A NATIONAL STUDY OF INSTITUTIONAL POLICY ADOPTION FOR NON-TENURE TRACK FACULTY MEMBERS

A Dissertation Defense

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The Faculty of the Curry School of Education

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Doctor of Philosophy

By

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ABSTRACT

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The following dissertation will be the first in fifteen years to provide descriptive information to the U.S. postsecondary community about the prevalence of policies available to non-tenure-track faculty members at traditional four-year institutions. Moreover, this research identified and experimented with best-practices in surveying higher education administrators, namely provosts and vice provosts. Utilizing the three manuscript dissertation option, these three manuscripts were intentionally designed as three related and interconnected studies that build on one another.

Manuscript 1-Methodological Manuscript

The primary research question for the methodological manuscript is as follows: For administrators working at traditional four-year institutions, what combination of online survey platform(s) and mid-administration platform alternatives yield the highest response rates? The sample population was all 1,189 Title IV granting, tenure-granting, public and private, non-profit, four-year higher education institutions in the United States, classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. Additionally, the sample population only included institutions that submitted data to the Integrated Postsecondary Education Data System (IPEDS), which collects institutional information via surveys on an annual basis and is required by all institutions that receive federal funding. After a pre-notification, an invitation to participate, and three reminders, 40.3% of institutions completed the survey. All institutional administrators who received the survey were personally addressed by name in each email, received information about the other personnel member who was contacted, received targeted reminders for nonresponding institutions, and were offered an incentive to

participate. However, there were four experimental conditions during the administration process, and the experimental group that had the highest response rate (47.5%) was that of university administrators, who received the web-based survey at the beginning of the survey administration and were offered an alternative to complete a fillable online PDF version during the second week of administration. Based on the results of these findings, practitioners should further experiment with and utilize low-cost mixed-mode and online administration techniques to boost response rates.

Manuscript 2-Descriptive Manuscript

The primary research question for the descriptive manuscript is as follows: For a national sample of traditional four-year non-profit higher education institutions, what policies are most prevalent and discrepant across non-tenure-track faculty (NTTF) and tenure/tenure-track faculty (TTTF) populations? To answer this research question, I merged the National Survey of Postsecondary Faculty Policies (NSPFP) with the Integrated Postsecondary Education Data System (IPEDS) data. As part of their participation in the NSPFP, institutional administrators identified whether their institution had specific policies and resources (or required departments/schools to have policies and resources) for 18 different policies. Moreover, respondents answered the policy questions for four different faculty groups including part-time NTTF, full-time NTTF, tenure-track faculty, and tenured faculty (TTTF). For most policies and resources, there is a hierarchy whereby TTTF have the most resources and policies that support their employment, and NTTF, especially part-time NTTF, have far fewer policies and resources that support their employment. Policies that supported faculty professional development and inclusion in campus governance structures were particularly discrepant across NTTF and TTTF groups. Across Carnegie classifications, doctoral/research universities were more likely than

baccalaureate universities to have equal performance-based policies between NTTF and TTTF groups, such as merit-based salary increases, annual performance evaluations, and promotions in rank. Given that the two areas of greatest policy divergence between NTTF and TTTF were among governance and professional development policies, these policies should be targeted for future research and practice to further discern the ways in which institutions may improve governance and professional development policies for NTTF.

Manuscript 3-Multivariate Manuscript

The primary research question for the multivariate manuscript is as follows: For a national sample of traditional four-year non-profit higher education institutions, what institutional factors relate to the prevalence of policies that support NTTF? To explore this research question I analyzed data from the National Survey of Postsecondary Faculty Policies (NSPFP) and the Integrated Postsecondary Education Data System (IPEDS). The dependent variables in the multivariate regression analyses included a summation of the total number of policies—excluding governance-related policies—for part-time NTTF and full-time NTTF separately. The governance policies were inserted as independent dummy variables to account for the critical role that governance systems have in shaping faculty policies at the institutional and departmental/school-levels and in alignment with Bolman and Deal's (2008) structural framework. Other independent variables included institutional characteristics such as Carnegie classification, proportion of revenues that were federal appropriations, institutions affiliation as a right-to-work state, among others. Institutional characteristics only accounted for less than 13% variance in any of the regression analyses and faculty inclusion on university and departmental governance structures were the most important predictors, alone accounting for greater than 17% variance in each regression analysis performed. Although a strong correlation exists between

governance policies and policy prevalence for NTTF groups, this may be related to institutions' valuation of NTTF generally and thus indirectly correlated with overall policy prevalence. Qualitative studies have indicated that NTTF governance inclusion is important in order to create working environments that support NTTF, this study corroborated these suggestions and provided more extensive correlational data. Moving forward, institutions should improve the clarity of their governance inclusion or exclusion policies, making eligibility requirements clear and accessible to part-time and full-time NTTF. Given that NTTF may view governance participation unfavorably, institutions should also explore ways to encourage and support NTTF participation in university and departmental governance structures.

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APPROVAL OF THE DISSERTATION

This dissertation defense, A National Study of Institutional Policy Adoption for Non-Tenure Track Faculty Members, has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of the Doctoral of Philosophy.

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DEDICATION

To my teachers, past, present, and future:
Your dedication is inspiring,
the challenge you provide is critical for learner growth,
and the support and compassion you give is balanced and welcomed.

You have challenged me and supported me while I pursued my dreams, for which I am forever grateful.

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To my mom and dad, at every point in my educational experience you were my biggest fan-base. Your optimism and belief in my abilities and eventual success was unwavering. Not only were you emotionally supportive and engaged, but you were also physically present during each educational transition—helping me pack and unpack my belongings as I transitioned into each degree program/school, attending my dissertation defense, and making it a priority to see me as I moved farther away with each transition.

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Finally, to my husband, Rob Lane. Whenever you see the opportunity to help, you do, whenever you see the chance to provide an affirming hug, you do, whenever you see the opportunity to infuse some cheer, you do. You do these things instinctually and without request. You have encouraged me to take an extra breathe, listen to the sounds around me, make some funny sounds myself, celebrate my successes, outwardly embrace my inner nerd, and balance both independence and dependence in a marriage filled with love, respect, patience, and gratitude. Thank you for being my favorite teacher and for bringing beautiful music, compassion, and love into my life.

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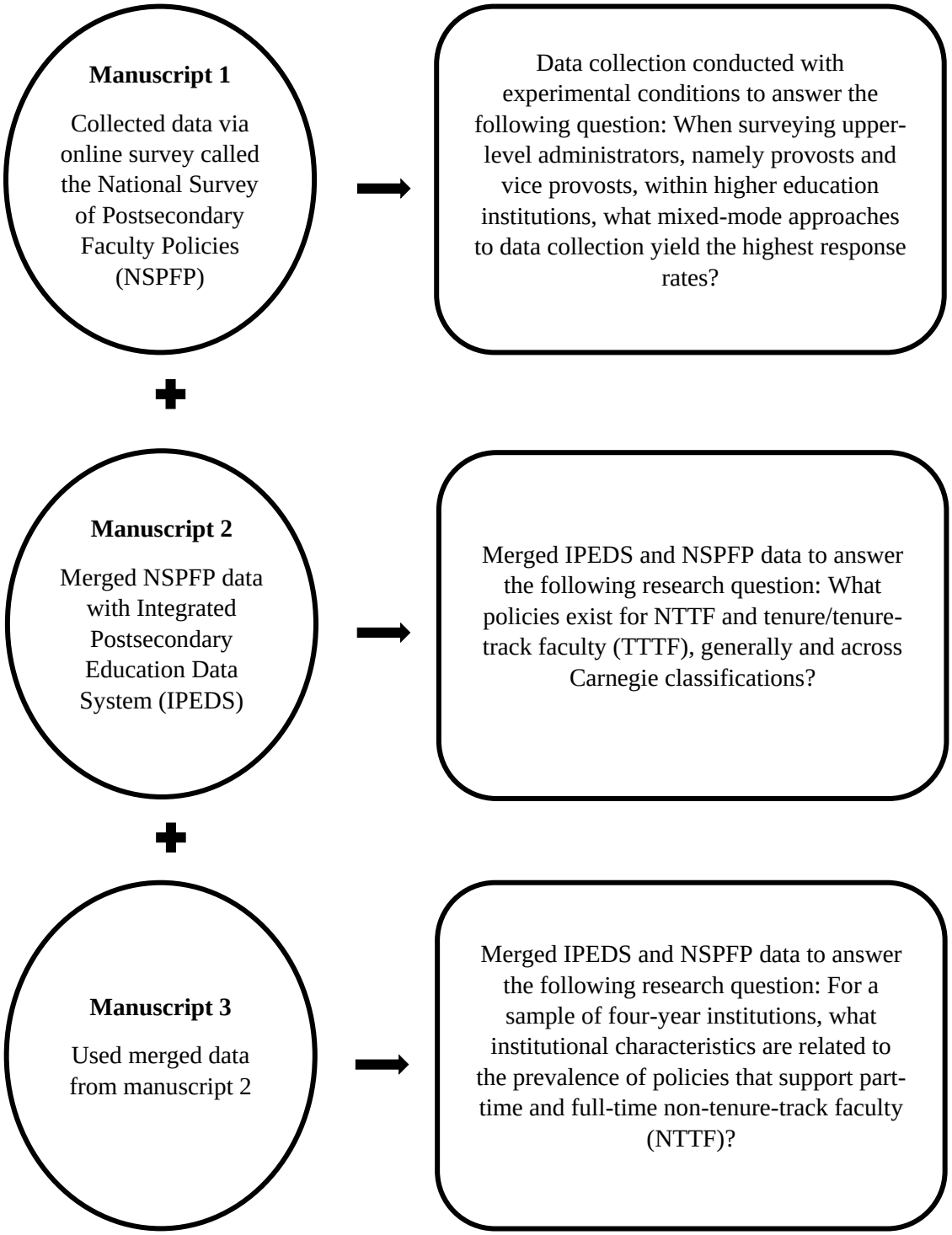
LINKING DOCUMENT

Three Manuscript Dissertation Linking Document

The following dissertation contributes to the field of higher education by collecting and analyzing data about policies concerning non-tenure-track faculty (NTTF) members and best-practices in surveying higher education administrators. Practitioners and scholars have frequently referred to NTTF as full-time non-tenure-track (FTNTT), part-time instructors, contingent faculty, adjunct faculty, contract faculty, or research faculty (Baldwin & Chronister, 2001; Cross & Goldenberg, 2009; Gappa et al., 2007; Kezar & Sam, 2010; O'Meara, Terosky, & Neumann, 2008). This research was pragmatically and practically driven and sought to disseminate data and knowledge in areas where systematic data a) has never been collected or b) was collected 15 years ago. Moreover, these manuscripts were intentionally designed as three related and interconnected studies that build on one another. The three manuscript option was ideal given that one manuscript focused on survey methodology and was not focused on a *topic* (i.e., NTTF policies), but on the methodological approach to administering and collecting survey data about NTTF. The second manuscript linked the NTTF survey data with institutional data and described the existence of faculty policies, generally and across different Carnegie classifications. Finally, the third manuscript used the same dataset and correlated the prevalence of NTTF policies with institutional attributes. Figure 1 illustrates the manuscript data collection and merging processes along with the core research questions for each manuscript.

Moving forward, I will refer to manuscript 1 as the "methodological" manuscript, manuscript 2 as the "descriptive" manuscript, and manuscript 3 as the "multivariate" manuscript. To match the flow and organization of the three manuscripts, the remainder of this document provides summaries and tables (where applicable) to demonstrate the alignment of and distinctions among these three manuscripts. For example, I will provide a brief introduction and

Figure 1
Manuscript Data Collection and Research Question Diagram



review of the literature explored in each study, followed by a review of the associated theoretical frameworks across the three pieces.

Summary of the Literature Reviews

The three literature reviews drew from two primary research areas: survey research methodology and research on NTTF members' experiences in higher education institutions. For the methodological manuscript, the literature review examined experimental studies with a particular emphasis on mixed-mode surveys. For example, I explored mixed-mode administration options, which included concurrent and sequential mixed-mode offerings and the efficacy of two web-based administration modes for data collection.

For the descriptive and multivariate manuscripts, I explored research on NTTF members' perceptions of their work environments. The perceived unsatisfactory working environments experienced by NTTF have prompted scholars and policy-makers to recommend policies that support NTT-faculty members' employment, such as merit-based promotion, multi-year contracts, full benefits, funds to pursue professional development, and inclusion of NTTF on governance committees. Although NTTF members' *general* satisfaction has historically not been significantly different than their tenured or tenure-track counterparts, the literature drew attention to the ways in which unsupportive NTTF policies correlated with or affirmed NTTF members' negative perceptions about *specific* aspects of their professional lives and aspects of their institutions. The literature review informed the specific policies explored in this dissertation and illuminated the discrepancies between NTTF and their tenured and tenure-track (TTTF) counterparts, whereas the theoretical framework identified systemic injustice between the two groups and provided a conceptual structure for the statistical models in the descriptive and multivariate manuscripts.

Summary of the Theoretical and Conceptual Frameworks

The methodological manuscript was not theoretically described in the same capacity as the descriptive and multivariate manuscripts, as the literature review for the methodological manuscript provided a detailed rationale for the decision-making processes that informed the survey design. Conversely, the descriptive and multivariate manuscripts both utilized more traditional theoretical and conceptual frameworks. For the descriptive manuscript, the theoretical framework addressed hierarchical microaggressions (Young, Anderson, & Stewart, 2015) found in faculty ranks (NTTF vs TTTF) and the systemic oppression experienced by NTTF and framed by Morton Deutsch's (2006) theory on oppression and injustice. This theory was used to illuminate the different examples of oppression and hierarchical microaggressions that distinguished NTTF and TTTF members' working conditions. Despite the presence of various institutional practices that sustain injustices and microaggressions, Deutsch notes that these acts and practices are often unintentional and built into organizational norms. I used aspects of Deutsch's (2006) framework in the multivariate manuscript and incorporated Lee G. Bolman and Terrene E. Deal's 2008 *Reframing Organizations: Artistry, Choice and Leadership.* Specifically, the multivariate manuscript incorporated Bolman and Deal's structural, political, and human resources frameworks, thus connecting the aspects of organizational climates that were related to employee working conditions and support.

Building upon the variables and concepts mentioned in the literature review and theoretical framework summary, the next section of this linking document summarizes the data collection and data analysis. Additionally, Table 1 identifies all the variables collected and analyzed as part of the study. The first column identifies the variable, the second column identifies the data source, and the third column identifies the manuscript(s) associated with each

variable or construct. Additional information on these variables, such as variable type, are presented in each respective manuscript.

Table 1
Variables Used Across All Three Manuscripts

Variable	Survey[a]	Included in Manuscript[b]
Structural and Political Variables		
Structural IPEDS variables:		
Public institution	IPEDS IC	2 & 3
Carnegie Classification	IPEDS IC	2 & 3
Proportion of full-time faculty not on tenure-track	IPEDS HR	2 & 3
Proportion of part-time instructional staff (as their primary function)	IPEDS HR	2 & 3
Total 12-month undergraduate and graduate student enrollment	IPEDS FE	2 & 3
Proportion of enrollment represented by undergraduate students	IPEDS FE	2 & 3
Structural NSPFP (Governance) variables:[c]		
Representation on university governing boards (e.g., faculty senate)	NSPFP	1, 2, & 3
Involvement in department or school-level governance structures (e.g., curricular committee)	NSPFP	1, 2, & 3
Political variables:		
Endowment per FTE	IPEDS IC	2 & 3
Proportion of revenues that are federal appropriations	IPEDS FR	2 & 3
Percent of students receiving federal grant aid	IPEDS FA	2 & 3
State policy prohibiting collective bargaining	State Data	2 & 3
Human Resources (Policy) Variables[d]		
Contract-related policies:		
Defined dates for contract renewal and/or termination	NSPFP	1, 2, & 3
Defined probationary period (similar to pre-tenure)	NSPFP	1, 2, & 3
Multi-year appointments following a probationary period	NSPFP	1, 2, & 3

Performance policies:		
Explicit evaluation criteria (e.g., evaluation based on teaching, research, etc.)	NSPFP	1, 2, & 3
Regular (at least annual) performances review or evaluations	NSPFP	1, 2, & 3
Academic promotions in rank (e.g., lecturer, senior lecturer)	NSPFP	1, 2, & 3
Merit pay increases based on performance	NSPFP	1, 2, & 3
Professional development policies:		
Paid sabbatical	NSPFP	1, 2, & 3
Financial support to pursue professional development related to research	NSPFP	1, 2, & 3
Financial support to pursue professional development related to teaching	NSPFP	1, 2, & 3
Benefits policies:		
Full fringe benefits	NSPFP	1, 2, & 3
Family leave benefits	NSPFP	1, 2, & 3
Standard resources and support:		
Academic freedom protection	NSPFP	1, 2, & 3
Institutional orientation	NSPFP	1, 2, &3
Individual office space	NSPFP	1, 2, & 3
Administrative support	NSPFP	1, 2, & 3

[a] NSPFP is the National Survey of Postsecondary Faculty Policies, and for the Integrated Postsecondary Education Data System (IPEDS) datasets, IC refers to Institutional Characteristics, HR refers to Human Resources, FE refers to Fall Enrollments, FR refers to Financial Resources, and FA refers to Financial Aid.
[b] "1" refers to the methodological manuscript, "2" refers to the descriptive manuscript, and "3" refers to the multivariate manuscript.
[c] The governance variables were included in the structural category in alignment with the conceptual framework (Bolman & Deal, 2008), which is explained further in manuscript 3.
[d] For all the policy variables, a reference to manuscript 1 is included in this section of variables because manuscript 1 collects the data for these variables, which are subsequently used in both manuscript 2 and manuscript 3.

Summary of the Data Collection

The sampling plan outlined in the methodological manuscript identifies the sampling requirements that address the methodological manuscript sampling needs but also the descriptive and multivariate manuscript sampling needs. The sampling plan set forth in the methodological

manuscript accommodates the needs for both the descriptive and multivariate manuscripts. Briefly, the sample population was all 1,189 Title IV granting, tenure-granting, public and private, non-profit, four-year higher education institutions in the United States, classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. Additionally, the sample population only included institutions that submitted data to the Integrated Postsecondary Education Data System (IPEDS), which collects institutional information via surveys on an annual basis and is required by all institutions that receive federal funding. Moving forward, I refer to the sample population as "traditional four-year institutions." Due to sampling needs and expected response rates, I surveyed administrators from all 1,189 institutions. The survey sought to collect data on the existence of policies for TTTF and NTTF at their respective institutions. This data was merged with the IPEDS data to answer research questions proposed in the descriptive and multivariate manuscripts, respectively.

Summary of the Data Analysis

Given that the data analyses were directly linked to the research questions in each manuscript, Table 2 identifies the more nuanced research questions and the associated analyses for each manuscript, focusing on the main types of analysis and not all of the data-preparation analysis and testing (e.g., tests for normality) which are included in each respective manuscript. Finally, Table 1 lists all the variables utilized in this study, the corresponding data source (or survey), and the manuscript (i.e., 1, 2 and/or 3) that uses each variable. The final section describes the importance and relevance of the proposed dissertation's manuscripts.

