Full research paper

GENDER DIFFERENCES IN FACULTY EXPERIENCE WITH START-UP PACKAGES: A CASE STUDY FROM A PUBLIC UNIVERSITY IN THE SOUTHEASTERN U.S.

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ABSTRACT

Start-up packages are a tool for a successful transition to an academic career. This institutional case study examined the faculty experience with start-up packages at one public university in the Southeastern United States, including gender differences, content, negotiation, and perceived outcomes. A mixed-method research design was utilized to answer the study research questions. Data were gathered through an online survey with quantitative and qualitative questions. Data from 121 participants were analyzed using descriptive statistics, chi-square tests of independence, and thematic analysis. Most start-up package agreements included moving expenses, personal computers and software, and start-up funds. Conversely, child daycare, guaranteed junior sabbatical, and salary advancement were the most missing benefits in the agreements. Male faculty obtained, significantly more often than female faculty, a specific number of years for secure funding, laboratory space, and student or postdoc funding in their agreements. Faculty, in general, were not well prepared for the negotiation process and were not aware of what they needed to establish a successful research program. Universities should focus more on the influence of start-up packages on faculty careers because perceived unfair treatment during the negotiation process or administration can influence faculty performance and turnover intentions.

KEYWORDS

Faculty hiring process, faculty negotiation, gender differences, job resources, start-up packages, university working conditions

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Highlights

- *A mixed method case study exanimating the faculty experience with start-up packages involving 121 participants from a university in the U.S.*
- *Start-up packages mostly included moving expenses, computers, and start-up funds. Childcare, sabbatical, and salary advancement were the most absent.*
- *Male faculty, more often than female faculty, were able to obtain a specific number of years for secure funding, laboratory, and student funding.*
- *Faculty were not well prepared for the negotiation process and unaware of what they needed to establish a successful research program.*

INTRODUCTION

Start-up packages are temporary funds or materials that are offered by universities for new faculty (Hamann, 2013). Significant investments are allocated yearly for faculty recruitment and faculty start-up packages (Trower, 2012). Start-up packages can include some combination of office and laboratory, research funds, equipment, materials, software, summer salary, technicians, students, postdocs, teaching release, travel money, fieldwork funding, flexible scheduling, patents, and publications fees, access to databases, memberships in professional associations, grant-writing assistance, reduced committee responsibilities, consulting, early tenure consideration, tuition benefits, accessibility to parking, release time, moving expenses, cost of additional

visits to the area, retirement contributions, spousal hiring, health insurance, and life insurance (Andrade, 2008; Ehrenberg et al., 2003; Farrell and Geraci, 2017; Hamann, 2013; Höfrová and Moore de Peralta, 2019; Office of Career & Professional Development 2012; Vick et al., 2016). Start-up packages and a combination of their benefits are structured differently and may vary significantly across disciplines and institutions (Farris et al., 2023).

Because the success of a university is premised on the success of faculty, understanding the role start-up packages play in providing sufficient job resources and facilitating academic career transitions is important (Hardré and Cox, 2009, Murray et al., 2009, Rancourt, 2010). The lack of competitive start-up packages can negatively influence university recruitment efforts (Hill et al., 2011), and more resources in start-up packages can pull faculty to accept an offer from another university (O'Meara, 2015). Greater access to job resources is positively associated with faculty motivation, satisfaction, and performance and negatively associated with faculty turnover (Bakker and Demerouti, 2017). In addition, fewer resources obtained in the start-up package agreement can influence faculty's perception of the contribution of the start-up package to their professional development (Höfrová et al., 2021).

Maximizing the benefits of successful negotiation of start-up packages benefits faculty as well. It is not uncommon for faculty to be unprepared for effective negotiations (Sambuco et al., 2013). Unsuccessful negotiation can lead to limited access to resources and resource inequities that can negatively affect junior faculty advancement (Holliday et al., 2015; Lalani et al., 2019).

Women are especially at risk (Sege et al., 2015) as they tend to rate negotiation skills as less important than male faculty (Sarfaty et al., 2007). One study conducted among 427 general surgery residents found that females were more likely to have a negative view of salary negotiation and were less likely to believe that they had the tools to successfully negotiate an appropriate salary (Gray et al., 2019). Results of a study conducted by Settles et al. (2013) showed that female faculty more often perceive gender mistreatment due to unequal access to resources such as salary, promotion, space, equipment, administrative staff, and graduate students. Understanding the gender disparities in access to resources is important because resource allocation can impact the ability to successfully conduct research, typically quantified by faculty publication rates (Duch et al., 2012). Understanding the influence of gender on negotiation is critical for achieving fairness in the workplace (Amanatullah and Morris, 2010), especially considering that job offer negotiation outcomes can influence an employee's job satisfaction and turnover intentions even a year after the negotiation (Curhan et al., 2009).

