-Tenured	1.86 1.50	F(1,33)=.767	.39
Travel money Tenured Non-Tenured	2.24 2.29	F(1,33)=.022	.88	*Collaboration* Tenured Non-Tenured	0.95 1.43	F(1,32)=1.66	.21
Equipment Tenured Non-Tenured	1.85 1.93	F(1,32)=.060	.81	*Advisement* Tenured Non-Tenured	1.05 0.93	F(1,32)=.108	.74
Funder contact Tenured Non-Tenured	1.53 2.07	F(1,31)=2.35	.14	*Expectations* Tenured Non-Tenured	1.35 1.43	F(1,32)=.035	.85
Grant preparation Tenured Non-Tenured	2.10 2.14	F(1,33)=.016	.90	*Budget* Tenured Non-Tenured	1.38 1.15	F(1,31)=.282	.60
President Commit Tenured Non-Tenured	1.76 1.14	F(1,33)=2.06	.16	*Policy* Tenured Non-Tenured	0.80 1.50	F(1,32)=2.65	.11
Templates Tenured Non-Tenured	1.75 1.54	F(1,31)=.233	.63	*Getting funded* Tenured Non-Tenured	1.62 1.43	F(1,33)=.237	.63
Professional reputation Tenured Non-Tenured	2.20 2.36	F(1,32)=.229	.64	*Reduced signatures* Tenured Non-Tenured	1.67 1.07	F(1,33)=1.98	.17
Recognition Tenured Non-Tenured	1.43 1.36	F(1,33)=.039	.85	*Internet access* Tenured Non-Tenured	0.32 0.43	F(1,31)=.181	.67

Note: Mean based on perceived importance with (0) = Not important, (1) Marginally Important; (2) Moderately Important; and (3) Very Important. *=sig (p.05)