Table 2
Research Questions and Associated Analysis

Manuscript and Detailed Research Question	Primary Method for Data Analysis
Methodological Manuscript (Manuscript 1)	
For administrators working at traditional four-year institutions, what combination of online survey platform(s) and mid-administration platform alternatives yield the highest response rates?	Chi-squared tests among different experimental groups.
Descriptive Manuscript (Manuscript 2)	
For a national sample of traditional four-year non-profit higher education institutions, what policies are most prevalent and discrepant across NTTF and TTTF populations?	Descriptive statistics and variable computations to understand policy-by-policy existence across faculty groups and the most frequent instances of policy discrepancies between NTTF and TTTF.
Multivariate Manuscript (Manuscript 3)	
For a national sample of traditional four-year non-profit higher education institutions, what institutional factors relate to the prevalence of policies that support NTTF?	Multiple regression analysis whereby the dependent variables are the policies that support NTTF and the independent variables are institutional characteristics.

Importance of Research

The following dissertation will be the first in fifteen years to provide descriptive information to the U.S. postsecondary community about the prevalence of policies available to non-tenure-track faculty members at traditional four-year institutions. Moreover, by highlighting the institutional characteristics associated with NTT-supportive policies, NTTF members themselves may have a better understanding of the institutional environments that support and value their contributions to the higher education community. Additionally, the experimental survey design utilized for this study will illuminate best practices for surveying senior higher education administrators with low-cost, accessible survey methods. Policy makers, researchers,

and higher education practitioners who collect information from university senior level leaders may find the survey administration practices and new policy data relevant to their work.

Summary of Results and Discussion

In the following section, I summarize key results and discussion points for each manuscript. Where relevant, I reproduce entire or partial results for the manuscripts in order to illustrate the findings.

Manuscript 1

Two administrators, namely provosts and vice provosts, from each of the 1,189 four-year institutions received the National Survey of Postsecondary Faculty Policies via an electronic email message. After a pre-notification, an invitation to participate, and three reminders, 40.3% of institutions completed the survey. However, there were four experimental conditions during the administration process, and the experimental group that had the highest response rate (47.5%) was that of university administrators, who received the web-based survey at the beginning of the survey administration and were offered an alternative to complete a fillable online PDF version during the second week of administration. Secondarily, though not significantly less so, the group that only received the web-based survey had the second highest response rate (45.8%). These aforementioned response rates were significantly higher than respondents who received a fillable electronic PDF form initially and were offered the web-based version during the second week (35.9%) or the last week (31.9%), though the response rates between the two PDF groups were not significant. I provide a summary of the final response rates and results in Table 3.

Table 3
Results by Experimental Group and Response Date

	Response Rate AFTER Final Reminder	
	Did Not Participate	Participated
PDF then Web-based during last reminder (n=295)	68.1%	31.9%*
PDF then Web-based during second week (n=298)	64.1%	35.9%
Web-based (n=301)	54.2%	45.8%*
Web-based then PDF during second week (n=295)	52.5%	47.5%*
TOTAL	59.7%	40.3%
Pearson Chi-Square		0.000

*Indicates that the adjusted standardized residual for the group and analysis has an absolute value greater than or equal to 2.0. This table is a partial reproduction of Table 6 in manuscript 1.

In both cases, an alternative mode offered during the second week of administration resulted in higher response rates. Moreover, the standard online survey offered via the web-based platform yielded higher response rates than the fillable PDF option. These results were consistent with other research in which mode alternatives boosted response rates. This research was different in that both mode alternatives were low-cost online administration modes rather than high-cost alternatives like paper or phone modes. More research should be conducted with larger sample sizes to determine if these trends are consistent or if other factors may contribute to the relative success of the online fillable PDF alternative in conjunction with the web-based survey. For example, the total survey length and time commitment were more apparent after opening the PDF survey. Although this survey was only three pages in length and took approximately nine minutes to complete, a longer survey could deter respondents who would have otherwise completed the traditional web-based version. For this reason, future research should not only experimentally test online alternatives, but also the length of the actual surveys for online

alternatives. Based on my observations during the survey administration fielding, future research may also explore the quasi-carbon-copy (CC) method I used to contact university administrators. In many cases, the quasi-CC approach prompted university administrators to assign or negotiate survey participation, thus creating an informal system of accountability and perhaps an untested social psychology experiment for future survey research.

Manuscript 2

Within the National Survey of Postsecondary Faculty Policies (NSPFP), institutional administrators identified whether their institution had specific policies and resources (or required departments/schools to have policies and resources) for 18 different policies. Moreover, respondents answered the policy questions for four different faculty groups including part-time NTTF, full-time NTTF, tenure-track faculty, and tenured faculty. The main policy categories included contract-related policies (CRP), performance policies (PP), professional development policies (PDP), benefits policies (BP), standard resources and support policies (SRSP), and governance policies (GP). The policy grouping with the largest discrepancy between NTTF and TTTF populations were professional development policies and governance policies. As indicated in Table 4, all of the associated policies were among the eight most discrepant policies. Conversely, policies and resources between NTTF and TTTF were mostly equal for the standard resources and supports classification, in which each of the associated policies were within the eight *least* discrepant policies outlined in Table 4. Across Carnegie classifications, doctoral/research universities were more likely than baccalaureate universities to have equal performance-based policies between NTTF and TTTF groups, such as merit-based salary increases, annual performance evaluations, and promotions in rank.

Manuscript 3

For the regression analyses, I summed the total number of policies—excluding governance-related policies—for part-time NTTF and full-time NTTF separately. One summation included all 16 non-governance-related policies and the second summation included the most discrepant policies, as listed in Table 4. The governance policies were inserted as independent dummy variables to account for the critical role that governance systems have in shaping faculty policies at the institutional and departmental/school-levels. The other independent variables are listed in Table 1 and include other institutional characteristics that are classified as structural and political in nature, for example, Carnegie classification (structural) and the proportion of revenues that were federal appropriations (political). Although the structural and political variables only accounted for less than 13% variance in any of the four regression analyses, faculty inclusion on university and departmental governance structures were the most important predictors, alone accounting for greater than 17% variance in each regression analysis performed. For example, when the dependent variables were part-time NTTF policy prevalence, the governance-related variables accounted for 27.6% and 31.5% of variance explained for the 16-policy and discrepant 8-policy dependent variables, respectively. Similarly, the governance-related variables account for 22.8% and 17.0% of the variance explained in the full-time NTTF 16-policy and 8-policy regression analyses, respectively. Although qualitative studies have indicated that NTTF governance inclusion is important in order to create working environments that support NTTF, this study corroborated these suggestions and provided more extensive correlational data.

Table 4
Most and Least Discrepant Policies between NTTF and TTTF

	Policy Exists for TTT, not NTT	Policy Exists for NTT, not TTT	Unequal Policy	Policy Exists for both	Policy Does NOT Exist for Either	Equal Policies	Missing or not sure
Most Discrepant Policies (Top 10)[a]							
Paid Sabbatical (PDP)	67.6%	0.6%	68.3%	19.8%	6.7%	26.5%	5.2%
Defined Probationary Period (CRP)	47.6%	0.8%	48.4%	41.5%	3.5%	45.1%	6.5%
Academic Promotion in Rank (PP)	33.6%	0.4%	34.0%	60.8%	0.6%	61.4%	4.6%
Multi-year Appointments Following Probationary Period (CRP)	14.4%	13.8%	28.2%	30.7%	27.6%	58.2%	13.6%
Financial Support to Pursue Professional Development Related to Research (PDP)	26.1%	0.4%	26.5%	59.9%	3.1%	63.0%	10.4%
Representation on University Governing Boards (*GP)	21.3%	0.4%	21.7%	71.2%	1.7%	72.9%	5.4%
Merit-based Salary Increases (PP)	10.4%	1.9%	12.3%	45.1%	34.9%	80.0%	7.7%
Financial Support to Pursue Professional Development Related to Teaching (PDP)	11.7%	0.6%	12.3%	75.4%	2.1%	77.5%	10.2%
Involvement in Department or School-level Governance Structures (*GP)	11.5%	0.2%	11.7%	81.0%	0.0%	81.0%	7.3%
Family Leave Benefits (BP)	10.4%	0.2%	10.6%	78.9%	3.1%	82.0%	7.3%
Less Discrepant Policies (Bottom 8)[a]							
Individual Office Space (SRSP)	10.0%	0.4%	10.4%	81.6%	0.6%	82.3%	7.3%
Regular (at least annual) Performance Reviews or Evaluations (PP)	7.1%	2.1%	9.2%	81.2%	3.1%	84.3%	6.5%
Explicit Performance Evaluation Criteria (PP)	7.1%	0.8%	7.9%	84.1%	2.1%	86.2%	5.8%
Defined Dates for Contract Renewal or Termination (CRP)	3.3%	1.7%	5.0%	91.4%	0.2%	91.6%	3.3%
Full Fringe Benefits (BP)	3.8%	0.2%	4.0%	93.5%	0.2%	93.7%	2.3%
Orientation (SRSP)	3.1%	0.6%	3.8%	90.4%	0.2%	90.6%	5.6%
Explicit Academic Freedom Protection (SRSP)	1.3%	0.2%	1.5%	92.3%	1.0%	93.3%	5.2%
Administrative Support (SRSP)	0.8%	0.6%	1.5%	83.1%	6.7%	89.8%	8.8%

[a] As indicated in manuscript 3, the policies are grouped by top 10 and bottom 8 to divide the non-governance (*GP or independent variables) policies into two equal policy groups.
Notes: The table was reproduced using Table 7 in manuscript 3. PDP=Professional Development Policies; CRP=Contract-Related Policies; PP=Performance Policies; GP=Governance Policies; BP=Benefits Policies; SRSP=Standard Resources and Support Policies

MANUSCRIPT 1/METHEDOLOGICAL MANUSCRIPT

Surveying Higher Education Administrators: An Experiment Analyzing the Outcomes of Alternative Web-based Survey Approaches

Questionnaires administered with web-based platforms are a dominant mode to collect public opinion data (Dillman, Smyth, & Melani, 2014). This methodological trend is consistent for surveying higher education faculty and administrators. For example, the National Center for Educational Statistics (NCES) uses online platforms to administer the Integrated Postsecondary Education Data System (IPEDS) surveys. Other surveys, such as the Higher Education Research Institute (HERI) Faculty Survey and the Faculty Survey of Student Engagement (FSSE) are also administered via online survey platforms. The reliance on web-based surveys is presumed to have emerged due to the low administration costs, the reduction of manual data entry time, and the emergence of user-friendly web-based platforms that require less specialized survey and programming knowledge (Couper, 2011; Dillman et al., 2014; Shih & Fan, 2008). Although web-based surveys are accessible, the response rates are consistently lower and survey error is greater for web-based platforms compared to paper and phone surveys (Couper, 2011; Dillman et al., 2014). Moreover, the large variation of administration practices and target populations across web-based surveys prevents researchers from making sound comparisons about the utility of various web-based survey approaches (Couper, 2011). This is largely due to the inconsistencies in study designs and implementation. For example, differences in sample populations and survey administration practices prevent researchers from making reliable comparisons from study to study.

A large body of research has emerged on the experimental conditions of web-based versus mail surveys, and a growing body of research on administration decisions within web-based surveys has emerged (Couper, 2011; Dillman et al., 2014; Shih & Fan, 2008), but results

of best-practices for web-based experiments present conflicting results for different populations or contexts (Couper, 2011; Dillman et al., 2014; Porter & Whitcomb, 2007; Shih & Fan, 2008). This manuscript compares two web-based survey administration practices, focusing on the type of online survey technique, holding all other administration and survey content practices constant. Due to increased survey error, lower response rates, and the accessibility of web-based surveys, this study was an important step to understand the utility, as defined by decreased error and increased response rate, of two web-based survey administration practices that targeted higher education provosts and vice provosts. The next section provides further details about the survey population, the web-based techniques under investigation, and the research questions.

Problem Statement

This study tested two survey administration practices to determine the optimal survey administration practice that decreases survey error and increases survey responses from higher education administrators, namely provosts and vice provosts, specifically chief academic officers. Illuminating best practices for surveying higher education administrators with alternative low-cost and accessible survey methods was a primary contribution of this research. Policy makers, researchers, and higher education practitioners who collect information from university populations may find the survey administration practices relevant to their work. Online surveys consistently receive lower response rates, and individuals collecting surveys from university provosts and vice provosts may use the survey administration recommendations posed in this study to increase response rates. I utilized Qualtrics survey software for one set of administration practices; this is referred to as “web-based survey” throughout the remainder of this manuscript. The other survey administration technique was a formatted PDF form that was sent to respondents via an email link, referred to as “PDF survey” throughout the remainder of

this manuscript. For the PDF survey, respondents could save and return to the survey on their computer, forward the file to other administrators with relevant knowledge, and submit the survey as an email attachment. The survey population included higher education provosts and vice provosts and other university administrators, such as presidents, in cases where two provost-level positions were not readily identified. Both administrators were knowledgeable that the other was contacted, but only one response per institution was recorded. The primary research question for this study was as follows: What combination of survey platform(s) and mid-administration platform options yield the highest response rates from university administrators at the following institution types: public and private, Title IV granting, tenure-granting, U.S., non-profit, four-year institutions classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. These institutions are referred to as "traditional four-year institutions" moving forward. Experimental groups were evenly split as follows:

1.) A web-based survey with no alternative administration mode
2.) A web-based survey with an alternative to complete the survey on a PDF form offered during the first reminder
3.) A fillable PDF form with no alternative administration mode until the last reminder
4.) A fillable PDF form file with an alternative to complete a web-based survey offered during the first reminder

The next section discusses the definitions and keywords used in this study.

Definitions and Terms

There are several terms described in this section, including: questionnaire, survey, PDF survey, web-based survey, and total survey error. Many of these terms are defined in the methodology section; however a brief description is warranted before the literature review.

I use *questionnaire* and *survey* interchangeably to discuss the mode of data collection. As mentioned previously, to distinguish between the two types of surveys in this research study, I use the terminology fillable PDF survey and web-based survey. The fillable *PDF survey* was one of the two types of surveys utilized in this research study and was formatted in Adobe Professional via the forms function. The forms function allowed users to interact with a PDF that was aesthetically similar to the online survey; however this survey was still delivered via an email that included a download link. *Web-based survey* was the other survey type examined in this research study. This web survey was programmed and administered through Qualtrics, an online survey platform. Both surveys included the same questions with slight variation in the visual display. However, these differences were minimized to reduce the potential effects of the physical layout. Finally, *total survey error* refers to the combined error that results from the survey design and administration procedures for surveys (Dillman et al., 2014). Specifically, there are four types of survey error, all of which are relevant to the survey design and administration procedures: coverage error, sampling error, nonresponse error, and measurement error. The methodology section explains the specific types of survey error in more detail. The following section discusses literature that directly informs the experimental conditions that were used for this study.

Literature Review

Due to the methodological emphasis of this study, the literature review synthesizes survey practices and outcomes for web-based experimental research and web-based questionnaires administered to higher education administrators. For this population of respondents, I assumed the population was internet literate and had regular access to the internet and email, making web-based questionnaires a viable option. The literature review is broken

down by key methodological and experimental decisions that inform this survey design. Specifically, the key sections include research on the following: response rates for higher education administrators, survey mode, administration practices, and reminder messages.

Expected Response Rates

One component of survey error is the *response rates*, which refers to the percentage of individuals—higher education administrators in this study—who respond to a survey. To calculate the response rate, the denominator is the total number of individuals contacted and the numerator is the total number of respondents. In a review of 20 research studies where the researchers surveyed upper-level administrators at higher education institutions, eleven of these research studies were conducted online and had an average response rate of 39.6%, whereas the paper and mail survey options received a 56% response rate. Additional details about these 20 studies are provided in Appendix B. Operating conservatively and considering the response rates from these research studies, the expected overall response rate for this study was between 30% to 40%. The remaining sections of the literature review cover research studies that inform the experimental conditions of this research study and, ideally, will improve the overall response rate to surveys.

Mode of Survey and Administration

Web-based surveys have had lower response rates than other survey administration modes, such as phone or mail (Dillman et al., 2014); however phone and mail surveys are more costly. Within various core modes—such as phone, web, or mail—there are ways to improve response rates by mixing modes of communication and accommodating respondents' potential mode preferences.

Researchers have found that individuals have preferences for survey mode (Olson, Smyth, & Wood, 2012), but in the absence of knowing respondents' preferences and with limited financial resources for survey administration, there are ways to increase response rates within web-based platforms. First, offering one mode of survey administration followed by an alternative mode for non-responders may significantly increase response rates, but offering both options initially offers mixed results for response rates (Olson et al., 2012; Medway & Fulton, 2012; Millar & Dillman, 2011). For example, in an experiment with an internet-savvy population, Millar and Dillman (2011) found that offering a *choice* between a web-based survey versus a mail survey produced significantly higher response rates than offering only a web-based option; however, for the group that was only offered one mode, then an alternative option mid-administration, there were no significant differences in response rates for the two groups. In summary, sequential administration modes may equalize response rates seen in concurrent modes of administration, but at a decreased cost. These results are tangentially relevant to this survey since the experimental conditions compared mail versus web-based surveys; however, these findings inform the experimental conditions of the current research study since researchers have not applied similar conditions to two variations of a web-based survey.

Mixing modes of communication (i.e., postal versus email) within a web-based platform may increase response rates, but to varying degrees (Dillman et al., 2014; Millar & Dillman, 2011; Porter & Whitcomb, 2007). Compared to an initial email invitation with subsequent email reminders, sending an initial *letter* of invitation followed by email-only reminder did not produce significant differences in response rates (Millar & Dillman, 2011). However, sending a letter initially *with* an incentive, followed by a mix of email and postal reminders significantly increased response rates when compared to sending a letter with an incentive initially followed

by email-only reminders (Millar & Dillman, 2011). For a survey administered to faculty members, Dykema et al., (2013) found that faculty members who received a postal invitation responded at significantly higher rates. Conversely, in another study with an internet-savvy population, although a postal reminder slightly increased response rates to a web-based email, the results were not significant (Porter & Whitcomb, 2007). Given the cost of letter and postcard communication and the inconsistency of results, this survey only utilized email communication for all points of contact.

Notification and Number of Targeted Reminders

There is a positive correlation between increasing the total number of communication points with the respondent and the overall response rate (Cook, Heath, & Thompson, 2000; Heberlein & Baumgartner, 1978). For example, in a meta-analysis examining response rates to web and internet surveys, Cook, Heather and Thompson (2000) found that the number of reminders sent, personalization of contacts, and pre-notifications were the most important factors that increased response rates. However, in a meta-analysis of web vs. mail surveys, Shih and Fan (2008) found that follow-up reminders appeared less effective for web-based surveys. Thus, although web-based reminders and contact points were less effective than mail surveys, the total number of contact points was still important and improved response rates for web-based surveys (Cook et al., 2000; Dillman et al., 2014; Shih & Fan, 2008).