Although start-up packages are crucial for faculty careers, there is little research on start-up packages, with most simply offering negotiation guidance (Berman and Gottlieb, 2019; Ford, 2012) or focusing on a single discipline (Sambuco et al., 2013). To fill this gap in the literature, this study explored faculty experience with start-up packages by focusing on content, negotiation, gender differences, and perceived outcomes. Specifically, the research is guided by the following questions: (1) What is the content of start-up package agreements?; (2) What are important aspects of start-up packages?; (3) What gender differences exist in the start-up package agreements?; (4) What is the faculty experience with the start-up package negotiation process and strategy?; and (5) How does the start-up package experience influence faculty careers?

MATERIALS AND METHODS

A mixed method approach was used as neither quantitative nor qualitative methods were solely sufficient to capture the complexity of faculty experience with start-up packages (Creswell and Poth, 2013; Yin, 2017). Because this study aimed to understand faculty experience with start-up packages at a particular university, a single case study approach was used (Johnson and Christensen, 2017).

Data Collection

The data for this case study were part of a larger organization-wide initiative to assess faculty satisfaction with start-up packages at a public land-grant, doctoral-granting university located in the Southeastern United States. The research design was approved by the Institutional Review Board. The research team conducted a survey pilot test at one department in February 2018, obtaining responses from 13 faculty. Revisions to the survey instrument were made based on the feedback from this pilot study. The data collection took place across three months, from April 2018 through June 2018. Participation in the study was voluntary, and participants received no incentives for being part of the study. An email with an anonymous link to an online Qualtrics survey was sent to all the university's 931 tenured and tenure-track faculty. A random sample of 300 tenured and tenure-track faculty received an email reminder to participate in the study in May 2018.

Instrument

Data were gathered through an online survey with quantitative and qualitative questions. For the present study, the quantitative data provided a general picture of the content of start-up packages and gender differences in their content, whereas the qualitative data refined and explained those numerical values by exploring faculty views regarding their start-up package experience in more depth. We used the following questions to gather the quantitative data presented in this study:

1. Please indicate whether the benefit was initially offered to you when you joined [university]. If the benefit was not initially offered to you, indicate whether the benefit was obtained through your negotiations with [university]. (yes/no/I don't remember, N/A response). A list of 19 benefits was created based on the literature (see Table 1).
2. Looking back, would you negotiate your start-up package differently if you could? (yes/no response)

The survey also included a gender-related question as follows: How would you describe yourself? (female/male/transgender/ I do not identify myself with any of the above/ I prefer not to answer).

The two open-ended or qualitative questions were identified through a literature review and were intentionally included to promote participants' reflections on the start-up package negotiation process. Results from the pilot testing suggested that these questions would help uncover relevant aspects of

the gender-related thought and decision-making processes of study participants when negotiating their start-up packages. The two open-ended questions were as follows:

1. How would you negotiate differently?
2. Finally, please provide any additional comments or observations about your experience with the start-up package process.

Participants

127 faculty members accessed the survey, and the response rate was 14%. Data from six participants who did not obtain a start-up package or had more than 50% missing data were excluded from the analyses. A total number of 121 participants (13% response rate) were included in further quantitative analyses. We asked two open-ended questions in the qualitative portion of the study. Ninety-two (76%) participants responded to the first question, and 68 (56%) responded to the second question. At the end of the survey, faculty were reminded that they were not required to answer demographic questions to secure their confidentiality. However, 96 participants responded to the gender-related question, which was key data for the analysis.

Data Analyses

Quantitative data were analyzed using the statistical software IBM SPSS Statistics Version 27.0. Descriptive statistics were used to characterize the study population and describe the content of the start-up package. Chi-square (χ^2) tests of independence (King et al., 2018) were performed to examine the relation between gender and other demographic questions, as well as gender and each benefit in the start-up package agreement. Type I error (α) was set at.05. To assess the strength of the relationships, the phi coefficient (φ) was used as an index of effect size (King et al., 2018). Cohen's (1988) conventions for small (.10), medium (.30), and large (.50) were used.

Thematic analysis was used to analyze the open-ended questions. The responses were imported and analyzed using NVivo 12 Plus. Inductive coding was utilized, which involves deriving themes and categories directly from the data rather than imposing pre-existing hypotheses or theories (Braun and Clarke, 2006). This exploratory approach was particularly appropriate given the limited previous research on start-up packages. Consequently, the original study research questions were reshaped as new themes emerged during the inductive coding process.

Following Braun and Clarke's (2006) guidelines, similar ideas were grouped together to create preliminary themes. Line-by-line coding was then used to create codes and their descriptions. After developing the initial codes, redundant themes were recoded to eliminate redundancy.

Data coding was carried in two phases to ensure clarity and thoroughness in the development of the thematic structures. Initially, two researchers performed it separately, a doctoral student and an assistant professor. Although both researchers were aware of the study's objectives, the inductive and phenomenological approach used for the analysis implied reading participants' responses line by line to uncover codes and subsequently grouping these codes into themes. The initial codes and derived themes identified independently by each researcher were then discussed in two subsequent meetings to reach a consensus and increase the level of intercoder reliability.

During this thematic consensus development process, the researchers adapted and/or identified alternative themes. This iterative process was crucial in validating the themes and categories that emerged from the data. The involvement of two researchers in analyzing the data helped minimize biases in the data analysis process, thus enhancing the construct validity of the results.

RESULTS

From the sample of respondents, 49 were male (41%), 80 (66%) were white (non-Hispanics), 45 (37%) were Assistant Professors, 55 (46%) were from science, technology, engineering, and mathematics (STEM) disciplines, and 27 (30%) held a postdoc position prior to joining the university. Female faculty were less likely to be in STEM disciplines than male faculty (67% versus 33%), $\chi^2(1) = 8.77$, $p = .003$. There was no relationship between gender and faculty rank ($\chi^2(1) = .51$, $p = .776$) or gender and race/ethnicity ($\chi^2(1) = 2.06$, $p = .151$) across genders.

Respondents were asked if they would negotiate their start-up package differently if they could. A total of 95 (79%) respondents would negotiate differently, and there were no significant differences in faculty attitudes regarding the potential re-negotiation of their start-up packages across genders, $\chi^2(1) = 2.43$, $p = .119$).

Six major thematic clusters were identified by the two researchers' consensus in the qualitative data, including the content of start-up packages, faculty perception of important aspects of start-up packages, gender differences in the start-up package agreements, faculty experience with the negotiation process, faculty experience with the negotiation strategy, and faculty perception of the influence of the start-up package experience on their careers. The following section of the results is organized by our research questions and includes both quantitative and qualitative findings. Participants' disciplines were categorized by the National Science Foundation's requirement for data reporting (STEM = science, technology, engineering, and mathematics; SBE = social, behavioral, and economic sciences; Non-S&E = non-science and engineering; Professional/Other, (e.g., communications, parks/recreation/leisure/fitness).

Content of Start-up Packages

To gather information regarding the content of the start-up packages, participants were asked to indicate if they were initially offered a specific benefit or obtained that benefit through negotiations. Some participants who were offered a specific benefit also indicated if they negotiated for the same benefit. Therefore, the count for the total number of faculty who obtained a specific benefit included those faculty only once. Moving expenses were offered to 96 (79%) faculty, indicating it was the most often offered benefit. No faculty were offered child daycare

(0%). The most obtained benefit through negotiation was computer and software, which was obtained by 14 (12%) faculty. No faculty obtained parking (0%) or child daycare (0%) through negotiation. Overall, 101 (84%) faculty obtained moving expenses, representing the most obtained benefit in the start-up package agreement, and no faculty obtained parking. For more information about specific benefits, see Table 1. The qualitative data showed that some faculty received a lump sum of money to purchase specific benefits. "*I was offered startup funds from which I could (and did) purchase computer equipment. But I was not offered computer equipment, per se*." (Male, STEM)

Benefit	Initially offered (*N* = 121)		Obtained through negotiations (*N* = 121)		Total (*N* = 121)	
	n	%	*n*	%	*n*	%
Start-up fund (salary)	71	59	9	7	76	63
Number of years for secured funding	44	36	10	8	51	42
Summer salary	57	47	11	9	64	53
Salary advance	1	1	2	2	3	3
Tenure expectations	58	48	9	7	59	49
Junior sabbatical	1	1	1	1	2	2
Release time	53	44	10	8	57	47
Computer/software	75	62	14	12	83	69
Specialized equipment/software	26	22	10	8	34	28
Lab space	52	43	7	6	55	46
Moving expenses	96	79	13	11	101	84
Paid visit to look at houses	39	32	6	5	44	36
Parking	13	11	0	0	13	11
Child Daycare	0	0	0	0	0	0
Spousal position	7	6	11	9	16	13
Conference & travel	48	40	7	6	50	41
Submission & publication	9	7	3	3	11	9
Administrative support	16	13	4	3	18	15
Student/postdoc funding	47	39	11	9	54	45

Table 1: Specific offered and negotiated benefits in the start-up package offer (source: own survey)

Faculty Perception of Important Aspects of the Start-up Packages

Faculty expressed that the start-up packages should be based on their actual needs to help them establish their research and assist them in becoming experts in their discipline.