Returning to the study by Millar and Dillman (2011), in addition to targeted reminders, emails or letters that encouraged participation—without a survey link—resulted in significantly higher response rates within this experimental design. However, the pre-notification may have simply increased response rates due to the increase in total contacts with potential respondents (Dillman et al., 2014). The inconclusive results for mixed-mode notifications and reminders,

along with significant and positive results for surveys that use incentives, indicate that combined paper and email communication is an expensive option that has marginal effects on response rates. To minimize costs, all survey respondents received an equal number of contact points via email communication.

Limitations

Differences in survey administration modes may introduce measurement error even when the surveys have the same physical layout (Couper, 2011). As such, although this study seeks to equalize many properties of the survey, such as the physical layout, the differences in modes may inevitably affect measurement error, or the extent to which the two surveys were fundamentally similar for experimental purposes. Moreover, the findings for this research study are most relevant to the demographic of respondents explored in this study—highly affluent college and university administrators.

Methodology

Experimental research identified in the literature review and best practices in survey design informed the methodology for this research study. More specifically, the survey instrument and administration procedures were informed by the Tailored Design Method (Dillman et al., 2014). The Tailored Design Method is a holistic approach to survey design and administration, utilizing strategies that minimize survey error and increase the validity and reliability of the instrument and the results. This section outlines the methodological approach for this study including the sampling plan, administration, and analytical procedures. Throughout the methodology section, there are consistent references to the Tailored Design Method (Dillman et al., 2014).

Sampling Procedures

Sampling procedures affect two types of survey error, including coverage and sampling error. Coverage error arises when the sample population does not appropriately exhaust, or cover, the intended target population (Dillman et al., 2014). For example, an inexhaustive contact list of the intended population would introduce coverage error. Sampling error arises when the survey sample and group of participants are not large enough, which then undermines the preciseness and generalizability of the research findings (Dillman et al., 2014). The individuals surveyed are referred to as the *sample population*. For this survey, the sample population was colleges and universities. Reporting on behalf of colleges and universities were university provosts, vice provosts, other academic affairs staff, presidents, or other personnel identified by the institution. The vice provost(s) who most directly caters to faculty members, as indicated by the job title, was selected for the sample. All these administrators were employed at traditional four-year institutions *and* participated in the Integrated Postsecondary Education Data System (IPEDS) data collection. The next paragraph provides a brief review of the IPEDS surveys.

IPEDS surveys are conducted annually by the U.S. Department of Education's Institute for Education Sciences. The surveys collect information from all colleges and universities that participate in federal student aid programs, also referred to as Title IV institutions (U.S. Department of Education, n.d.). RTI International produced the IPEDS methodology report (Ginder, Kelly-Reid, & Mann, 2014), which contains additional details about the instrumentation, reliability, and validity of the IPEDS surveys. The surveys are conducted via a web-based platform and provide data about institutional characteristics. For the purposes of this current research study, the IPEDS data was merged with the data collected in this research study.

To reduce sampling error and achieve a five percent margin of error with a 95 percent confidence level, the desired sample size was 291 institutions out of the 1,189 institutions in the target population. Achieving the desired sample size necessitated a roughly 25% response rate. Based on the expected response rate of 30 to 40 percent, and in order to reduce sampling error and have more power for the experimental groups, I surveyed all 1,189 institutions.

Survey Administration Procedures

A copy of the PDF instrument is provided in Appendix A. The National Survey of Postsecondary Faculty Policies (NSPFP) collects information from administrators on the institutional policies in place for the institution's university faculty members, along with a few demographic questions. This is important because respondent participation influences nonresponse error. Factors that influence respondent participation—and therefore nonresponse error—are survey mode, ease of use, number of targeted reminders, length of survey, tone of survey, and incentives (Dillman et al., 2014). For this study, nonresponse error refers to the differences between the population of institutions that responded and those that did not respond. In response to these factors, this survey seeks to use a positive tone in communication, optimize the total number of contact points, restrict the survey to less than 10 minutes, create two user-friendly platforms, and offer an incentive relevant to the population and context. These aspects of the survey administration and design are explained further in the subsequent paragraphs.

Face validity was established by referring to the literature of faculty policies and former surveys of this nature (Baldwin & Chronister, 2001). Moreover, I asked five university personnel at three institutions to provide feedback on the survey instrument. The feedback was solicited to improve the content validity of the instrument and reduce measurement error. Measurement error refers to the ability to accurately measure key criteria or concepts within the questionnaire, or

alternatively, the ability to ensure that the questionnaire and individual survey questions measured what they were intended to measure. Reducing measurement error and soliciting feedback at this stage illuminated issues with the question wording, question type, question ordering, visual layout of the questionnaire, and survey mode considerations.

During questionnaire outreach, administrators responded to the following questions: Were there any categories you would add to the answer choices? Did the question make sense to you? Should the researcher provide other examples of this answer choice? Did you have difficulty responding to any questions? Do you have any other feedback regarding these questions and/or the overall survey (e.g., visual layout or question order)? Modifications to phrasing and communication were made after receiving feedback from these higher education personnel.

Provosts and vice provosts at 1,189 institutions received a notification announcing the survey. I paid for the contact list from HigherEd Direct. HigherEd Direct is an organization that annually collects and updates contact information from higher education institutions and has over 5,000 institutions and 90,000 administrators represented in the contact database. The organization allows individuals to purchase subsets of contact information. For institutions not represented in the HigherEd directory list, I used university websites to obtain contact information for the target population. Within a week, personalized email invitations were distributed, followed by the first reminder message a week later. The emails included the promise of a benchmarking report that would present aggregate statistics for all participating universities, and statistics by key institutional characteristics such as Carnegie classification. For the initial invitation, half of the respondents received the survey programmed in Qualtrics and half received the survey programmed as a PDF form.

For the first reminder message, half of the participants received the option to complete the alternative survey mode, and the other half did not receive this option. For example, half of the PDF group received the option to complete the web-based survey and the other half only received the PDF option again. The second and final reminder messages were delivered during week 3 and week 4 of the survey administration, respectively. In total, the administration process spanned 29 days from August 11th through September 8th. However, I offered an extension during the last reminder message and accepted submissions from institutions that requested the extension. The early fall administration was selected since university personnel are typically back from summer vacation and are more responsive during the semester. Out of the 20 survey research studies reviewed in the literature review, 10 authors indicated the survey administration date: three surveys were administered in the fall, three in the summer, and four in the spring. Thus, response rates were marginally higher for surveys administered during the academic year. For more detailed information about these 20 studies, see Appendix B. Table 1 summarizes the administration practices outlined in this section.

Table 1
Experimental Design Timeline and Reminders

Activity	Activity Details	Day/Date
Study notification	All groups received same notification	Day 1 / Aug 11th
Invitation	50% received web-based version 50% received downloadable PDF version	Day 7 / Aug 17th
Reminder 1	50% of each group received an alternative mode option 50% did not receive an alternative mode option	Day 13 / Aug 23rd
Reminder 2	Same messaging as reminder 1	Day 21 / Aug 31st
Final reminder	PDF only group offered web-based alternative	Day 29 / Sept 8th

Analysis

Unlike measurement error and coverage error, I examined nonresponse and sampling error during the analysis phase, both of which affected the interpretation and generalizability of this study. Nonresponse error was assessed by examining the extent to which the respondent pool was statistically different from the sample of institutions that were surveyed. Specifically, I compared respondents vs. non-respondents based on respondents' corresponding institutional Carnegie classification—an indicator of institutional type—and public vs. private institutional status using Pearson's chi-square tests. Sampling error was reduced by sampling the whole population of institutions. Based on the response rates to the survey, and with a 95% confidence level, the margin of error for the sample of institutions that responded before the final reminder (n=388) was 4.09%. After the completion of data collection, the margin of error for the total sample (n=479) was 3.46%.

The final analysis included comparing response rate percentages between the four experimental groups, as outlined in table 2. Statistical significance was determined by Pearson chi-squared tests.

Table 2
Core Groups in Experimental Design

Group	Experimental Condition
PDF then web-based during last week	A fillable PDF form with no alternative administration mode offered
PDF then Web-based during second week	A fillable PDF form with an alternative offered during the first reminder to complete the web-based survey
Web-based Only	Web-based survey with no alternative administration mode offered
Web-based then PDF during second week	Web-based survey with an alternative offered during the first reminder to complete the fillable PDF form version

After experimental groups were defined and before the survey administration, I ran Pearson chi-square tests to ensure that the experimental group randomization effectively distributed institutions across the groups based on institutional type—public or private—or institutional Carnegie classification. Indeed, the randomization worked effectively and there were no significant differences across the experimental groups. Descriptive statistics for these institutional variables are presented in Table 3. The following section presents the results for the study.

Table 3
Descriptive Statistics for Contact List

	Frequency	Percent
Experimental Group		
PDF Only	295	24.8%
PDF then Web-based	298	25.1%
Web-based	301	25.3%
Web-based then PDF	295	24.8%
Private or Public Institutional Sector*		
Private	700	58.9%
Public	489	41.1%
Carnegie Classification*		
Baccalaureate Colleges (Arts & Sciences)	209	17.6%
Baccalaureate Colleges (Diverse Fields)	200	16.8%
Master's Colleges and Universities (smaller programs)	67	5.6%
Master's Colleges and Universities (medium programs)	130	10.9%
Master's Colleges and Universities (larger programs)	325	27.3%
Doctoral/Research Universities	64	5.4%
Research Universities (high research activity)	92	7.7%
Research Universities (very high research activity)	102	8.6%

*There were no significant differences between the experimental groups for these two variables.

Results

To test the effect of several survey administration strategies, I examined the response rates for the different experimental groups. Mid-way through administration, it was evident that the web-based group responded at a much higher rate. The experimental conditions were implemented—as originally planned—until the very final reminder whereby respondents in the "PDF only" group received the web-based option. This was done to increase the overall response

rate. In subsequent tables, the results are displayed in two separate columns—response rates *before* the final reminder and response rates *after* the final reminder—for this reason.

To contextualize the analysis and determine the extent to which the results represent the various higher education sectors and Carnegie classifications, I examined response rates by institutional sector and Carnegie classification. Response rates by institutional sector indicated that public institutions participated at a higher rate compared to their private counterparts. The difference was significant ($p = .016$) after the final reminder and before the final reminder ($p = .046$), as indicated in Table 4.

Table 4
Participation Differences by Institutional Sector

	Response Rate BEFORE Final Reminder		Response Rate AFTER Final Reminder	
	Did not Participate	Participated	Did not Participate	Participated
Private (n=700)	69.7%	30.3%	62.6%	37.4% *
Public (n=489)	64.2%	35.8%	55.6%	44.4% *
TOTAL	67.5%	32.5%	59.7%	40.3%
Pearson Chi-Square		0.046		0.016

*Indicates that the adjusted standardized residual for the group has an absolute value greater than or equal to 2.0.

Response rates by Carnegie classification were significantly different across Carnegie groups before the final reminder ($p = .030$), but were not significant after the final reminder ($p = .431$). In particular, institutions classified as research universities (high research activity) responded at a significantly higher rate *before* the final reminder. Although not significant, baccalaureate colleges (diverse fields) and Master's Colleges and universities (medium programs) had the lowest response rates (34.5% and 36.9%) after the final reminder, whereas baccalaureate colleges (arts and sciences) and research universities (high research activity) had the highest response rates (43.5% and 47.8%). Among the 96.2% of respondents who indicated their position, respondents primarily included university provosts (43.7%), associate or vice

provosts (39.3%), other academic affairs support staff (8.9%), university presidents (3.9%), institutional research staff (2.6%), or human resources staff (2.0%). Only 2.2% of respondents indicated that they collaborated with another colleague to complete the survey.

Table 5
Participation Differences by Carnegie Classification

	Response Rate BEFORE Final Reminder		Response Rate AFTER Final Reminder	
	Did not Participate	Participated	Did not Participate	Participated
Baccalaureate Colleges (Arts & Sciences) (n=209)	62.7%	37.3%	56.5%	43.5%
Baccalaureate Colleges (Diverse Fields) (n=200)	73.5%	26.5%	65.5%	34.5%
Master's Colleges and Universities (smaller programs) (n=67)	67.2%	32.8%	59.7%	40.3%
Master's Colleges and Universities (medium programs) (n=130)	71.5%	28.5%	63.1%	36.9%
Master's Colleges and Universities (larger programs) (n=325)	70.8%	29.2%	60.3%	39.7%
Doctoral/Research Universities (n=64)	62.5%	37.5%	57.8%	42.2%
Research Universities (high research activity) (n=92)	55.4%	44.6% *	52.2%	47.8%
Research Universities (very high research activity) (n=102)	63.7%	36.3%	56.9%	43.1%
TOTAL	67.5%	32.5%	59.7%	40.3%
Pearson Chi-Square		.030		.431

*Indicates that the adjusted standardized residual for the group has an absolute value greater than or equal to 2.0.

Among all respondents, 78.1% completed the web-based version of the survey and 21.9% completed the PDF version of the survey. The average response rate across all experimental groups was 32.5% before the final reminder and 40.3% after the final reminder. However, the response rate distribution for the four experimental groups differed significantly both before and after the final reminder ($p < .000$). The group that received the web-based survey followed by the PDF option had the highest response rate before and after the final reminder, 39.3% and 47.5%, respectively. On the other hand, the PDF group that received the web-based alternative during the final reminder had a significantly lower response rate both before and after the final reminder, 23.4% and 31.9%.

Table 6
Results by Experimental Group and Response Date

	Response Rate BEFORE Final Reminder		Response Rate AFTER Final Reminder	
	Did Not Participate	Participated	Did Not Participate	Participated
PDF Only (n=295)[a]	76.6%	23.4%*	68.1%	31.9%*
PDF then Web-based (n=298)	71.1%	28.9%	64.1%	35.9%
Web-based (n=301)	61.5%	38.5%*	54.2%	45.8%*
Web-based then PDF (n=295)	60.7%	39.3%*	52.5%	47.5%*
TOTAL	67.5%	32.5%	59.7%	40.3%
Pearson Chi-Square		0.000		0.000

[a]During the final reminder, the "PDF only" group was also offered the online alternative that was offered to the "PDF then Online" during the second week of administration.
*Indicates that the adjusted standardized residual for the group and analysis has an absolute value greater than or equal to 2.0.

Discussion

The results presented in this research study contribute to our knowledge about alternative web-based administration platforms. For a highly affluent population of university administrators, namely provosts and vice provosts, receiving a web-based survey and a PDF alternative during the second week of administration resulted in the highest response rates, though not significantly higher than the web-based (only) group. In addition to providing

multiple options for survey completion, I speculate that having the PDF option also allowed respondents to view the entire survey instrument before participating; however, given the similar response rate between the web-based only group and the web-based/PDF alternative group, additional research should be conducted. Specifically, future research could isolate both the web-based survey group and a web-based/PDF alternative group along with varying survey lengths. The marginal success of the alternative may be related to the total length of a survey whereby a longer survey could actually decrease response rates when viewed as a PDF prior to completion.

The group that only received the PDF version and then a web-based alternative during the *last* reminder had the lowest response rate (31.9%) followed by the group that received a PDF version and then a web-based alternative during the *second* week of survey administration (35.9%). The stark difference between the PDF and web-based groups may be due to several different components of the PDF and Qualtrics user experience. Given the content of the survey—questions about institutional policies—I expected that university administers may have preferred a PDF version for collaborative purposes; however, only 2.2% of respondents indicated that more than one staff member helped complete the survey. One other factor may have impacted participation; the PDF required significantly more mouse clicks: the respondent had to open the survey link, download the form, fill out the form, save the form, and send the form back to me via email. Indeed, sending a PDF file via email directly triggered SPAM filters during testing and a link followed by the downloadable form was the only option for delivering the fillable PDF survey. In comparison, the Qualtrics version required clicking through the survey pages, but all clicks occurred within the online platform. Finally, this internet-savvy population may have established norms for online surveys whereby the link in the email misaligned with their expectations of an online survey and caused cognitive dissonance and nonresponse. Taken

together, it appears that satisficing could be the core of these survey-taking behaviors. The PDF was more labor intensive, respondents were not drawn to collaborate or corroborate their responses with colleagues, and the Qualtrics version was aligned with their preconceived notions of online survey experiences.

Although non-significant, the response rates for the groups that received an alternative during the second week of administration were higher than the groups that did not receive an alternative or received an alternative during the final reminder. As was illustrated in this case, an alternative mode offered early was more effective than an alternative offered later in the administration cycle. Millar and Dillman (2011) found that a mode choice offered at the beginning of the survey administration and an alternative offered mid-administration yielded similar response rates between the two groups. However, Millar and Dillman's (2011) research targeted paper and mail surveys. Future research may target similar experimental conditions whereby half the population receives both web-based options initially and the other half receive an alternative mid-administration. In meta-analyses, Cook and colleagues (2000) and Shih and Fan (2008) found that experimental results pertaining to web-based surveys were not necessarily consistent with other modes such as paper and mail. As a result, conducting research on web-based mixed-mode alternatives that corroborated traditional mixed-mode alternatives was important given the differences found in research between web-based, paper, and phone modes.

Dissimilar to other research studies that surveyed higher education administrators, the web-based/PDF response rate for this study (47.5%) was higher than the average response rate for other web-based research studies that surveyed university leaders (39.6%). However, understanding the methodological similarities between this study and other studies was difficult because most of the surveys evaluated in the literature review did not include information about

the total number of reminder messages, whether respondents received a pre-notification, the total administration time frame, or incentives offered. In general, researchers conducting surveys on any population, including higher education personnel, should more clearly document and share the survey administration practices. Under the following conditions I received a 47.5% response rate for the Qualtrics/PDF-alternative group:

- A pre-notification was sent within a week of the survey launch, including personalized communication.
- Each point of communication articulated that two personnel were contacted (names included) from the institution, but only one should respond to the survey.
- All reminder messages had the aforementioned personalized communication and were targeted to nonresponders.
- Participants were contacted a total of five times, including the pre-notification.
- An alternative PDF option was offered during the second week, for which the survey length was three pages and took approximately nine minutes to complete.
- For each email, respondents were reminded of the participation incentive, which included a market research report broken down by core Carnegie classifications.

Given that over 80% of respondents were provosts or vice provosts, researchers who survey this population of personnel should use the aforementioned survey techniques to maximize response rates. Although the results cannot be extended beyond the population sampled, many of these techniques conform to best practices in survey research and would reasonably increase survey responses for many internet-savvy populations. Beyond research that confirms the experimental mixed-mode alternatives pursued in this study, future research should investigate the quasi-carbon-copy (CC) approach that was utilized in this study. For example, each respondent knew (by name) the personnel member who was contacted at their university. In several cases, respondents used this information to assign or negotiate roles for survey completion. In addition to principles of social exchange theory that inform best practices in survey administration (Dillman et al., 2014), this approach may illuminate untested theories of social psychology as a method to increase survey response rates.