> "*I was thrilled to get a start-up package. It seemed to me that it was my responsibility to fund my own research, so the fact that [name of the university] gave me funds to help was excellent. But I think we could better match funds to actual needs* today." (Male, STEM)

Few faculty members believed that a job description, anticipated performance, and performance evaluations should have been part of their start-up package agreement to avoid any miscommunication later in their careers. "*It was never clear my exact expectations in my hiring of [tenure track] position. I was expected to be productive in my scholarship, but that was ill-defined as well*." (Female, Non-S&E)

A few faculty members felt the duration of the start-up package should be more flexible or the period of time during which they could use it should be longer.

> "*Duration of startup funds is far too short and does not accommodate funding success. Why would I lose the only source of flexible funds I have to support my research if I successfully get a grant, which I then need to focus on using*?" (Female, STEM)

One participant indicated that the restricted duration of the start-up packages can lead to inappropriate spending of the financial resources.

> "*[Chair] didn't see it as a "savings account" that you could hold on to for when things come up down the road. It caused me to make some purchases that I really didn't capitalize on; it was wasted money. Had I been allowed to hold on to the funds and spend down gradually, I could have made better use of it*." (Male, STEM)

One faculty member felt that the university's return on investment from start-up packages is significant. On the other hand, other faculty members felt that the return on investment has changed over the years and is currently low.

> "*Current start-up packages are not in line with expectations. The payback period on my start-up was short (Departmental overhead return from my efforts has paid back my start-up by a fact of >15x). Our current junior faculty cannot pay back their startups, assuming departmental averages (and no corrections for inflation) within 30 years. This is not a good use of resources*." (Male, STEM)

Gender Differences in the Start-up Package Agreements

Table 2 presents how female and male faculty obtained the benefits in the start-up package agreements. Male faculty were offered almost all the benefits more often than female faculty; however, only laboratory space ($\chi^2(1) = 4.30$, $p < .05$, $\varphi = .21$) and student/postdoc funding ($\chi^2(1) = 6.42$, $p < .05$, $\varphi = .26$) were offered significantly more to male faculty than to female faculty, both with medium effect sizes, indicating a moderate association between gender and the likelihood

of being offered these benefits. In terms of benefits obtained through negotiation, the only significant difference between genders was found in a specific number of years for secure funding. Male faculty were more often able to obtain a specific number of years for secure funding ($\chi^2(1) = 4.64$, $p < .05$, $\varphi = .22$) in their start-up package agreement through negotiation than female faculty. The medium effect size indicates a moderate association between gender and the likelihood of obtaining this benefit through negotiation. Overall, male faculty more often than their female counterparts obtained almost all the offered benefits; however, only a specific number of years for secure funding ($\chi^2(1) = 4.30$, $p < .05$, $\varphi = .21$), laboratory space ($\chi^2(1) = 5.09$, $p < .05$, $\varphi = .23$) and student/postdoc funding ($\chi^2(1) = 5.09$, $p < .05$, $\varphi = .23$) were obtained significantly more by male faculty than female faculty. All these benefits had medium effect sizes, indicating a moderate association between gender and the likelihood of obtaining these benefits.