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Appendix A – Survey Instrument

Survey Instrument, Page 1

Pay, Benefits, and Contracts

1.) Please indicate whether your institution has the following university policies and resources available to tenured or tenure-track faculty. Alternatively, your institution might require that all schools/departments have certain policies or resources available to tenured or tenure-track faculty. In either case (i.e., university policy OR university policy requiring school/departmental alignment) select "Yes" if the policy or resource exists, "No" if it does not, or "Not sure or Unclear" as applicable.

As outlined in university policies, tenured or tenure-track faculty members at my college/institution have:

	Tenure-track Faculty			Tenured Faculty			(Optional) Open-Ended Comment Box
	Yes	No	Not Sure or Unclear	Yes	No	Not Sure or Unclear	
Full fringe benefits	❍	❍	❍	❍	❍	❍	_____
Family leave benefits	❍	❍	❍	❍	❍	❍	
Merit-based salary increases	❍	❍	❍	❍	❍	❍	_____
Defined dates for contract renewal and/or termination	❍	❍	❍	❍	❍	❍	
Defined probationary period (e.g., pre-tenure)	❍	❍	❍	❍	❍	❍	_____
Multi-year appointments following probationary period	❍	❍	❍	❍	❍	❍	
Explicit performance evaluation criteria (e.g., evaluation based on performance in teaching, research, etc.)	❍	❍	❍	❍	❍	❍	_____
Regular (at least annually) performance reviews or evaluations	❍	❍	❍	❍	❍	❍	_____
Academic promotion in rank (e.g., assistant, associate)	❍	❍	❍	❍	❍	❍	_____
Paid sabbatical	❍	❍	❍	❍	❍	❍	_____

2.) Please indicate whether your institution has the following university policies and resources available to part-time or full-time non-tenure-track (NTT) faculty. Alternatively, your institution might require that all schools/departments have certain policies or resources available to part-time or full-time NTT faculty. In either case (i.e., university policy OR university policy requiring school/departmental alignment) select "Yes" if the policy or resource exists, "No" if it does not, or "Not sure or Unclear" as applicable.

As outlined in university policies, part-time or full-time non-tenure-track (NTT) faculty members at my college/institution have:

	Part-time NTT Faculty			Full-time NTT Faculty			(Optional) Open-Ended Comment Box
	Yes	No	Not Sure or Unclear	Yes	No	Not Sure or Unclear	
Full fringe benefits	❍	❍	❍	❍	❍	❍	_____
Family leave benefits	❍	❍	❍	❍	❍	❍	
Merit-based salary increases	❍	❍	❍	❍	❍	❍	_____
Defined dates for contract renewal and/or termination	❍	❍	❍	❍	❍	❍	
Defined probationary period (similar to pre-tenure)	❍	❍	❍	❍	❍	❍	_____
Multi-year appointments following probationary period	❍	❍	❍	❍	❍	❍	
Explicit performance evaluation criteria (e.g., evaluation based on performance in teaching, research, etc.)	❍	❍	❍	❍	❍	❍	_____
Regular (at least annually) performance reviews or evaluations	❍	❍	❍	❍	❍	❍	
Academic promotion in rank (e.g., lecturer, senior lecturer)	❍	❍	❍	❍	❍	❍	_____
Paid sabbatical	❍	❍	❍	❍	❍	❍	_____

Survey Instrument, Page 2

Professional Support and Governance

3.) Please indicate whether your institution has the following university policies and resources available to tenured or tenure-track faculty. Alternatively, your institution might require that all schools/departments have certain policies or resources available to tenured or tenure-track faculty. In either case (i.e., university policy OR university policy requiring school/departmental alignment) select "Yes" if the policy or resource exists, "No" if it does not, or "Not sure or Unclear" as applicable.

As outlined in university policies, tenured or tenure-track faculty members at my college/institution have:

	Tenure-track Faculty			Tenured Faculty			(Optional) Open-Ended Comment Box
	Yes	No	Not Sure or Unclear	Yes	No	Not Sure or Unclear	
Explicit academic freedom protection.	❍	❍	❍	❍	❍	❍	_____
Orientation	❍	❍	❍	❍	❍	❍	_____
Representation on university governing boards (e.g., faculty senate)	❍	❍	❍	❍	❍	❍	_____
Involvement in department or school-level (e.g. School of Education) governance structures such as curricular committees, faculty affairs committees	❍	❍	❍	❍	❍	❍	
Individual office space	❍	❍	❍	❍	❍	❍	_____
Administrative support	❍	❍	❍	❍	❍	❍	
Financial support to pursue professional development related to teaching	❍	❍	❍	❍	❍	❍	_____
Financial support to pursue professional development related to research	❍	❍	❍	❍	❍	❍	_____

4.) Please indicate whether your institution has the following university policies and resources available to part-time or full-time non-tenure-track (NTT) faculty. Alternatively, your institution might require that all schools/departments have certain policies or resources available to part-time or full-time NTT faculty. In either case (i.e., university policy OR university policy requiring school/departmental alignment) select "Yes" if the policy or resource exists, "No" if it does not, or "Not sure or Unclear" as applicable.

As outlined in university policies, part-time or full-time non-tenure-track (NTT) faculty members at my college/institution have:

	Part-time NTT Faculty			Full-time NTT Faculty			(Optional) Open-Ended Comment Box
	Yes	No	Not Sure or Unclear	Yes	No	Not Sure or Unclear	
Explicit academic freedom protection.	❍	❍	❍	❍	❍	❍	_____
Orientation	❍	❍	❍	❍	❍	❍	
Representation on university governing boards (e.g., faculty senate)	❍	❍	❍	❍	❍	❍	_____
Involvement in department or school-level (e.g. School of Education) governance structures such as curricular committees, faculty affairs committees	❍	❍	❍	❍	❍	❍	_____
Individual office space	❍	❍	❍	❍	❍	❍	_____
Administrative support	❍	❍	❍	❍	❍	❍	_____
Financial support to pursue professional development related to teaching	❍	❍	❍	❍	❍	❍	_____
Financial support to pursue professional development related to research	❍	❍	❍	❍	❍	❍	_____

Survey Instrument, Page 3

Employee Unionization

5.) Does your state prohibit employee unionization for any of the following populations? Select all that apply.

- ☐ Part-time non-tenure track faculty
- ☐ Full-time non-tenure track faculty
- ☐ Tenure-track faculty
- ☐ Tenured faculty
- ☐ Graduate students

6.) Please indicate whether the following faculty populations are unionized on your campus.

- ☐ Part-time NTT faculty
  (if unionization for this group is not prohibited by the state)
- ☐ Full-time non-tenure track faculty
  (if unionization for this group is not prohibited by the state)
- ☐ Tenure-track faculty
  (if unionization for this group is not prohibited by the state)
- ☐ Tenured faculty
  (if unionization for this group is not prohibited by the state)
- ☐ Graduate Students
  (if unionization for this group is not prohibited by the state)

Survey Administration Information

7.) For the individual(s) who completed this survey, please indicate your/their position titles.

- ☐ University President
- ☐ Provost or chief academic officer
- ☐ Associate provost or vice academic officer
- ☐ Other (please specify): _____
- ☐ Other (please specify): _____
- ☐ Other (please specify): _____
- ☐ Other (please specify): _____

Survey Administration Information

8.) Participating institutions will receive a summary report highlighting your institution's policy adoption compared to peer institutions (e.g., by Carnegie classification). Please provide the names and email addresses for the individuals who will receive the summary report.

Contact 1

First Name: _____

Last Name: _____

Email Address: _____

Contact 2

First Name: _____

Last Name: _____

Email Address: _____

Contact 3

First Name: _____

Last Name: _____

Email Address: _____

Contact 4

First Name: _____

Last Name: _____

Email Address: _____

9.) University/College Full Name (no acronyms): _____
(please specify branch campus information if applicable)

Appendix B – Response Rate Statistics

Citation	Format	Response Rate (%)	Population	Administration Time and Year			
				Summer	Fall Semester	Spring Semester	Year
Rosser, V. J. (2004). A national study of midlevel leaders in higher education: The unsung professionals in the academy. Higher Education, 48(3), 317-337	Mail	50	Faculty leaders			x	2002
Wallin, D. L. (2002). Professional development for presidents: A study of community and technical college presidents in three states. Community College Review, 30 (2), 27-41	Mail	72	Presidents			x	2002
Sturgis, R. (2006). Presidential leadership in institutional advancement: From the perspective of the president and vice president of institutional advancement. Institutional Journal of Educational Advancement, 6 (3), 221-231	Mail and Phone	85	Presidents				Prior to 2006
Rabovsky, R. (2014). Support for performance-based funding: The role of political idealogy, performance, and dysfunctional information environments. The American Society for Public Administration, 74(6), 761-774	Paper	24	Presidents	x			2012
Balogun, J. A., Sloan, P. E., Germain, M. (2006). Determinants of tenure in allied health and nursing education. Journal of Advanced Nursing, 56(5), 532-541	Paper	39	Deans				2002
Reindl, D., Glassman, T., Price, J., Dake, J., Yingling, F. (2014). Perceptions of college and university presidents regarding tobacco-free campus policies. Journal of American College Health, 62(3), 193-202	Paper	51	Presidents				Prior to 2014
Belanger, C. H., Mount, J., Madgett, P., Filion, I. (2005). National innovation and the role of the college sector. The Canadian Journal of Higher Education, 35(2), 27-48	N/A	24	Presidents				2002

Citation	Format	Response Rate (%)	Population	Administration Time and Year			
				Summer	Fall Semester	Spring Semester	Year
Cejda, B. D., Leist, J. (2006). Challenges facing community colleges: Perceptions of chief academic officers in nine states. Community College Journal of Research and Practice, 30(3), 253-274	N/A	56	CAOs				Prior to 2006
Webb, K. (2007). Motivating peak performance: Leadership behaviors that stimulate employee motivation and performance. Christian Higher Education, 6(1), 53-71	N/A	99	Vice Presidents				Prior to 2007
Williams van Rooij, S. (2011). Open-source learning management systems: A predictive model for higher education. Journal of Computer Assisted Learning, 28(2), 114-125	Web		CIO/CTO/ CAO	x			2009
Curry, J., Rodin, S., Carlson, N. (2012). Fundraising in difficult economic times: Best practices. Christian Higher Education, 11(4), 241-252	Web	33	HE Admin-istrators		x		2009
Hyun, E. (2009). A study of US academic deans' involvement in college students' academic success. International Studies in Educational Administration, 37(2), 89-110	Web	50	Deans		x		2006
Mitroff, I. I., Diamond, M. A., Alpaslan C. M. (2006). How prepared are America's colleges and universities for major crises? Assessing the state of crisis management. Change, 38(1), 61-67	Web	33	Provosts		x		2004
Balogh, C. P., Kasey, P., Day, J., Moser, R. (2010). ACOHO-I construction and renovation data: The latest trends in housing construction and renovation. The Journal of College and University Student Housing, 36(2), 82-91	Web	29	Housing directors			x	2008
Kezar, A., Gehrke, S. (2013). Creating a high-quality place to teach, learn, and work. Peer Review, 15(3), 8 to 12	Web	30	Deans			x	2012

Citation	Format	Response Rate (%)	Population	Administration Time and Year			
				Summer	Fall Semester	Spring Semester	Year
Gupta, A., Herath, S. K., Mikouiza, N. C. (2005). Outsourcing in higher education: An empirical examination. International Journal of Education Management, 19(5), 396-412	Web	45	President and Vice Presidents				Prior to 2005
James, M. J., Estanek, S. M. (2012). Building the capacity for mission through use of the principals of good practice for student affairs at catholic colleges and universities: A study of presidents and senior student affairs. Catholic Education, 15(2), 140-159	Web	41	Presidents and Student Affairs Officers				Prior to 2012
Proper, E., Willmer W. K., Hartley, H. V., Caboni, T. C. (2009). Stakeholder perceptions of governance: Factors influencing presidential perceptions of board effectiveness. International Journal of Educational Advancement, 9(3), 166-173	Web	49	Presidents				2006
Williams, M. R., Southers, T. (2010). Blurring the lines between high school and college: Early colleges and the effect on adult learners. Adult Learning, 21(1-2), 26-30	Web	63	CAOs				Prior to 2010
Erickson, W., Trerise, S., VanLooy, S., Lee, C., Bruyere, S. (2009). Web accessibility policies and practices at American community colleges. Community College Journal of Research and Practice, 33(5), 403-414	Web, Mail, and paper	23*	Student Services Admin-istrator	x			2006

*For web-based and higher education populations represented in the sample.

MANUSCRIPT 2/INSTITUTIONAL-LEVEL MANUSCRIPT

Exploring Policy Inequities between Non-Tenure-Track Faculty and their Tenured or Tenure-Track Colleagues

Institutions of higher education have increasingly employed non-tenure-track faculty (NTTF) or adjunct faculty members rather than tenured or tenure-track faculty (TTTF), and these faculty members have performed critical mission-centric duties, such as teaching (Baldwin & Chronister, 2001; Gappa, Austin, & Trice, 2007; Kezar & Sam, 2010; Rhoades, 2006). For example, from 1989 to 2014, the proportion of full-time TTTF decreased from 39% to 30%, and although the reliance on graduate student employees decreased by 4%, the reliance on part-time and full-time NTTF increased from 45% to 58% during this time period (American Association of University Professors, 2016). For this study, NTTF members were defined as faculty members who are either full-time non-tenure-track, part-time instructors, adjunct faculty members, contingent faculty, research faculty, or contractual faculty off the tenure track with other similar position titles (Baldwin & Chronister, 2001; Cross & Goldenberg, 2009; Gappa et al., 2007; Kezar & Sam, 2010; O'Meara, Terosky, & Neumann, 2008).

Despite NTTF members' *overall* satisfaction with their job, which has not been significantly different across faculty appointment types (Antony & Valadez, 2002; Conley, Leslie, & Zimbler, 2002; Eagan, Stolzenberg, Berdan Lozano, Aragon, Suchard, & Hurtado, 2014), research indicates that NTTF have been dissatisfied with specific aspects of their employment that they find lacking such as job security, inclusion in campus governance, upward mobility, promotion opportunities, and policies that define their potential advancement (Alleman & Haviland, 2017; Antony & Valadez, 2002; Baldwin & Chronister, 2001; Conley et al., 2002; Gappa et al., 2007; Kezar & Sam, 2010; Waltman, Bergom, Hollenshead, Miller, & August, 2012). NTTF members' satisfaction is important, because these sources of dissatisfaction may

make NTTF less committed to their work as faculty members (Bland, Center, Finstad, Risbey & Staples, 2006; Morrison, 2008; Waltman, et al., 2012). Institutions with increasing proportions or high proportions of NTTF populations had negative correlations with teaching, graduation, and student retention (Bettinger & Long, 2010; Ehrenberg & Zhang, 2005; Jacoby, 2006; Umbach, 2007) which is potentially related to their working conditions and commitment. Scholars who have researched NTTF populations have often contextualized their introductions and literature reviews with the aforementioned outcomes, the insufficient working conditions faced by NTTF, and the continued reliance on an NTTF workforce.

In research studies that have explored NTTF working conditions, manuscript introductions and literature reviews have often articulated the lack of policies that support NTTF (Examples: Gappa, 2000; Hagedorn, 2000; Kezar, 2008; Kezar, 2012, Nutting, 2003; Waltman et al., 2012). Such policies that were absent at postsecondary institutions included multi-year contracts, promotions in rank, and equitable salary and benefits. Baldwin and Chronister's (2001) study of NTTF policies has been frequently cited, since it was the last systematic national data collection and analysis of institutional policies for NTTF. Higher education scholars, administrators, and personnel need an updated census of the NTTF policy landscape given the continued research and reliance on this faculty population. Therefore, the two primary research questions that guided this research are presented below. The policies explored in this study included policies suggested by Baldwin and Chronister (2001), Gappa, Austin, and Trice (2007), and Kezar and Sam, (2010) which are discussed further in the literature review.

1. For a national sample of institutions, what proportion of institutions have adopted the following key policies for NTTF?

    a. Full fringe benefits
    b. Family leave benefits

c. Merit pay salary increases
d. Defined dates for contract renewal and/or termination
e. Defined probationary period (similar to pre-tenure)
f. Multi-year appointments following a probationary period
g. Explicit performance evaluation criteria (e.g., evaluation based on performance in teaching, research, etc.)
h. Regular (at least annual) performance reviews or evaluations
i. Academic promotion in rank (e.g., lecturer, senior lecturer, assistant, associate)
j. Paid sabbatical
k. Explicit academic freedom protection
l. Orientation
m. Individual office space
n. Administrative support
o. Financial support to pursue professional development related to research
p. Financial support to pursue professional development related to teaching
q. Representation on university governing boards (e.g., faculty senate)
r. Involvement in department or school-level governance structures (e.g., curricular committee)

2. What policies (above) are most discrepant between NTTF and TTTF populations?
3. For the three overarching Carnegie classifications included in this study (Bachelor's, Master's, Doctoral/Research), what classifications, if any, are more supportive for NTTF populations?

To answer these questions, I merged NTTF policy data with institutional data from the Integrated Postsecondary Education Data System (IPEDS). Details about the data collection for the NTTF policy data are referenced in the methodology section. The institutional sample included IPEDS participating, Title IV granting, tenure-granting, public and private, non-profit, four-year higher education institutions in the United States that were classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. Moving forward, I refer to this institutional sample as "traditional four-year institutions." In the section that follows, the theoretical framework and literature review explore the rationale for the specific policies and institutional factors outlined in the research questions.

Theoretical Framing

This section illuminates what Baldwin and Chronister (2002), Gappa (2000), and Tirelli (2014) have described as a class system between NTTF and TTTF. These authors described TTTF as first-class citizens who have historically influenced decision-making, and NTTF as second-class citizens of the academy who have had little power and few resources. Consequently, such institutional class divides have been associated with decreases in NTTF morale, sense of collegiality, and specific aspects of job satisfaction, such as their satisfaction with employment contracts (Baldwin & Chronister, 2001; Waltman et al., 2012). Before exploring the inequitable aspects of NTTF and TTTF working conditions and policies, I first turn to Young, Anderson, and Stewart (2015) to discuss how policy inequities between NTTF and TTTF have symbolically contributed to a culture of microaggressions and role-specific oppression on university campuses.

Policy Inequity Characterized as Institutionalized Hierarchical Microaggressions

I use a combination of Young, Anderson, and Stewart's (2015) research on hierarchical microaggressions in higher education and Deutsch's (2006) theory on oppression and injustice to contextualize the inequities of NTTF policies and resources. Young and colleagues (2015) used the microaggression theory developed by Sue et al. (2007) and explored hierarchical microaggressions found in higher education institutions. These hierarchical microaggressions are present in many forms, including the ways that institutions intentionally or unintentionally value or devalue employees due to their credentials or roles at the university (Young et al., 2015). This type of valuation works similarly to other microaggressions "with privileges ascribed to certain roles and oppressive structures placed on others" (Young et al., 2015, pg. 66). In their research study, Young et al. (2015) found that 52% of the hierarchical microaggressions expressed by

participants were due to participants' perception of their institution's valuation of them based on their role at the institution. These types of microaggressions caused harm whereby individuals expected to be treated with respect in a professional setting and found themselves devalued due to their position or title (Young et al., 2015). Whether intentionally or unintentionally manifested, examples of these hierarchical microaggressions are as follows: being left out of meetings, being disrespected due to tenure status or staff classification (faculty versus staff), and junior faculty colleagues being silenced since senior colleagues have power over tenure and promotion (Young et al., 2015).

To situate these hierarchical microaggressions into a larger theory on oppression and injustice, I turn to Morton Deutsch's framework to further conceptualize this this study. Deutsch assumed that unjust systemic inequalities are identified by conditions that are not identical among individuals or across groups, but are identified when "conditions that affect individual well-being are distributed so that there [are] gross systemic disparities in the well-being, opportunities for human development, or the rights of people, individually or collectively" (p. 9, 2006). In opposition to criticism about inevitable social orders and hierarchies found in cooperative systems, Deutsch emphasized that cooperative systems, or institutions in this case, were prone to unjust systems whereby resources, power, and rewards were oriented toward increased economic productivity, thus leading the way to inequity. Within higher education, economic productivity may be viewed as increased research for TTTF, increased donor support, or an emphasis on institutional prestige or individual faculty accomplishments. Deutsch argued that inequity was dysfunctional for cooperative systems because it allocated rewards and power disproportionately and introduced bias against all but those in power, who perpetually sought to maintain their influence. Building on this definition, Deutsch defined oppression as "repeated,

widespread, systemic injustice" (p. 10, 2006) that is not necessarily extreme or involving legal ramifications. This type of oppression might be referred to as "civilized oppression," a phrase coined by Harvey (1999) to capture oppression that is characterized by unconscious norms, habits, and symbols perpetrated by well-meaning people in ordinary circumstances (Deutsch, 2006).

Deutsch reviewed five types of injustice linked with oppression, including distributive injustice, procedural injustice, retributive injustice, moral exclusion, and cultural imperialism. In this paragraph, I summarize these types of oppression and provide examples of each type as it relates to the hierarchical relationship between NTTF and TTTF. *Distributive justice* is tied to capital (consumption, investment, skill, and social) and the ways in which capital is fairly distributed across groups of people. For example, are office spaces and resources for professional development allocated fairly across NTTF and TTTF? *Procedural justice* refers to the fairness of procedures that determine ways in which capital is distributed or other outcomes are determined. The exclusion of NTTF on governance committees is symptomatic of procedural injustice. *Retributive injustice* pertains to the ways in which groups of individuals are treated differently despite equal wrongdoing across groups. This form of injustice is less applicable to the policies explored in this paper; nevertheless, an example may include the ways in which high-performing TTTF members with exceptional research prowess are not held accountable for poor teaching performance in the same way as NTTF who teach similar courses. *Moral exclusion* refers to individual entitlement to fair outcomes and treatment whereby TTTF would be entitled to fair treatment, but not NTTF. For example, NTTF do not have job security in the event that staffing cuts are necessary due to budget limitations or curricular shifts, whereas their tenured counterparts have this security; NTTF are morally excluded from this entitlement based on their

group and employment status. *Cultural imperialism* identifies how people in power influence the cultural norms, requiring assimilation toward the norms espoused by the dominant group or adoption of perceptions that conform to those of the dominant group. For example, TTTF experiences and identities are often defined by full-time status, access to productivity-facilitating resources, and a portfolio of both research and teaching. Thus these norms would imply a specific set of productivity criteria, institutional engagement, and student expectations that are perhaps unfair assumptions for NTTF groups. Among the five types of injustice I described in this section, three of these were observed through this study including distributive injustice, procedural injustice, and moral exclusion. Given the less tangible policy aspects of retributive injustice and cultural imperialism, these two forms of injustice are not linked with specific policies. Whereas this section established a framework of institutional hierarchies and the implications of those hierarchies, the next section explores research on the various policies that are NTTF-supportive.

Literature Review

The types of injustice, oppression, and microaggressions explored in the theoretical framework informed the types of policies explored here, which overlap with policy suggestions made by scholars. Although the policies mentioned throughout the literature review have been suggested by multiple scholars, the core recommendations stem from comprehensive policy recommendations by Baldwin and Chronister (2001), Gappa, Austin and Trice (2007), and Kezar and Sam (2010). The core sections of the literature review include the policy inequities inherent in NTTF contracts, professional support, salary, benefits, and campus governance systems.

Faculty Contracts

Bland, Center, Finstad, Risbey and Staples (2006) found in a quantitative study that NTTF were significantly less committed to their work than TTTF, and, in a qualitative study, Waltman, Bergom, Hollenshead, Miller, and August (2012) found that NTTF felt uncommitted to their work (Waltman et al., 2012). Furthermore, Zhou and Volkwein (2004) found that NTTF members who were more satisfied with their job security were significantly less likely to have expressed departure intentions. Specific sources of discontent included NTTF frustration with the lack of job security or promotion opportunities (Antony & Valadez, 2001; Baldwin & Chronister, 2001; Conley et al., 2002; Kezar, 2013; Levin & Shaker, 2011; Waltman et al., 2012). Since filling faculty vacancies has been regarded as a labor intensive and costly process for institutions (Weeks, Finch, & Hobbs, 2006), high turnover due to job dissatisfaction across these domains can be costly. Creating more equitable and supportive professional growth opportunities for NTTF may mitigate issues that arise due to the contractual nature of NTTF appointments. Moreover, equitable and supportive NTTF policies serve as a symbol of institutions' or departments' commitment to and appreciation of NTTF populations (Eagan, Jaeger, Grantham, 2015; Kezar, 2013). For example, policies to support NTTF contracts include opportunities for multiyear contracts, explicit evaluation criteria, defined dates for contract renewal or termination, and a system of sequential ranks (e.g., lecturer, senior lecturer) (Baldwin & Chronister, 2001; Gappa et al., 2007; & Kezar & Sam, 2010).

Professional Support

NTTF generally have had fewer resources to perform their jobs well (Baldwin & Chronister, 2001; Gappa, 2000; Gappa & Leslie, 1993) or access to "productivity-facilitating" resources, such as orientation, administrative support, professional development funding, or

rewards for productivity (Allen, 2000; Baldwin & Chronister, 2001; Bland et al., 2006; Conley et al., 2002; Gappa & Leslie, 1993; Kezar, 2013; Schell & Stock, 2001). Additionally, NTTF have rarely had office space, computers, photocopying services, bookstore discounts, or support for professional development (e.g., for research or teaching) (Baldwin & Chronister, 2001; Conley et al., 2002; Eagan et al., 2015; Gappa, 2000; Gappa & Leslie, 1993; Kezar, 2013; Levin & Hernandez, 2014). As a result, some of these factors affected faculty members' sense that they were valued by their institution and/or department or satisfied with their job (Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa & Leslie, 1993; Kezar, 2013; Levin & Hernandez, 2014).

Another component of professional support includes explicit mention of faculty members' academic freedom rights. Specifically, researchers found that NTTF members rarely had policies that explicitly protected their academic freedom rights or that NTTF members felt that they were not entitled to such academic privileges (Baldwin & Chronister, Cross & Goldenberg, 2009; Gappa & Leslie, 1993; Kezar & Sam, 2010; Schell & Stock, 2001). Without explicit protection of academic freedom rights, NTTF members may have an additional sense of insecurity in their jobs (Baldwin & Chronister, 2001; Chait, 2002; Cross & Goldenberg, 2009; Gappa & Leslie, 1993). In a review chronicling important legal cases related to First Amendment and academic freedom rights available to faculty members, Hutchens (2011) summarized: "Whereas protection of individual academic freedom is commonly believed to involve a constitutional dimension, current legal reality reveals debate and uncertainty, potentially resulting in an additional constraint on legal protections for non–tenure track faculty." (Hutchens, 2011, p. 1456).

Due to the apparent lack of professional support provided to NTTF members, the following professional development policies have been recommended: availability of professional development (teaching and research-related) opportunities, administrative support, paid sabbatical, access to orientation, access to office space, and explicit procedures that protect NTTF members' academic freedom rights (Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa et al., 2007; Kezar, 2013; Kezar & Sam, 2010). These support systems may positively impact faculty performance and NTTF members' perceptions of workplace respect and value (Kezar, 2013). As a result, NTTF members' perceptions of feeling respected and valued by their institution or department are positively associated with NTTF workplace satisfaction (Eagan et al., 2015).

Salaries and Benefits

In terms of pay and benefits, part-time faculty members have historically been paid significantly less than full-time faculty members or TTTF (Conley et al., 2002; Monks, 2007), and satisfaction with salary and benefits is positively related to part-time NTTF members' overall workplace satisfaction (Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa & Leslie, 1993). Typically, part-time faculty have been paid on a course-by-course basis that does not resemble the compensation received by full-time faculty for teaching a similar course (Gappa & Leslie, 1993). Sound comparisons are possible when comparing part-time and full-time faculty members, but, as stated by Schuster and Finkelstein (2006), the availability of data on salary information is not suitable to make sound comparisons between NTTF and TTTF while controlling for years of experience, productivity, and other measures that influence salary discrepancies. However, Monks (2007) acknowledged these data limitations and used the National Survey of Postsecondary Faculty to control for as many factors as possible (e.g.,

research productivity, race, gender, discipline, rank, education). As a result, Monks found a ladder among faculty salaries. Specifically, part-time NTTF had significantly lower salaries than full-time NTTF and TTTF, and full-time NTTF members had significantly lower salaries than their TTTF faculty colleagues.

Salary is not the only compensation inequity found between TTTF and NTTF. Very few institutions have offered equitable full fringe benefits for part-time NTTF (Conley et al., 2002; Gappa & Leslie, 1993; Gappa, 2000); however, full-time faculty—untenured, tenure-track, or tenured—often had the same or very similar benefits packages (Baldwin & Chronister, 2001; Hollenshead, 2007). In their examination of factors that affected NTTF and TTTF departure intentions, Zhou and Volkwein (2004) found that compensation, satisfaction with compensation, and other extrinsic rewards (such as benefits) were significantly related to NTTF and TTTF faculty members' intentions to depart from their job or institution. This sentiment was echoed by qualitative and quantitative research studies that have explored sources of dissatisfaction among faculty members whereby benefits (or lack thereof) were a source of dissatisfaction for NTTF members (Baldwin & Chronister, 2001; Conley et al., 2002; Gappa, 2000; Gappa & Leslie, 1993; Hollenshead, 2007; Waltman et al., 2012). Not surprisingly, Baldwin and Chronister (2001), Gappa et al. (2007), and Kezar and Sam (2010) have recommended that institutions adopt equitable salary and benefit offerings and polices for their NTTF members.

Campus Governance

NTTF members have often been excluded from campus governance responsibilities (Baldwin & Chronister, 2001; Gappa et al., 2007; Jones, Hutchens, Hubert, Lewis, & Brown, 2017; Kezar, Lester, & Anderson, 2006; Waltman et al., 2012), further reinforcing a class divide between NTTF and TTTF (Baldwin & Chronister, 2002; Jones et al., 2017). Baldwin and

Chronister (2001) found that only 50% and 84% of institutions allow participation in campus governance structures and departmental governance, respectively, for full-time NTTF. In their targeted research on high research doctoral universities, Jones, Hutchens, Hubert, Lewis, and Brown (2017) found that while 85% of institutions allowed full-time NTTF participation and 11% allowed part-time NTTF participation, only nine percent actually reserved positions for NTTF that would thus guarantee some NTTF representation. Unfortunately, despite the fact that NTTF are eligible to participate in governance structures, eligibility does not necessarily equate to actual NTTF representation or election to governance structures (Jones et al., 2017).

Although some faculty members are content with institutional exclusions from campus governance (Baldwin & Chronister, 2001; Gappa, 2000; Gappa & Leslie, 1993; Waltman et al., 2012) and referred to it as "distracting and drudgery" (Gappa, 1984, p. 4), other NTTF perceive the exclusion as "very unfair" (Alleman & Haviland, 2017, pg. 537). Baldwin and Chronister (2001) found that many NTTF felt that "the right to be involved in governance was as important as actually exercising that right" (p. 130). Scholars have recommended that NTTF members be included in university-wide governance structures and school-level governance structures (e.g., curricular committees) (Alleman & Haviland, 2017; Baldwin & Chronister, 2001; Gappa et al., 2007, Jones et al., 2017; Kezar & Sam, 2010). In recent years, the American Association for University Professors (2013) and the Association for Governing Boards of Universities and Colleges (2016) have issued statements about the need for increased NTTF participation in university governance structures. While representation and voting is a first step to embracing NTTF members' roles in institutional decision-making, ensuring that NTTF members have proportional representation is also important (Kezar & Sam, 2010); however, proportional representation is not explored in this research study.

Summary of Recommendations for NTTF Policy Development

Based on the work and recommendations of scholars who have studied NTTF populations, this study examined the prevalence of institutions that have adopted the aforementioned NTTF-supportive policies. In particular, Baldwin and Chronister (2001), Gappa, et al. (2007), and Kezar and Sam (2010) have presented comprehensive policy and practice recommendations that guide this study—many of which are also recommended by scholars cited within the literature review. As a summary of the policy recommendations cited in the literature review, Table 1 outlines these polices, all of which have been recommended by Baldwin and Chronister (2001), Gappa et al (2007), and Kezar and Sam (2010). The first column identifies the policy, and the second column provides a rationale for the policy recommendation, as referenced by all three groups of scholars. In many instances, policy recommendations by Gappa et al. (2007) and Kezar and Sam (2010) reiterate Baldwin and Chronister's recommendations or earlier work by Gappa and Austin (1993).

Table 1
Polices for NTTF

Policy	Rationale Provided by Baldwin and Chronister (2001), Gappa, Austin and Trice (2007), and Kezar and Sam (2010)
Contract-related policies:	
Defined dates for contract renewal and/or termination	Defined dates may reduce perceptions and anxiety around job insecurity and allow the faculty member to seek alternative employment in cases where contracts are ending and are not renewable.
Defined probationary period (similar to pre-tenure)	Defined probationary periods are similar to pre-tenure, which allows the institution to collect information about faculty members' performance before a more permanent appointment is created. Provides applicants with knowledge about the potential for long-term employment prospects.

Multi-year appointments following a probationary period	Series of long-term appointments creates insecurity. After an explicit probationary period, faculty members should have some security with their position in cases where institutional demand for the appointment is present.
Performance policies:	
Explicit evaluation criteria and accompanying regular (at least annual) performance reviews or evaluations (e.g., evaluation based on teaching, research, etc.)	Explicit evaluation criteria may clearly articulate how faculty members are assessed in their positions during any probationary or review period. For example, faculty members are evaluated based on their teaching, professional development, advising, and participation in departmental services (Baldwin & Chronister, 2001).
Academic promotions in rank (e.g., lecturer, senior lecturer)	Promotions provide opportunity for career advancement and an incentive for performance and growth.
Merit pay increases based on performance	An equitable salary system that includes merit pay increases based on performance acknowledges the valuable contributions of NTTF (i.e., fulfilling the teaching mission) and creates a salary system that accounts for this valuation.
Professional development policies:	
Paid sabbatical	In addition to professional development, paid professional leave allows NTTF members the professional growth opportunities needed to stay current and advance within their fields and in the classroom.
Financial support to pursue professional development related to teaching and research	Investing in faculty professional development is the equivalent of investing in their ability to stay current within their disciplinary fields, both research and teaching, giving them the ability to "respond to the dynamic and demanding educational environment" (Baldwin & Chronister, 2001; pg. 158).
Benefits policies:	
Full fringe and family leave benefits	Providing the same benefits to NTTF colleagues as their TTTF counterparts "affirms their legitimacy as valued members of the faculty" (Baldwin & Chronister, 2001, pg. 155).

Standard resources and support:	
Academic freedom protection	Protecting faculty members' academic freedom rights allows them to teach and research without reservation or censorship. Explicit protection of NTTF members' academic freedom rights ensures free and unrestrained participation in governance and teaching.
Institutional orientation	Orientation helps facilitate a smooth integration and socialization into their job, university policies, and the university community.
Access to resources (e.g., individual office space and administrative support)	Resources alleviate the burden placed on faculty members to purchase or access support that is critical to their careers. Resources may include office space, supplies, access to printing, and administrative support.
Governance policies:	
Representation on university governing boards (e.g., faculty senate)	Involvement in decision-making recognizes them as "academic citizens" (Baldwin & Chronister, 2001, pg. 159) of the school, removing implicit power dynamics due to participation in governance systems. Moreover, inclusion in governance structures increases interaction among TTTF and NTTF.
Involvement in department or school-level governance structures (e.g. School of Education)	Departments and schools discuss and make decisions about curricula and faculty affairs that affect all faculty ranks. NTTF involvement in such decision-making improves messages of respect and inclusion for NTTF members.

The literature review identified the importance of various NTTF-supportive policies as they relate to NTTF members' perceptions of their work, satisfaction with their work, and commitment to their job or institution.

Methodology

The purpose of this descriptive study was to explore the NTTF policy landscape among a sample of traditional four-year institutions. In the previous section, Table 1 outlined the policies under consideration. This section details the methodology, including the following core

components: research design, instrumentation, sampling strategy, data collection, data analysis, and limitations.

Research Design

This research study utilizes two data sources, including the Integrated Postsecondary Education Data System (IPEDS) Surveys and the National Survey of Postsecondary Faculty Policies (NSPFP). The IPEDS surveys are conducted by the U.S. Department of Education, whereas I collected the NSPFP data. To collect the NSPFP data, university administrators, (e.g., provosts and vice provosts) answered questions about institutional policies and resources available to various faculty groups. The following section describes these data sources in more detail.

Instrumentation

Using a web-based questionnaire, the NSPFP asked respondents if their institution has university-wide or required school/department-level policies for the following core faculty groups: part-time non-tenure track, full-time non-tenure-track, tenure-track, and tenured faculty. I collected policy information for tenured and tenure-track faculty to descriptively compare policies across faculty populations. The specific faculty policies and supports are identified in Table 1 and include the following core policy areas: contract policies, performance policies, professional development policies, benefits offerings, and standard resources and support offerings.

The NSPFP instrument was piloted to test for face validity and construct validity during the summer of 2016. The construction of the NSPFP survey was informed by the Tailored Design Method (Dillman, Smyth, & Melani, 2014), which offers guidelines for survey design and administration with an eye toward reducing overall survey error and therefore increasing the

reliability and validity of the survey instrument and results. For additional details about the pilot testing and administration procedures, see Jones (manuscript 1).