Benefit	Initially offered				Obtained through negotiations				Total			
	Female % (*N* = 47)	Male % (*N* = 49)	χ^2	ϕ	Female % (*N* = 47)	Male % (*N* = 49)	χ2	ϕ	Female % (*N* = 47)	Male % (*N* = 49)	χ^2	ϕ
Start-up fund (salary)	53.2	67.3	2.01	.15	12.8	6.1	1.25	.11	59.6	71.4	1.50	.13
Number of years for secured funding	31.9	46.9	2.26	.15	2.1	14.3	4.64***	.22	34.0	55.1	4.3***	.21
Summer salary	44.7	55.1	1.04	.10	6.4	12.2	.97	.10	48.9	61.2	1.47	.12
Salary advance	0	2.0	.97	.10	2.1	0	1.05	.11	2.1	2.0	.00	.00
Tenure expectations	46.8	55.1	.66	.08	6.4	10.2	.46	.07	48.9	55.1	.37	.06
Junior sabbatical	2.1	0	1.1	.11	2.1	0	1.1	.11	4.3	0	2.13	.15
Release time	42.6	49	.4	.06	8.5	12.2	.36	.06	44.7	55.1	1.04	.10
Computer/ software	59.6	63.3	.14	.04	14.9	8.2	1.07	.11	72.3	67.3	.28	.05
Specialized equipment/ software	27.7	18.4	1.17	.11	6.4	14.3	1.61	.13	31.9	30.6	.02	.01
Lab space	34.0	55.1	4.3***	.21	8.5	6.1	.2	.05	36.2	59.2	5.09***	.23
Moving expenses	83.0	83.7	.01	.01	10.6	10.2	.01	.01	87.2	87.8	.01	.01
Paid visit to look at houses	38.3	38.8	.00	.01	6.4	2	1.13	.11	42.6	40.8	.03	.02
Parking	10.6	12.2	.06	.03	0	0	-	-	10.6	12.2	.06	.03
Child Daycare	0	0	-	-	0	0	-	-	0	0	-	-
Spousal position	4.3	4.1	.00	.00	6.4	12.2	.97	.10	10.6	16.3	.66	.08
Conference & travel	46.8	38.8	.63	.08	8.5	2	2.03	.15	51.1	38.8	1.47	.12
Submission/ publication	6.4	8.2	.11	.03	2.1	4.1	.30	.06	8.5	10.2	.08	.03
Administrative support	14.9	16.3	.04	.02	2.1	2	.00	.00	14.9	18.4	.21	.05
Student/postdoc funding	27.7	53.1	6.42***	.26	8.5	10.2	.08	.03	36.2	59.2	5.09***	.23

Note: All chi-square tests have df = 1.

**** p < .05.*

Table 2: Specific benefits in the start-up package agreements obtained by female and male faculty (source: own survey).

Qualitative data showed that some female participants knew that their male colleagues received more benefits in their start-up packages.

> "*It really was a horrible experience. Even though I am relatively happy with my job now, thinking back about what a bad deal I received (and a biased deal because of my sex and my field) makes me wish I had taken another offer.*" (Female, other discipline)

Several female faculty members indicated that they had been treated at the university differently because of their gender.

> "*At the time of my job offer, I was satisfied with the start-up package. In retrospect, I should have negotiated for more. I was not aware that in the future, I would be penalized for being a female when raises were allotted. I did not anticipate being told each year that I would not be paid as much as such-and-such because "he was the breadwinner for his family." Starting with more resources initially would have compensated financially for some of this.*" (Female, STEM)

Faculty Experience with the Start-up Package Negotiation Process and Strategy

At this public university, faculty have had different experiences with the start-up package negotiation process. Multiple faculty members accepted the claim that the start-up package was nonnegotiable. "*I was told I could not negotiate by the chair at the time, which is rather unbelievable in retrospect.*" (Female, SBE)

Some faculty asked for a specific benefit; however, their request was not fulfilled.

> "*I asked for a higher salary during the negotiation phase, which was refused. I asked for a visit to buy a house, which was refused. I asked for moving expenses and was given $3000. I explained that wouldn't even get me halfway to [the state], and the Dean laughed at me on the phone and said, "No way, we don't give more than that.*"" (Female, other discipline)

On the other hand, one faculty indicated he received everything he asked for.

> "*I did not negotiate. When asked about the start-up needs, I provided what I needed (salary, $, equipment, time, space), and I was given this. I explained that this is what it would take to bring me here. There was no negotiation*." (Male, STEM)

A few faculty members were not satisfied with the negotiation process or the outcome of the negotiation. "*It was absurd. $10,000 and no immediate tenure for someone with 30+ years of experience. Out of the $10,000, I had to buy furniture and computer*." (Male, Non-S&E)

Several faculty members noted other people influenced the negotiation. Specifically, faculty pointed out that their negotiation was influenced by a departmental chair, dissertation chair, principal investigator, previous hire, or family member. "*I negotiated for a minimal amount of moving expenses. I was advised by my dissertation director not to ask for anything else besides a lecturing position for my spouse, which was granted. I feel now that this was bad advice*." (Female, other discipline)

Additionally, a few faculty members suggested that their negotiation process was influenced by the availability of resources at the university or by the job market.