After data collection, the NSPFP was merged with data from the Integrated Postsecondary Education Data System (IPEDS) 2013-2015 surveys. The year range is broad due to administration cycles and the presence of imputed data from prior years; due to the cross-sectional nature of this dataset, imputed IPEDS data from prior years is not problematic. The specific IPEDS surveys of interest included the following: Institutional Characteristics, Finances, Human Resources, Student Financial Aid, and the Fall Enrollments survey. As outlined in the NCES Handbook of Survey Methods, the IPEDS surveys are received from approximately 7,300 institutions including two-year, four-year, for-profit, and other institutional types. Data collection occurs in the winter, spring, and fall via a web-based survey. Survey submission requirements vary slightly per survey. For example, some surveys impute data from prior years, allowing institutions to reuse a former submission where applicable. In other cases, institutions may upload an Excel file with institutional data. Additional information about the reliability and validity of the IPEDS surveys is publicly available on the National Center for Education Research webpage within the methodology report, which is produced by RTI International (Ginder, Kelly-Reid, & Mann, 2014). Using the IPEDS data allowed me to examine nonresponse bias for the NSPFP.

Sample

The NSPFP sampling plan included all 1,189 Title IV granting, tenure-granting, public and private, non-profit, four-year higher education institutions in the United States, classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. Additionally, the sample population only included institutions that submitted data to the

Integrated Postsecondary Education Data System (IPEDS) and had complete information for the variables used in this study. In total, only 45 institutions were eliminated based on incomplete IPEDS submissions. All 1,189 institutions were contacted to account for the expected response rate (30%). Although two upper-level administrators, such as a provost and a vice provost, were contacted for the survey, respondents were made aware that I would only record one response for each participating school. In total, only two institutions completed the survey twice, in which case the more complete response was preserved. After data cleaning was completed, 479 institutions completed the NSPFP, resulting in 40.3% response rate and a 3.5% margin of error at a 95% confidence level. Missing values were not imputed for NSPFP responses and included respondents who answered at least 25% of the policy questions and had complete IPEDS data. However, 93% of responding institutions answered at least 75% of the NSPFP policy-related survey questions.

Data Collection

At least two administrators from each of the 1,189 sample institutions received the NSPFP and were asked to participate in a study examining the policies for various faculty groups. I retrieved most contact information from a HigherEd Direct contact list and obtained supplementary contact information from university webpages. The questionnaire links were sent via email and available via a web-based link supported by the Qualtrics survey platform. As an incentive, participating institutions were promised a market research report that would highlight policy adoption across Carnegie classification. Survey participation was voluntary as was answering each individual item within the survey. Respondents received the study notification on August 11, 2016 and had the opportunity to complete the questionnaire from August 17, 2016 through September 8, 2016.

Variables

There were 18 policy variables analyzed in this study, as outlined in Table 1. In order to contextualize the data and the population of institutions that participated in the NSPFP, I also provide descriptive data on the sample of institutions that participated in the research study as compared to those institutions that did not participate. The IPEDS variables explored, for descriptive or representative purposes, included the following: Endowment per FTE, instructional expenses per FTE, proportion of revenues that are federal appropriations, percent of students receiving federal grant aid, state policy prohibiting collective bargaining, public institution status, Carnegie classification, total 12-month undergraduate and graduate student enrollment, proportion of enrollment represented by undergraduate students, and the proportion of full-time faculty not on the tenure-track.

Analysis

I ran several means comparisons and group comparisons tests, which allowed me to test the representativeness of the sample. Other analyses included descriptive statistics for aggregate results, descriptive statistics and chi-square tests (or Fisher's Exact test) by Carnegie classification, and policy computations to capture the existence of policies across faculty groups. These tests were used to answer all three research questions.

To test the representativeness of the sample, I ran independent samples *t*-tests and Pearson's chi-squared tests to determine if the sample population was significantly different than the total population of participating institutions. I performed independent samples *t*-tests with all of the continuous or percentage variables, and the results are presented in Table 2. Additionally, I conducted chi-squared goodness of fit tests on the categorical and dichotomous variables, and these results are presented in Table 3.

I also provide descriptive statistics for the raw and computed policy data. Building on the raw policy information, I computed the percentage of policies that are equal or unequal across NTTF and TTTF. To compute this variable, if the policy existed for either part-time or full-time NTTF, it was identified as existing. The policy was identified as non-existing if both part-time and full-time NTTF did not have the policy or one group did not have the policy and the other group was missing or "Not sure or unclear." If both NTTF groups were identified as missing or "Not sure or unclear," the policy classification was identified as missing. The same computation was carried out for tenure and tenure-track faculty policy data. Using the aforementioned variables, I then captured if a policy existed for one group but not the other, existed for both groups, or was non-existent for both groups. Building on these variables, the last variable computation captured equal or unequal policy adoption between NTTF and TTTF. Within the results section, this series of computations and data is captured in Table 4 through Table 6 whereby the policies are displayed by most unequal policy to least unequal policy for each table.

Results

Sample and Population Comparisons

The results of the population comparisons are found in Table 2 and Table 3. A couple of institutional variables differed significantly between the group of institutions that participated in the NSPFP and those that did not participate. There was a significantly higher proportion of public institutions in the sample (compared to the population average (45% versus 41%, respectively). Moreover, and not surprisingly given the public representation, the sample of institutions that responded received a significantly higher proportion of their total revenues from federal funds in comparison to institutions not included in the analysis (11.6% versus 10.4%, respectively). Despite these two discrepancies, the remaining eight continuous, dichotomous, and

categorical variables, such as Carnegie classification, institution size, and other financial characteristics of the institutions, were not significantly different between the population and the sample.

The sample of responding institutions comprises mostly private institutions (55%) and—similar to the overall Carnegie classification distributions—the majority of institutions are Masters Colleges and Universities (45%), followed by Baccalaureate Colleges (35%), and Doctoral/Research Universities (20%). Most institutions were affiliated with states that were not classified as "Right-to-Work" states (54%). Descriptive statistics comparing the participating (n=479) vs. non-participating institutions (n=710), such as endowment, enrollment, and federal revenues, are found in Table 2 and Table 3.

Table 2
Independent Samples T-Tests Comparing NSPFP Participants and Non-Participants

	Did Not Participate in NSPFP (n=710)		Participated in NSPFP (n=479)		Sig. (2-tailed)	t
	Mean	SD	Mean	SD		
Federal appropriations as a percentage of core revenues	10.4%	10.5%	11.6%	10.8%	0.046	-1.997
Instruction expenses per FTE ($)	$11,165	$9,169	$10,882	$8,672	0.594	0.533
Endowment per FTE ($)	$66,539	$209,765	$49,174	$129,034	0.078	1.766
Percentage of full-time first-time students who receive Pell funding	37.8%	17.0%	38.3%	16.4%	0.581	-0.552
12-month full-time equivalent enrollment	6,960.3	8,749.0	7,847.3	9,602.5	0.100	-1.648
Percent of FTE enrollment who are undergraduate students	86.3%	12.9%	86.6%	12.1%	0.695	-0.392
Percent of faculty members who are NTT	24.1%	16.4%	24.5%	14.7%	0.717	-0.362

Table 3
Chi-Square Tests Comparing NSPFP Participants and Non-Participants

	Did Not Participate in NSPFP		Participated in NSPFP	
	%	Adj. Res.	%	Adj. Res.
Private and Public Status				
Private (n=700)	62.6%	2.4	37.4%	-2.4
Public (n=489)	55.6%	-2.4	44.4%	2.4
χ^2 (1, N=1,189) = 5.77, p =.016				
Right-to-Work State				
Right-to-Work State (n=532)	60.9%	-0.9	39.1%	0.9
Not a Right-to-Work State (n=657)	58.3%	0.9	41.7%	-0.9
χ^2 (1, N=1,189) = .83, p = .361				
Carnegie Classification				
Baccalaureate Colleges-Arts & Sciences (n=209)	56.5%	-1.1	43.5%	1.1
Baccalaureate Colleges-Diverse Fields (n=200)	65.5%	1.8	34.5%	-1.8
Master's Colleges and Universities (smaller programs) (n=67)	59.7%	0.0	40.3%	0.0
Master's Colleges and Universities (medium programs) (n=130)	63.1%	0.8	36.9%	-0.8
Master's Colleges and Universities (larger programs) (n=325)	60.3%	0.3	39.7%	-0.3
Doctoral/Research Universities (n=64)	57.8%	-0.3	42.2%	0.3
Research Universities (high research activity) (n=92)	52.2%	-1.5	47.8%	1.5
Research Universities (very high research activity) (n=102)	56.9%	-0.6	43.1%	0.6
χ^2 (7, N=1,189) = 6.98, p =.431				

Aggregate Policy Results

Table 4 through Table 6 display the results for the descriptive policy analysis. The policy analysis included a summary of policies that were available to various faculty populations and included tenured, tenure-track, part-time NTT, and full-time NTTF groups along with the proportion of policies that were equal (or unequal) between generalized groups of NTTF and TTTF.

In almost all cases, institutional policies favored TTTF over NTTF. The most discrepant policies included professional development policies and governance policies such as inclusion on campus governance, paid sabbatical, and financial support to pursue professional development related to teaching or research. For example, whereas at least 97% of institutions had a policy that supported TTTF inclusion in *both* university and departmental governance structures, 77% and 90% of institutions had these policies (for university and departmental structures, respectively) for full-time NTTF, and 28% and 35% of institutions had these policies for part-time NTTF (see Table 5). Specifically, only about a third of institutions had a policy mandating that part-time NTTF be included in either governance structure. Moreover, institutions were less likely to have policies that stipulated that part-time or full-time NTTF were represented in university-wide governance structures compared to department or school-level governance structures. Other contract-related and performance policies that were most unequal included defined probationary period, academic promotion in rank, multi-year appointments following a probationary period, and merit-based salary increases. Conversely, the least discrepant policies and resources included benefits and standard resources and support, such as administrative support, office space, explicit academic freedom protection, full fringe benefits, family leave benefits, and orientation. Other policies and resources that were less discrepant included a

variety of performance and contract-related policies, such as routine performance evaluations, explicit performance evaluation criteria, and defined dates for contract renewal or termination.

Aside from equal and unequal policy adoption for generalized NTTF and TTTF populations, the policy existence between part-time and full-time NTTF is very different. In Table 5 and Table 6, I display the percentage of institutions that indicated a certain policy exists for each faculty group. For part-time NTTF, about 75% of institutions required that the following be provided: administrative support, orientation, and defined dates for contract renewal or termination; in contrast, 92% to 96% of institutions provided these to full-time NTTF. Between part-time and full-time NTTF, the largest policy distinctions in favor of full-time NTTF are as follows: full fringe benefits, family leave benefits, office space, financial support to pursue professional development related to teaching or research, academic promotion in rank, inclusion on campus or departmental governance, multi-year appointments followed by a probationary period, and merit-based salary increases. Across these eight policy areas, there were 34% to 80% fewer instances of policy existence for part-time NTTF compared to full-time NTTF. A similar pattern held true for other faculty groups whereby tenured faculty had the most supportive policies, followed by tenure-track faculty, full-time NTTF, and finally part-time NTTF.

Policy Results by Carnegie Classification

Table 7 and Table 8 present the policy analysis by Carnegie classification including Baccalaureate, Master's, and Doctoral/Research institutions. With regard to policy equality between NTTF and TTTF and across the three Carnegie classifications, there were three policies with significant differences. Doctoral/Research universities were significantly more likely than Baccalaureate or Master's colleges to have equal NTTF and TTTF policies for academic promotion in rank ($p < .001$), and regular (at least annual) performance reviews and evaluations

($p < .001$). Additionally, though relatively equal within Carnegie classification groups, Doctoral/Research universities were more likely to offer merit-based salary increases. Indeed, academic promotion in rank, performance evaluations, and merit-based salary increases encompass three of the four performance-based policies. As an example, at least 85% of institutions had policies mandating that full-time NTTF were eligible for promotions and merit-based salary increases, whereas only 38% to 57% of Baccalaureate or Master's Colleges had the same policy for full-time NTTF. Although Doctoral/Research universities have more supportive performance-based policies than other groups, Baccalaureate colleges were significantly more likely than Master's or Doctoral/Research universities to have equal policies with regard to financial support to pursue professional development related to research ($p < .003$); however, Baccalaureate colleges do not fare better for other professional development oriented policies. The next section discusses the practical and research implications of these findings.

Table 4
Equal and Unequal Policies between NTTF and TTTF

	Unequal Policy		Equal Policy		Missing or Not Sure
	Policy Exists for TTT, but not NTT	Policy Exists for NTT, but not TTT	Policy Exists for Both	Policy Does NOT Exist for Either	
Most Unequal Policies					
Paid Sabbatical	67.6%	0.6%	19.8%	6.7%	5.2%
Defined Probationary Period	47.6%	0.8%	41.5%	3.5%	6.5%
Academic Promotion in Rank	33.6%	0.4%	60.8%	0.6%	4.6%
Multi-year Appointments Following Probationary Period	14.4%	13.8%	30.7%	27.6%	13.6%
Financial Support to Pursue Professional Development Related to Research	26.1%	0.4%	59.9%	3.1%	10.4%
Representation on University Governing Boards	21.3%	0.4%	71.2%	1.7%	5.4%
Merit-based Salary Increases	10.4%	1.9%	45.1%	34.9%	7.7%
Financial Support to Pursue Professional Development Related to Teaching	11.7%	0.6%	75.4%	2.1%	10.2%
Involvement in Department or School-level Governance Structures	11.5%	0.2%	81.0%	0.0%	7.3%
More Equal Policies					
Family Leave Benefits	10.4%	0.2%	78.9%	3.1%	7.3%
Individual Office Space	10.0%	0.4%	81.6%	0.6%	7.3%
Regular (at least annual) Performance Reviews or Evaluations	7.1%	2.1%	81.2%	3.1%	6.5%
Explicit Performance Evaluation Criteria	7.1%	0.8%	84.1%	2.1%	5.8%
Defined Dates for Contract Renewal or Termination	3.3%	1.7%	91.4%	0.2%	3.3%
Full Fringe Benefits	3.8%	0.2%	93.5%	0.2%	2.3%
Orientation	3.1%	0.6%	90.4%	0.2%	5.6%
Explicit Academic Freedom Protection	1.3%	0.2%	92.3%	1.0%	5.2%
Administrative Support	0.8%	0.6%	83.1%	6.7%	8.8%

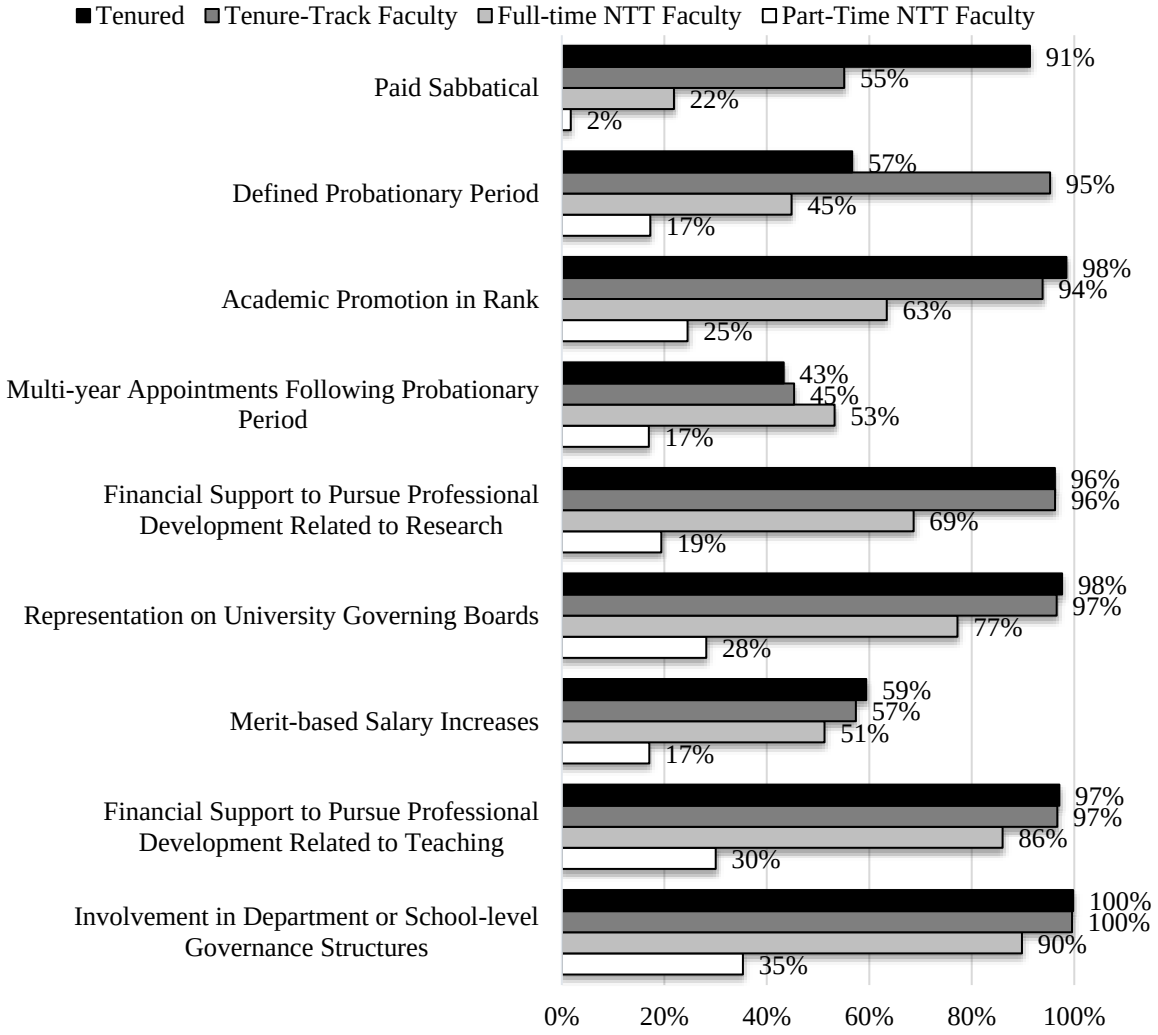
n=479; if a policy existed for either tenured or tenure-track faculty, the policy was marked as "existing" for the TTTF group. Similarly, if a policy existed for part-time NTTF or full-time NTTF, the policy was marked as "existing" for the NTTF group. As such, the equality calculation favors the sub-group that has more favorable policies (i.e., tenured, and full-time NTTF in most cases). In cases where both NTTF faculty groups or both TTTF groups unanimously had missing or "Not sure or unclear" responses for a given policy, those are classified under the "Missing or Not Sure" column.

Table 5

Most Unequal Policies: Percentage of Equal Policies between TTTF and NTTF and the Percentage of Policy Existence for Each Faculty Group

Percentage of Equal Policy Existence Between NTTF and TTTF* (n=414-457)	
Paid Sabbatical	28%
Defined Probationary Period	48%
Academic Promotion in Rank	64%
Multi-year Appointments Following Probationary Period	67%
Financial Support to Pursue Professional Development Related to Research	70%
Representation on University Governing Boards	77%
Financial Support to Pursue Professional Development Related to Teaching	86%
Merit-based Salary Increases	87%
Involvement in Department or School-level Governance Structures	87%

Percentage of Policy Existence by Faculty Group**



*The denominator includes institutions that had an equal or unequal classification and excludes missing or "Not sure or unclear" responses. For results that include the full distribution of results, see Table 4.