> "*I was at the tail end of several consecutive years of hiring. Most negotiations were halted with the reply that - that's what we've been giving out for the past X years. I was not satisfied with the outcome of the negotiations, but it did not prevent me from coming. I didn't feel petty or personal, just that [university name] is severely resource-limited…*" (Male, STEM)

A few faculty members suggested that there might be differences in the start-up packages based on the date the start-up package was negotiated. "*I cannot find justification for the variability across offers other than "more funding was available to the dean/department chair/etc. at different times", and this seems sadly unfair to us as hires*." (Male, STEM)

Some faculty implied that they experienced problems administering some of the benefits promised in the start-up package agreement. "*I haven't had good advocacy from the chair for follow-through on things promised in the offer letter, or necessary for my success (lab space, access to land & greenhouses)*." (Female, STEM)

Faculty members who responded that they would negotiate differently were asked an open-ended question about how they would have navigated the negotiation differently. Therefore, most of the qualitative data obtained were related to a specific negotiation strategy.

A few faculty members who negotiated reported that they would ask for more during the negotiation, and some would negotiate more forcefully.

> "*I had to take a pay cut in my basic salary to move to [name of the town] -- attempts to get a salary match proved exhausting (and fruitless), and I ended up not negotiating much on the remaining part of the offer*." (Unknown gender and discipline)

Other respondents were more specific and explained what they would ask for in their start-up package. Specifically, faculty would ask for more financial resources, specific equipment, higher salary, more financial resources for graduate students, more office or laboratory space, more financial resources for traveling, more administrative assistance, money to cover their summer salary, more financial resources for a postdoctoral position, more financial resources to cover their moving expenses, less teaching load, eligibility for sabbatical, specific software, keep tenure from previous institution, job position for spouse, more mentoring, and a newer vehicle. "*I should have also negotiated more funds for competitive student support. The student years offered at the time were not competitive enough to attract top talent to the university*." (Male, STEM)

In addition to specific benefits, some faculty would negotiate to have more flexibility in terms of the duration of the start-up package and flexibility in terms of using their financial resources. "*I also would have put dates in because I was told it could carry over and then at the last minute that was rescinded*." (Male, STEM)

A few faculty felt that they were not prepared enough for the negotiation. Therefore, they would prepare by gathering more information about faculty needs, the negotiation process, salaries, and packages of other faculty.

> "*This was my first job out, and I didn't have a good understanding/ appreciation of what it would take to get my research program off the ground. I would have asked for more and come in with a specific plan for how it would build me towards becoming an expert in my field*." (Unknown gender and discipline)

Multiple faculty members felt it would be important to have all the aspects of the start-up package agreement in written form rather than only in verbal agreement. "*There were some things that were verbally agreed and that were missing in the final document I signed. I would carefully read through the entire document before signing it next time. I should not have trusted that all the information was there*." (Female, STEM)

Other respondents stressed that they would be more specific in defining specific terms of their start-up package agreement.

> "*They promised me "graduate student support," and I thought that meant I could recruit a student at a competitive stipend, which turned out to be "pick one of the students we already accepted as a TA at $9000 a year (when the going rate was $16,000)*." (Female, STEM)

Faculty Perception of the Influence of Start-up Package Experience on Their Careers

Participants commented on the influence of the start-up package on their careers. Their comments were coded as positive and negative reactions. Most of the comments indicated negative outcomes of the faculty start-up package experience.

A few faculty suggested that their start-up packages negatively influenced their job performance and made their everyday work challenging. "*Not even a single study is possible from this money*." (Unknown gender, professional other discipline)

> "*My chair negotiated hard with me. In hindsight, I see that as harming both the department and me. My productivity was adversely affected by insufficient graduate student support and insufficient cash for procuring equipment. Had I had more of those resources, my career would have grown more rapidly, benefiting myself and the department*." (Unknown gender, STEM)

"*I really need lab space to keep my equipment, run participants through studies, meet with my lab team, etc. I have hurt my back twice carrying things in and out of offices to use other people's spaces for lab work. Really difficult*." (Female, other discipline)

Multiple participants noted that if they negotiated their start-up package again, they would not accept the offer or that they would leave the university. "*It made me consider leaving and soured me on the institution a bit*." (Female, another discipline)

Other faculty members felt that the limited resources provided in start-up packages could result in the loss of the best faculty candidates during the hiring process and a bad reputation for the university.