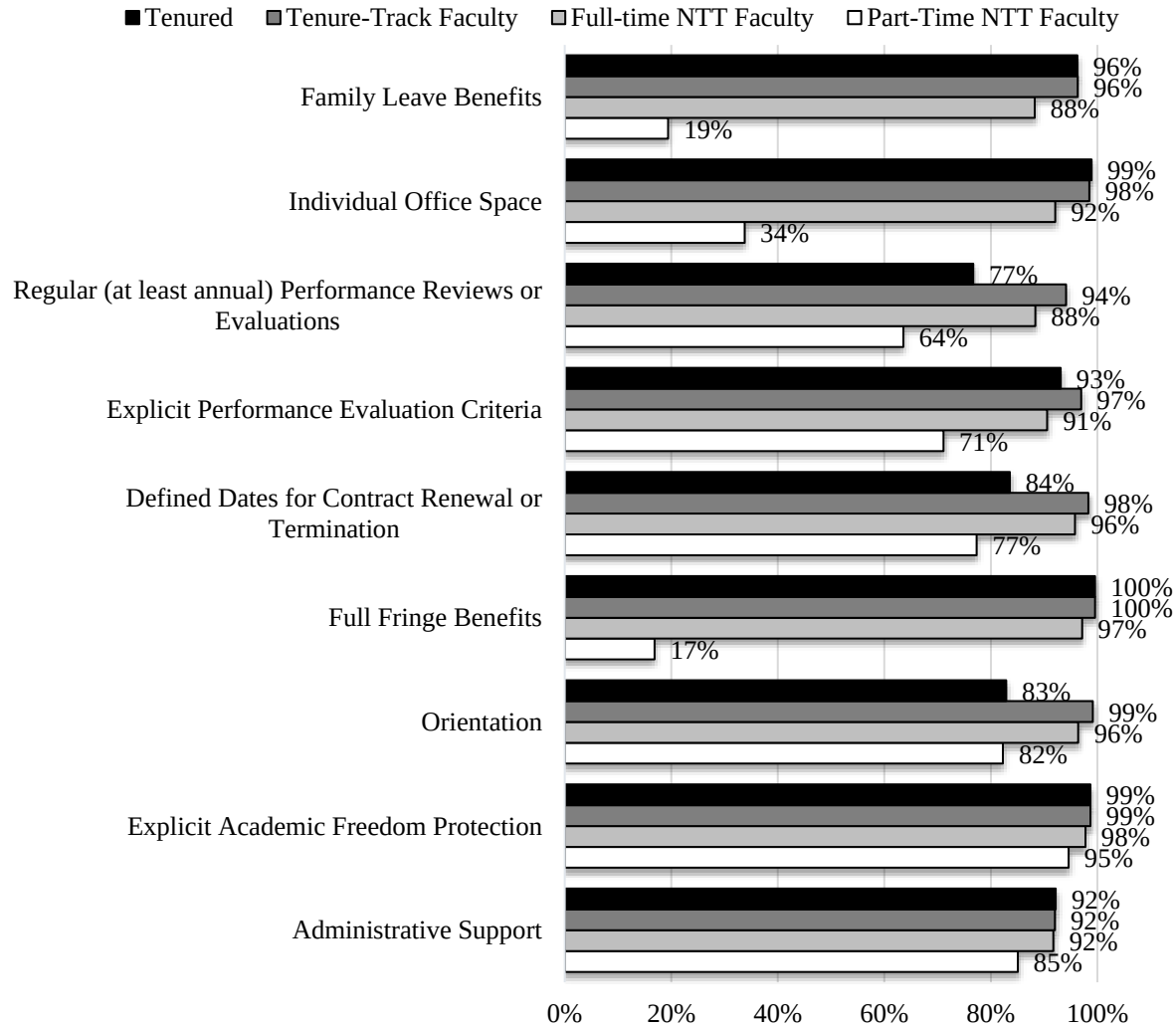
**Tenured faculty n=353-466; Tenure-track faculty n=408-472; Full-time NTTF n=418-440; Part-time NTTF n=399-455. Percentages represent the total proportion of institutions that had the policy/resource available to the specific faculty group. Respondents who left the response empty or answered “Not sure or Unclear” are excluded from the denominator for this table.

Table 6

Most Equal Policies: Percentage of Equal Policies between TTTF and NTTF and the Percentage of Policy Existence for Each Faculty Group

Percentage of Equal Policy Existence Between NTTF and TTTF* (n=437-468)	
Family Leave Benefits	89%
Individual Office Space	89%
Regular (at least annual) Performance Reviews or Evaluations	90%
Explicit Performance Evaluation Criteria	92%
Defined Dates for Contract Renewal or Termination	95%
Full Fringe Benefits	96%
Orientation	96%
Administrative Support	98%
Explicit Academic Freedom Protection	98%

Percentage of Policy Existence by Faculty Group**



*The denominator includes institutions that had an equal or unequal classification and excludes missing or "Not sure or unclear" responses. For results that include the full distribution of results, see Table 4.

**Tenured faculty n=438-460; Tenure-track faculty n=451-470; Full-time NTTF n=425-455; Part-time NTTF n=382-454. Percentages represent the total proportion of institutions that had the policy/resource available to the specific faculty group. Respondents who left the response empty or answered “Not sure or Unclear” are excluded from the denominator for this table.

Table 7

Percentage of Equal Policy Existence Between NTTF and TTTF by Basic Carnegie Classification including (Bacc)alaureate, (Mast)er's, and (Doct)oral/(Res)earch Universities.

	Bacc.	Mast.	Doct /Res	Overall
Most Unequal Policies				
Paid Sabbatical	28%	28%	28%	28%
Defined Probationary Period	55%	45%	44%	48%
Academic Promotion in Rank*	56%	58%	87%	64%
Multi-year Appointments Following Probationary Period	72%	66%	64%	67%
Financial Support to Pursue Professional Development Related to Research*	78%	70%	57%	70%
Representation on University Governing Boards	71%	81%	80%	77%
Financial Support to Pursue Professional Development Related to Teaching	87%	86%	85%	86%
Merit-based Salary Increases	85%	85%	91%	87%
Involvement in Department or School-level Governance Structures	83%	89%	90%	87%
Most Equal Policies				
Family Leave Benefits	87%	86%	95%	89%
Individual Office Space	92%	88%	84%	89%
Regular (at least annual) Performance Reviews or Evaluations*	85%	89%	99%	90%
Explicit Performance Evaluation Criteria	91%	89%	97%	92%
Defined Dates for Contract Renewal or Termination	93%	94%	98%	95%
Full Fringe Benefits	95%	95%	99%	96%
Orientation	97%	95%	96%	96%
Administrative Support	98%	98%	100%	98%
Explicit Academic Freedom Protection	98%	99%	98%	98%

Overall n=414-468; Bacc n=140-155; Mast n=178-200; Doct/Res n=88-114; The denominator includes institutions that had an equal or unequal classification and excludes missing or "Not sure or unclear" responses. For overall results that include the full distribution of results, see Table 4.

*Indicates statistically significant between Carnegie groups. To account for the 18 separate chi-square tests, I used the Bonferroni Correction whereby significance is noted if the p-value was less than .003. In cases where a cell was less than 5, I used the Fisher's Exact Test. However, in all cases where significance is noted, there were zero cells with fewer than 5 cases.

Table 8

NSPFP Policy Data for Each Faculty Group by Basic Carnegie Classification including (Bacc)alaureate, (Mast)er's, and (Doct)oral/(Res)earch Universities.

	Tenured Faculty			Tenure-Track Faculty			Full-Time NTT Faculty			Part-Time NTT Faculty		
	Bacc.	Mast.	Doct. /Res.	Bacc.	Mast.	Doct. /Res.	Bacc.	Mast.	Doct. /Res.	Bacc.	Mast.	Doct. /Res.
Paid Sabbatical	89%	93%	92%	53%	50%	66%	21%	23%	20%	1%	2%	3%
Defined Probationary Period	52%	59%	58%	91%	98%	96%	47%	44%	44%	15%	19%	18%
Academic Promotion in Rank	97%	99%	100%	88%	97%	97%	55%	57%	86%	17%	23%	39%
Multi-year Appointments Following Probationary Period	42%	45%	42%	45%	44%	49%	48%	47%	71%	11%	15%	28%
Financial Support to Pursue Professional Development Related to Research	95%	96%	99%	95%	96%	99%	77%	67%	57%	23%	17%	19%
Representation on University Governing Boards	95%	98%	100%	94%	98%	99%	68%	82%	81%	22%	32%	31%
Merit-based Salary Increases	47%	49%	94%	42%	48%	94%	38%	41%	85%	9%	12%	38%
Financial Support to Pursue Professional Development Related to Teaching	98%	97%	95%	98%	97%	94%	86%	86%	85%	28%	28%	38%
Involvement in Department or School-level Governance Structures	99%	100%	100%	99%	100%	99%	85%	92%	93%	29%	39%	38%
Family Leave Benefits	94%	97%	98%	94%	97%	99%	83%	87%	97%	14%	18%	29%
Individual Office Space	99%	99%	99%	98%	99%	98%	94%	92%	89%	39%	31%	31%
Regular (at least annual) Performance Reviews or Evaluations	69%	73%	94%	89%	95%	98%	79%	89%	99%	58%	63%	72%
Explicit Performance Evaluation Criteria	89%	93%	99%	95%	97%	99%	89%	89%	96%	69%	71%	75%
Defined Dates for Contract Renewal or Termination	83%	86%	80%	97%	99%	99%	93%	97%	98%	76%	74%	85%
Full Fringe Benefits	99%	100%	100%	99%	100%	100%	97%	96%	100%	12%	18%	21%
Orientation	82%	77%	95%	98%	100%	100%	97%	96%	96%	84%	82%	81%
Explicit Academic Freedom Protection	97%	99%	99%	97%	99%	99%	97%	98%	98%	95%	95%	93%
Administrative Support	87%	94%	97%	87%	93%	97%	87%	92%	97%	84%	84%	88%

Bacc n=124-156; Mast n=150-203; Doct/Res n=79-114

Note: Percentages represent the total proportion of institutions that had the policy/resource available to the specific faculty group. Respondents who left the response empty or answered "Not sure or Unclear" are excluded from the denominator for this table.

Discussion

Limitations

There are five key limitations for this study. First, although institutions may have institutional policies for NTTF, departments or schools may not adopt the same policies, nor is it to be assumed that institutions adhere to, apply, or interpret their policies consistently. Similarly, institutions may not have policies, but departments or individual schools do, thus potentially underrepresenting the actual prevalence of NTTF policies at a particular institution since only leaders at the Provost level were surveyed. Third, universities have different concepts and definitions of what defines part-time and full-time NTTF populations, thus making the comparisons for part-time NTTF particularly challenging. Fourth, when I determined the equal versus unequal policy groups I simply split the policies in half. As a result, the grouping may understate the similarities between policies that were on the cusp of either the equal or unequal group threshold. Fifth, this study does not assess the quality of existing policies. For example, although an institution may have a policy that supports NTTF representation on university governance structures, is the policy support simple representation or proportional representation? Similarly, are the quality of NTTF office spaces, administrative support, and professional development offerings qualitatively similar to the resources provided to TTTF? However, given these limitations and the important roles that NTTF play on U.S. college campuses, in addition to the fact that no large-scale study has been conducted on NTTF policies since 2001, this study will contribute to the higher education literature as a means to update our knowledge and provide additional information about university-wide or department mandated policy existence across four-year higher education institutions.

Overall Policy Discrepancies across Faculty Groups

The results of the descriptive analysis in Table 4 through Table 6 showed that faculty policies largely supported TTTF over NTTF. Policies that supported faculty professional development and inclusion in campus governance structures were particularly discrepant across groups, but standard resources and supports were less discrepant across faculty groups. This would imply that procedural injustice and distributive injustice are problematic given that financial resources and university procedures (e.g., inclusion in governance) that support fair outcomes are not equitably or equally distributed among faculty groups. Specifically, among the six policy classifications outlined in Table 1, including contract-related (3 policies), governance (2 policies), performance (4 policies), professional development (3 policies), benefits (2 policies), and standard resources and support (4 policies), the three professional development policies (or resources) and two governance polices were among the most unequal policies between NTTF and TTTF. Conversely, among the four standard resources and support policies, none of these policies were among the most unequal.

To illustrate further, 97% of institutions had a policy mandating that financial support be provided for tenured or tenure-track faculty to pursue professional development related to teaching; however only 86% and 30% of institutions had the same policy in place for full-time NTTF and part-time NTTF, respectively. This was particularly surprising given that NTTF are typically hired to teach rather than conduct research. Regarding standard resources, most institutions had policies or resources in place that grant all faculty administrative support, access to orientation, and office space. However, part-time NTTF did not fare as well as full-time NTTF in this regard.

Similar to Monk's (2007) findings regarding hierarchical faculty salaries, the visual representation provided in Table 5 and Table 6 indicate that, for most policies and resources, there is a hierarchy whereby TTTF have the most resources and policies that support their employment, and NTTF, especially part-time NTTF, have far fewer policies and resources that support their employment. Moreover, this confirms that hierarchical microaggressions exist for basic policies and resources available across NTTF and TTTF populations. Across all 18 policies, part-time faculty are far less likely to have policies or resources that support their professional lives. With regard to full-fringe benefits, another form of distributive injustice, there is a large divergence between full-time NTTF support and part-time NTTF support, and similar to Conley and colleagues' (2002) findings, part-time NTTF continue to lack the full fringe benefits available to their full-time colleagues. Furthermore, only 34% of institutions had a policy in place that mandated part-time NTTF be granted access to critical institutional resources such as office space. Related to this finding, Eagan et al. (2015) found that only 18% of part-time NTTF had access to a private office, and 45% had access to shared office space. Moreover, access to such spaces was significantly and positively related to their overall job satisfaction (Eagan et al., 2015). Although better off than part-time NTTF, full-time NTTF are provided fewer policies and supports compared to their tenure-track colleagues, with one exception; for multi-year appointments following a probationary period, full-time NTTF fared better than their tenure-track colleagues. All other policy areas favored tenure-track faculty over full-time and part-time NTTF. However, given TTTF promotion parameters, this finding was not surprising and not particularly favorable toward NTTF given that TTTF, in contrast, have permanent job security once tenured, thus their positions are more secure than multi-year appointments. These findings imply that all three types of injustice explored in this study—

including procedural, distributive, and moral exclusion—were most unjust for part-time NTTF, then full-time NTTF, and were considerably more just for TTTF populations. In particular, resource allocation and procedures that determine fair outcomes, or distributive and procedural injustice, were most problematic based on the most discrepant TTTF versus NTTF policies.

Despite the general trends toward less supportive NTTF policies, compared to Baccalaureate and Master's colleges, Doctoral/Research universities had better part-time and full-time NTTF policies with regard to performance, such as promotions in rank, merit-based salary increases, and regular evaluations. However, few other differences across Carnegie classification existed. Moving beyond a discussion of the overall findings for this study, in the next section I compare the findings of the NSPFP with previous research on NTTF resources and policies.

Policy Comparison between NSPFP and Previous NTTF Research

Although researchers had historically found that many faculty members were unaware of explicit institutional policies that protected their academic freedom (Baldwin & Chronister, Cross & Goldenberg, 2009; Gappa & Leslie, 1993; Kezar & Sam, 2010; Schell & Stock, 2001), in this study almost all institutions indicated that they had a policy that explicitly outlined NTTF members' academic freedom rights. However, given the self-report nature of this survey, it may be that institutions believed this was a "given" constitutional right for faculty groups, as has been stated by Hutchens (2011). Despite these findings, all faculty groups should be made aware of academic freedom protection that is apparently commonplace across institutions.

Drawing from a much smaller sample of four-year universities (n=86), Baldwin and Chronister (2001) found that 84% and 50% of four-year institutions indicated that NTTF were eligible to participate in departmental and university-wide governance structures, respectively.

In a more recent study, Jones et al. (2017) found that 85% of research universities (very high research activity) included full-time NTTF in the faculty senate (university-wide) and only 11% included part-time NTTF. Although eligibility is not the same as an actual policy that mandates NTTF inclusion, compared to Baldwin and Chronister's (2001) work and this study, university-wide governance inclusion has improved considerably over the past couple of decades as indicated by Jones and colleagues (2017) and this research. For example, 77% of institutions in this study had policies that support full-time NTTF participation in university-wide governance structures, whereas only 50% of the institutions included in Baldwin and Chronister's (2001) sample indicated that full-time NTTF were eligible for university senates. The same long-term comparison is not available for part-time NTTF; however, only 28% and 35% of institutions in this study had a policy that supported part-time NTTF participation in university and departmental governance structures, respectively. This percentage is considerably higher than the Jones et al. (2017) research (11%) evaluating actual senate and faculty handbooks. However, Jones et al. (2017) recognized that policy documents were often ambiguous with regard to faculty-type eligibility, thus making the policy difficult to interpret for various faculty types. Indeed, governance inclusion and participation is essential given that many policies that impact faculty members' professional lives are deliberated during routine governance meetings and consequently enable procedural justice across faculty groups.

Table 9 summarizes the aforementioned comparisons between Baldwin and Chronister (2001) and the NSPFP findings in cases where the survey questions are roughly comparable; however, please note that while Baldwin and Chronister (2001) inquired about eligibility for resources or representation, the NSPFP asked about the existence of policies that support NTTF eligibility for various resources and representations. For example, whereas Baldwin and

Chronsister (2001) found that 80% of participating institutions indicated that full-time NTTF were *eligible* for merit-based salary increases, only about half of participating NSPFP institutions indicated that a *policy existed* stipulating that full-time NTTF must be eligible for merit-based salary increases. Interestingly, whereas only 35% of institutions in Baldwin and Chronister's (2001) sample indicated that full-time NTTF were eligible for academic promotions in rank, 63% of participating NSPFP institutions indicated that a policy exists stipulating full-time NTTF eligibility for academic promotions in rank.

Table 9
Comparing Baldwin and Chronister's (2001) Findings to Select NSPFP Findings

Policy or Resource/Eligibility	Baldwin & Chronister full-time NTTF %	NSPFP Full-time NTTF %	NSPFP Part-time NTTF %
Service on departmental committees*	84%	90%	35%
Service on faculty senate*	50%	77%	28%
Merit-based salary increases**	80%	51%	17%
Full-fringe benefits	93%	97%	17%
Academic promotion in rank**	35%	63%	25%
Paid sabbatical leave**	22%	22%	2%
Training/professional development to improve teaching…	79%	86%	30%
…or research**		69%	19%

*Baldwin and Chronister's (2001) survey asked institutions if NTTF were eligible to participate in governance structures whereas the NSPFP asked institutions if they had a policy mandating NTTF inclusion in campus governance structure.
**Baldwin and Chronister's (2001) survey asked institutions if the professional development activity or funding for the activity was available to NTTF faculty whereas the NSPFP asked if the institution had a policy that mandates that NTTF are eligible to receive specific support or resources.