"*We tend to lowball people on start-up packages, which means we lose a lot of good people to other institutions that are willing to invest in people. I was able to negotiate (not without some effort and a competing offer) a startup package that allowed me to get a reasonable start. But I almost went to another university (that was otherwise worse in all respects) because [name of the university] was stingy with resources*." (Male, STEM)

Numerous faculty members felt that they were not treated fairly during the negotiation or that the start-up package agreement was not honored during the administration of the specific benefits.

"*When I came to [name of the university], it was a free-for-all, and one's ability to negotiate was key. I had some advice from my PI about what to ask for, and I thought I got it, but when I arrived, it was the letter of the agreement and not the spirit. My only comfort was that others who arrived the same year had to threaten court and go to the university's president to enforce the terms of their start-up. [Name of the university] did not treat the start-up contract as a contract*." (Female, STEM)

"*Considering that the startup is CRITICALLY related to setting up a research program and that the results of our research program are critical determinants of our tenure process, I sincerely hope that unfairly low startups have not and will not cost any of my colleagues a fair chance at tenure*." (Male, STEM)

Other faculty, especially women, felt that they were treated unfairly because they received fewer financial resources or benefits in their start-up packages compared to other faculty, to other universities, to previous jobs, or compared to male faculty. "*When I got to [name of the university] in my first year, I found out that the male assistant professor hired into the same department and in the same year literally got 4X the start-up package that I did*." (Female, STEM)

Additionally, some faculty noted that their college does not offer start-up packages or does not offer sufficient start-up packages.

"*I also feel that [name of a department] was/is not given enough resources by the university to allow the department to properly sponsor our development as scholars in the way that a start-up package would, although the expectations for our scholarly production are commensurate with many R1 institutions*." (Female, other discipline)

Some faculty expressed a concern that their start-up package was insufficient and did not fulfill its purpose. "*Start-up package was inadequate to quickly initiate a successful research program*." (Unknown gender, STEM)

For others, insufficient funds lead to the need to obtain finances from different resources.

"*When my start-up package was cut, I had to spend my travel budget money to buy software, and I had to write several grants just to get the basic equipment to do my research, and I couldn't offer a lab class for a couple of years until I was able to win enough grant money to buy supplies*." (Female, SBE)

Few faculty members perceived that their experience with start-up package negotiation and administration was fair and positive. "*I was very pleased with my negotiations coming in. I felt the process was transparent & fair*." (Female, other discipline)

DISCUSSION

This study examined faculty experience with start-up packages at one public university in the Southeastern U.S. Regarding the content of start-up package agreements. Most faculty start-up package agreements included moving expenses, personal computers and software, and start-up funds. A few faculty members indicated that their start-up package agreement had a lump sum of money, and they could spend it as needed. This is unsurprising as most universities typically have limited resources for actual start-up money and instead typically provide equipment and specific benefits (Hamann, 2013). The least common benefits were child daycare, guaranteed junior sabbatical, and salary advancement. The lack of offered child daycare can disproportionally influence female faculty (Holley and Young, 2005). A study conducted by Tower and Latimer (2016) showed that childcare issues influenced female faculty's ability to travel to conduct research, attend conferences, and give invited talks. Overall, because the content of start-up packages differs among universities and disciplines (Eisenberg, 2011), comparisons are limited, though this study can serve as the baseline for other universities.

A critical goal of start-up packages is to help faculty establish their research projects until they can secure further funding (Rancourt, 2010). Faculty affirmed that their start-up package should be based on their individual needs to establish their research programs. Whether the amount of money invested by the university into the start-up packages can be generated back in the grant revenue by the faculty is an open question. Ehrenberg et al. (2003) examined the five-year return on investments for 25 newly hired faculty into basic science disciplines. They concluded that the faculty could not generate enough revenue from grants to cover their start-up packages in five years. Although this study did not examine the return on investment, faculty expressed various views on whether this was realistic within short time frames.

Several gender differences were found. Male faculty were able to obtain three of the benefits significantly more often than female faculty: a specific number of years for secure funding, laboratory space, and student or postdoc funding. This result corroborates previous research that showed female faculty receive less laboratory and office space, have less access to graduate students, and have less administrative support (Park,

1996). All three benefits that were received more by male faculty are crucial for faculty successful careers. As O'Meara (2015) pointed out, insufficient laboratory space can be one of the factors that influence a faculty's decision to look for and potentially accept an outside job offer. Once known, over time, this type of perceived injustice and favoritism can influence job outcomes such as faculty satisfaction, job performance, and turnover intentions and can undermine faculty trust in the university (Graso et al., 2014; Howard and Cordes, 2010; Ismail et al., 2015; Williams et al., 2006).

Overall, there were no consistent experiences with the start-up package negotiation process. Some participants realized that they were treated unfairly during the negotiation after they gathered more information about start-up packages offered to other faculty or by other universities. Part of this disgruntlement likely comes from the participants' perceptions that they could not negotiate. Other studies have pointed to possible reasons new faculty fail to negotiate more successfully and suggest strategies including understanding the job market (Berman and Gottlieb, 2019), considering external job opportunities when considering departure (Daly and Dee, 2006), and having a greater understanding of the resources necessary for career advancement (Lalani et al., 2019).

Regarding the influence of start-up packages on faculty careers, participants perceived both positive and negative outcomes with the start-up package negotiation process. Some participants indicated that their start-up package was insufficient to conduct research, which prompted them to secure external funding. An alternative is to implement research that requires only minimal funding, which can potentially lead to a decrease in research at the university (Toews and Yazedjian, 2007). Finally, several faculty members felt that the start-up package influenced their job performance and turnover intentions. Although inquiring further was beyond the scope of this study, de la Torre-Ruiz et al. (2019) found that benefit determination and benefit administration satisfaction influence turnover intentions through perceived organizational support. Previous studies showed that space allocation, salary, travel funds, release time, and sabbaticals influence faculty turnover (Rosser, 2004).

Limitations

This study has many strengths, including its detailed narratives obtained from faculty across disciplines. However, this study has some limitations. Data were collected from a single university situated within a specific geographic context; therefore, the ability to generalize the results to other higher education institutions is limited. In addition, the institutional approach to start-up packages varies across different systems (tenure and non-tenure), types of institutions (public, private, and research), faculty responsibilities (research, teaching, public service, and administration), and faculty rank (assistant, associate, and full). Moreover, start-up packages may be influenced by how aggressively universities pursue various institutional goals related to mission priorities such as diversity and status.

Future Research

Future research should examine in more detail how start-up packages influence faculty careers differently based on the intersectional influence of variables other than gender (e.g., race) since previous research showed that the intersectional effect of gender and race can influence negotiation behavior (Toosi et al., 2019). Additionally, future research should focus on the return on investments for universities to define the most cost-effective start-up packages. Studies that would gather data from the actual start-up packages would be beneficial for a more accurate indication of the content of the start-up packages rather than self-reported data. Further research is needed to study the effect of different start-up packages on faculty careers longitudinally. It would be helpful to compare faculty performance with start-up packages with different contents or values. Exanimating specific benefits in the start-up packages can help the university better understand how to improve faculty performance and achieve higher investment returns.

Implications

Findings from this study suggest that administrators might benefit from taking steps to foster a positive experience with start-up packages for its faculty. People involved in the negotiation process (e.g., department chairs and administrators) should undergo training on negotiating mutually satisfying start-up package agreements that would help advance not only the new faculty but also fulfill the university research's mission and retain successful faculty at the university. The training should also reflect gender differences in the negotiation strategies (Amanatullah and Morris, 2010) and differences in the treatment of male and female negotiators (Bowles et al., 2007) to prevent a backlash against female faculty and to reduce gender bias in the negotiation.

As many future faculty members are unprepared for negotiating start-up packages, graduate students should be better prepared for the negotiation process. Students should be informed about faculty job responsibilities and job descriptions at diverse institutions, which would help them create a list of their start-up package preferences. Enhancing negotiation competencies is particularly critical for women and underrepresented minorities and can reduce disparities in compensation and resources available for junior faculty (Holliday et al., 2015).

CONCLUSION

In this study, start-up package agreements commonly included moving expenses, personal computers and software, and start-up funds for most of the faculty from one public university in the Southeastern U.S. On the other hand, child daycare, guaranteed junior sabbatical, and salary advancement were the most missing benefits in the agreements, which were relevant considering the importance of the child daycare benefit in facilitating equitable development for female faculty. Male faculty, significantly more often than female faculty, could obtain a specific number of years for secure funding, laboratory space, and student or postdoc funding. Faculty perceived that the start-up package should be based on the individual needs to establish their research programs. However, several faculty members reported that if they could renegotiate, they would do so for more specific benefits that better reflect their needs. Overall, faculty were not well prepared for the negotiation process and unaware of what they

needed to establish a successful research program. The start-up packages are important for faculty and universities, largely through the generation of grant revenue. Therefore, universities should focus more on the influence of start-up packages on faculty careers. Perceived unfair treatment during the process or the administration of the start-up package can have long-term impacts on faculty performance and turnover intentions.

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