Future Research

Based on the results of this study, I have outlined four areas for additional research. First, future research should investigate institutional characteristics that are related to the prevalence of policies that support various NTTF populations beyond Carnegie classification. For example, using regression analyses, what institutional factors such as public status,

endowments, and enrollment are related to the prevalence of policies that support NTTF groups? Second, the divergence between performance-related polices among Doctoral/Research universities and Baccalaureate or Master's colleges suggest that Doctoral/Research universities may have performance systems in place that support NTTF. However, this study could not identify if the performance systems were the same between TTTF and NTTF populations or if performance criteria is nuanced based on faculty role. Equal performance systems would imply cultural imperialism whereby performance evaluation criteria for the dominant TTTF group are the norms for other faculty groups, even if the evaluations do not accurately represent their work. Ultimately, if performance criteria at Doctoral/Research universities is universal across faculty populations, though equal, these performance policies may not support NTTF populations. Third, given that the two areas of greatest policy divergence between NTTF and TTTF were among governance and professional development policies, these policies should be targeted for future research and practice to further discern the ways in which institutions may improve governance and professional development policies for NTTF. Finally, future research should explore the ways in which the prevalence of NTTF policies affect NTTF perceptions of their workplace and their overall satisfaction with their work, thus building upon previous correlational studies linking NTTF satisfaction to their perceptions of their working conditions.

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MANUSCRIPT 3/MULTIVARIATE MANUSCRIPT

The Relationship Between Non-tenure Track Supportive Policies and Institutional Environments

Non-tenure-track faculty (NTTF) are a longstanding and growing population in the higher education employment sector (Baldwin & Chronister, 2001; Kezar & Sam, 2010; Schuster & Finkelstein, 2006). In accordance with other definitions of non-tenure-track faculty (NTTF), scholars and practitioners have referred to NTTF as full-time non-tenure-track (FTNTT), part-time instructors, contingent faculty, adjunct faculty, contract faculty, or research faculty (Baldwin & Chronister, 2001; Cross & Goldenberg, 2009; Gappa et al., 2007; Kezar & Sam, 2010; O'Meara, Terosky, & Neumann, 2008). These faculty members are more likely to engage in teaching activities over research (Hurtado, Eagan, Pryor, Whang, & Tran, 2011) and thus fulfill a core mission at many college and universities. Yet, as teachers, they often do not receive critical support for their teaching practice, such as office space, copying services, a computer, or bookstore discounts, nor do they have influence over teaching, such as with representation on departmental curricular committees (Baldwin & Chronister, 2001; Gappa, 2000; Gappa & Leslie, 1993; Waltman, Bergom, Hollenshead, Miller & August, 2012). As a result, NTTF members often feel unvalued, invest less of themselves into their work, and consider leaving their position or institution (Bland, Center, Finstad, Risbey, & Stables, 2006; Chait, 2002; Waltman et al., 2012; Zhou & Volkwein, 2004).

There are several factors that have historically contributed to the growth of NTTF positions. NTTF hires are less expensive than permanent tenure/tenure-track faculty (TTTF) in terms of their salaries, benefits, and resources provided (Maxey & Kezar, 2015; O'Meara et al., 2008). The emphasis on decreased cost is especially important as state appropriations for higher education have waned over the past 30 years (Zumeta, 2004). Hiring NTTF allows institutions

to maintain curricular and workforce flexibility since most NTTF members are on renewable contracts, allowing for termination due to declining enrollments or curricular shifts (Maxey & Kezar, 2015; O'Meara et al., 2008). Additionally, there is not an agreed-upon alternative to the traditional tenure system, nor is there synergy around the negative consequences of the current tenure system (Maxey & Kezar, 2015). Although these organizational factors help maintain the status quo of a traditional tenure system, fulfilling institutional goals of decreased costs and increased flexibility, there is considerable concern over the unethical practices and treatment of NTTF (Kezar & Maxey, 2014), who are caught in the middle of an educational, business, and ethical dilemma (Tirelli, 2014).

Due to research conveying the experiences, perceptions, and working conditions of NTTF members, several groups of scholars (i.e., Baldwin & Chronister, 2001; Gappa, Austin & Trice, 2007; Kezar & Sam, 2010) have published comprehensive policy recommendations, highlighting policies that alleviate the unsupportive working conditions experienced by NTTF members. These policy recommendations include modifications to pay and benefits, employment contracts, opportunities for promotion, access to professional development support, and inclusion in campus governance structures. However, Baldwin and Chronister (2001) were the last scholars to systematically collect policy data from institutions about the existence of specific NTTF-supportive policies and resources. Eagan, Jaeger and Grantham (2015) collected information from faculty members about their knowledge and use of institutional resources; however, this research does not represent consistent, within-institution policy data. Filling this research deficit, Jones (manuscript 2) conducted a National Survey on Postsecondary Faculty Policies (NSPFP), which was administered to provosts and vice provosts. The NSPFP surveyed all 1,189 Title IV granting, tenure-granting, public and private, non-profit, four-year higher

education institutions in the United States, classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities. I will refer to this group of colleges and universities as "traditional four-year institutions" moving forward.

The purpose of this study was to examine the institutional factors that were related to the prevalence of part-time and full-time NTTF policies, separately, at a sample of traditional four year institutions. In addition, among the most discrepant policies available to part-time and full-time NTTF, separately, what institutional factors are related to the prevalence of policies that support a specific faculty group? The institutional factors include:

a. Private or public institution
b. Carnegie Classification
c. Proportion of full-time faculty not on tenure-track
d. Total 12-month undergraduate and graduate student enrollment
e. Proportion of enrollment represented by undergraduate students
f. Endowment per full-time equivalent (FTE)
g. Proportion of revenues that are federal appropriations
h. Percent of students receiving federal grant aid
i. State policy prohibiting collective bargaining (Right-to-Work state)
j. NTTF governance policies

The policies explored in this study included those that address the following core categories: contract-related policies, performance-related policies, professional development policies, benefits offerings, and other standard resources and support policies. For example, a few of the policies across these policy groups include defined dates for contract renewal or termination, merit-based salary increases, financial support to pursue professional development related to teaching or research, full fringe benefits, and institutional orientation. NTTF governance participation was included as an independent variable in accordance with the important structural nature of this policy as outlined in the theoretical framework.

To answer these research questions, I collected NTTF policy data and merged that with data from the Integrated Postsecondary Education Data System (IPEDS). Jones (manuscript 2) provides a detailed explanation of the data collection and survey methodology, which are summarized in the methodology section of this manuscript. In the following sections, the literature review and theoretical framework identify the empirical and theoretical rationale for exploring the relationship between NTTF policy prevalence and various institutional characteristics.

Literature Review

Media outlets, unions, professional groups, education associations, and scholars have increasingly illuminated NTTF employment trends, such as the growing population of NTTF members in higher education, their levels of satisfaction, working conditions, demographics, and impact on student and institutional outcomes (Kezar & Sam, 2010). Within this literature review, I synthesize policy research pertaining to NTTF members' working conditions, their perceptions of their working conditions, and the ways in which their employment and perceptions have been correlated to individual and institutional characteristics. Thereafter, the theoretical framework pieces together the policies and institutional characteristics into a cohesive theoretical model.

Overall Professional Experiences

Despite dissatisfaction across a variety of working conditions (Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa et al., 2007; Waltman et al., 2012), NTTF were generally satisfied with their jobs (Gappa, 2000; Zhou & Volkwein, 2004) and not significantly less satisfied than their tenured or tenure-track colleagues (Zhou & Volkwein, 2004). Zhou and Volkwein's (2004) finding was based on a single, overarching survey question that asks faculty

members to rate their overall job satisfaction. Qualitative and quantitative results indicated that NTTF satisfaction was related to their reported manageable workloads and passion for teaching (Baldwin & Chronister, 2001; Gappa, 2000; Schuster & Finkelstein, 2006). However, when examining more nuanced aspects of NTTF satisfaction and dissatisfaction, a different story emerged. That is, while NTTF members' *overall* satisfaction was relatively high and similar to their TTTF counterparts (Antony & Valadez, 2002; Conley, Leslie, & Zimbler, 2002), NTTF members were generally dissatisfied or less satisfied than TTTF with *specific* aspects of their working conditions. The next section explores the nuanced aspects of NTTF dissatisfaction.

Specific Professional Experiences

Contracts, pay and benefits. In a qualitative study evaluating 220 NTTF members at 12 institutions, Waltman and colleagues (2012) found that NTTF were primarily dissatisfied with their lack of job security. Even faculty members with longer-term contracts felt anxious about their job security; regardless of their performance, their positions were at risk due to budget cuts, organizational changes, or changes in departmental leadership (Waltman et al., 2012). As a result, some faculty members invested less of themselves into their work because they perceived that their institution was not investing in them (Waltman et al., 2012). Similarly, using self-report survey data from the National Survey of Postsecondary Faculty (NSOPF), Bland, Center, Finstad, Risbey, and Staples (2006) found that NTTF members at doctoral and research institutions were less committed to their jobs than TTTF members.

Job Security. Findings about NTTF members' dissatisfaction with their job security mirror the research on employee job security in the fields of psychology and sociology (Ashford, Lee & Bobko, 1989; Feather & Bauter, 2004; Sverke, Hellgren, & Naswall, 2002). In a meta-analysis of consequences of job insecurity, Sverke, Hellgren and Naswall (2002) found

that perceptions of job insecurity negatively related to attitudes towards employees' work. Additionally, among professionals, not including education personnel, job insecurity was negatively correlated with job satisfaction, job motivation, and commitment to the organization (Ashford, Lee & Bobko, 1989). More directly related to the subjects in this study, (K-12) teachers with high levels of job insecurity were more likely to be contract teachers than permanent teachers; however, contract teachers had an equal level of organizational commitment as permanent teachers. For subjects directly affiliated with higher education institutions, Zhou and Volkwein (2004) found that dissatisfaction with job security also predicted a faculty member's lack-of commitment to an institution and intent to leave their job. Within Zhou and Volkwein's (2004) study, job security was evaluated as the existence of multi-year contracts, defined dates for contract renewal and/or termination, and a defined probationary period (similar to pre-tenure). Indeed, job security is a unique component of academic positions or, rather, for tenured or tenure-track faculty (TTTF) members. However, the issue for NTTF members in higher education is the *relative* job insecurity whereby their peers (TTTF) have access to rights within the academy and job protection, but NTTF members do not. Thus, the criticism of NTTF members' lack of job security is a relative higher education socio-environmental construct that is said to be indicative of a class system within the higher education context (Baldwin & Chronister, 2001) or of the presence of hierarchical microaggressions (Young, Anderson, & Stewart, 2015).

Upward mobility. In addition to the lack of job security, the lack of upward mobility granted to NTTF has been a source of dissatisfaction. NTTF members expressed dissatisfaction with the lack of opportunities for advancement and the policies that define their potential advancement (Baldwin & Chronister, 2001; Gappa & Trice, 1993; Waltman et al., 2012). Well-

defined policies about the hiring process, evaluation procedures, compensation, workload, professional development, and other fringe benefits of academic life were often absent from university handbooks, employment contracts, or collective bargaining contracts for NTTF (Chronister, 1999; Rhoades, 2006). The absence of such documents was frustrating for faculty members (Baldwin & Chronister, 2001; Gappa et al., 2007; Gappa, 2000; Waltman et al., 2012) because "Just knowing…what the expectations are for your position is something very positive" (Waltman et al., 2012, pg. 424).

Explicit criteria for NTTF members' advancement and promotion could provide compensation adjustments such as merit-based increases or increases due to promotion. Researchers have identified a hierarchy among faculty salaries (Conley et al., 2002; Monks, 2007) whereby NTTF members' salaries and benefits offerings (both part-time and full-time, separately) were significantly less than their TTTF counterparts. This pay hierarchy was a specific source of dissatisfaction among NTTF members as is illustrated in qualitative and quantitative research (Baldwin & Chronister, 2001; Gappa & Leslie, 1993). For this study, institutional commitment to NTTF promotion and compensation was explored through policies that require regular (at least annual) performance reviews or evaluations, academic promotions in rank (e.g., lecturer, senior lecturer), explicit performance evaluation criteria, merit pay increases based on performance, and policies that offered full fringe benefits and family leave benefits to NTTF members.

Academic freedom and campus governance. As defined by the American Association of University Professors' 1940 statement and summarized in the AAUP Policy Documents and Reports, academic freedom rights entitle faculty members to full freedom in research and in the classroom, and grant teachers rights as citizens and officers of their respective colleges or

universities (AAUP, 1995). Explicit mention of NTTF members' academic freedom rights has often been omitted from contracts or faculty handbooks. Professors at public institutions *do* have first amendment rights (Baez & Centra, 1995) and some also have academic freedom rights, depending on their contractual agreements. Furthermore, the U.S. Supreme Court set a precedent that supported academic freedom rights in the case of *Meyer v. Nebraska* (1923). However, there are three key reasons why defending faculty members' constitutional rights is challenging. First, not all faculty members are aware of their contractual rights and the extent to which they are protected (Chait, 2002). Second, departments likely cite alternative reasons for terminating a faculty contract, such as budgetary restrictions or curricular changes, which are unrelated to first amendment or academic freedom rights (Beaz & Centra, 1995). Third, to further complicate the issue, institutions as entities in-and-of-themselves also have academic freedom rights, whereby courts hesitate to interfere with institutional decision making (Baez & Centra, 1993), especially for curricular matters (Poch, 1993).

Few researchers have studied NTTF members' academic freedom rights (Kezar & Sam, 2012). However, using the National Survey of Postsecondary Faculty (NSOPF) data, Conley and colleagues (2002) found that part-time faculty members were generally satisfied with the academic freedom rights at their respective universities. For full-time NTTF, concerns over academic freedom rights had less to do with freedom in the classroom and more to do with freedom in decision-making vis-a-vis campus governance and administrative relationships (Baldwin & Chronister, 2001; Gappa et al., 2007). That is, although explicit mention of academic freedom rights was important for all faculty types, NTTF members perceived that such protection would have provided more freedom if they participated in university governance structures. For this reason, scholars have argued that professionalizing NTTF

members included explicit contractual mention of academic freedom rights and representation in university governance organizations (Baldwin & Chronister, 2001; Gappa et al., 2007; Kezar & Sam, 2012). Moreover, Hutchens (2011) indicated that, while academic freedom rights have had a constitutional dimension that related to all faculty types, legal cases presented uncertainty about this supposed constitutional right, especially for NTTF members.

Defining NTTF work and resources. Faculty appointment types influence how faculty members prioritize their teaching, research, and service activities. The variation in faculty appointment type and priorities "make[s] the small world of faculty life seem very different for each individual" (Clark, 1997, p. 183). TTTF members at four-year institutions typically teach between 5 and 12 hours in a typical week, whereas the majority of NTTF members teach 9 to 16 hours each week (Hurtado, Eagan, Pryor, Whang & Tran, 2011). However, using data from the NSOPF, Bland and colleagues (2006) and Schuster and Finkelstein (2006) found that TTTF outperform NTTF in educational activities such as teaching, advising, and serving on committees. In favor of NTTF specialization towards teaching, Baldwin and Chronister (2001) found that 94 percent of baccalaureate institutions hired full-time NTTF to teach undergraduate courses, and 73 percent restricted this faculty base to teaching the lower-division classes of academic programs. Despite some inconsistent results for teaching activities, indeed, all of these research studies found that NTTF members have lower research productivity compared to their TTTF counterparts (Bland et al., 2006; Hurtado et al., 2011; Schuster & Finkelstein, 2006); however, it should be noted that most teaching-focused NTTF are not expected to engage in research activities to the extent of their TTTF counterparts. As such, there appears to be a bifurcation in faculty duties; TTTF members prioritize research-related activities, while NTTF members prioritize teaching activities (Baldwin & Chronister, 2001; Gappa et al., 2007).

There were mixed reviews as to whether the bifurcation of faculty appointment types was effective across a variety of metrics. For example, do specialized roles whereby some faculty members focus on teaching and others focus on research promote certain institutional outcomes like increased research productivity or better instructional delivery? Hattie and March (1996) conducted a meta-analysis that examined the relationship between teaching and research. They found no overall correlation between research productivity and a faculty member's teaching ability, implying that NTTF devoted to instruction were just as effective in their instructional delivery as tenured, research-focused professors. Conversely, subsequent qualitative research by Cross and Goldenberg (2009) presented a contradictory view that questioned whether a teaching-specific focus was in the best interest of students. Cross and Goldenberg (2009) found that institutions believed that faculty research activity introduced students to current material and instilled intellectual curiosity rather than provided simple introductory information. The following section explores more empirical research on the implications of employing a high proportion of or an increasing amount of NTTF and, moving away from the policies that support NTTF, explores the institutional factors and outcomes related to NTTF employment. These studies—along with the theoretical framework—were used to identify the relevant institutional characteristics that may be related to NTTF and their environments.

NTTF and University Outcomes

Scholars have studied the ways in which faculty tenure status affects a variety of student and institutional outcomes. Student outcomes include student persistence from year-to-year, transfer rates, learning, and degree attainment, whereas an institutional outcome includes research productivity. This section discusses several quantitative research studies that explore

NTTF populations in relation to these outcomes while controlling for several institutional characteristics.

Implications for university outcomes. Scholars have speculated that the working conditions and lack of professional support afforded to NTTF at higher education institutions may have contributed to the negative relationship between the increased proportion of NTTF or part-time faculty members and outcomes such as student retention rates, student persistence from one academic year to the next, and faculty use of pedagogically-sound educational practices (Bettinger & Long, 2010; Ehrenberg & Zhang, 2005; Jacoby, 2006; Umbach, 2007; Zhang & Ehrenberg, 2010). It was known, however, that NTTF members expressed dissatisfaction with their limited access to resources (Allen, 2000; Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa & Leslie, 1993; Schell & Stock, 2001) and that limited access to resources was significantly associated with overall dissatisfaction (Eagan et al., 2015).

There were four main findings that emerged from research studies that explored the relationship between NTTF and university outcomes. First, an increase in part-time or full-time NTTF was related to a decrease in graduation rates at four-year institutions and community colleges (Ehrenberg & Zhang, 2005; Jacoby, 2006). Second, students with high exposure to adjunct faculty members or graduate student instructors were less likely to persist from their first academic year to their second year (Bettinger & Long, 2010) or to transfer from a community college to a four-year institution (Eagan & Jaeger, 2009). Third, NTTF members engaged in effective teaching practices—active and collaborative learning, engagement with students—for undergraduate education less frequently than their TTTF counterparts (Umbach, 2007). Finally, the perceived upside in NTTF appointments: for every 1% increase in part-time faculty, there was a .44% increase in research and development expenditures (Zhang &

Table 1
Controls for quantitative studies measuring the relationship between NTTF and outcomes

Control Variable	Studies that Use Control Variable
Respondent Background Characteristics:	
Student or faculty demographic characteristics (e.g., race, gender)	Bettinger & Long, 2010; Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005; Jacoby, 2006; Umbach, 2006
Students' prior or current aptitude (e.g., GPA, ACT or SAT scores)	Bettinger & Long, 2010; Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005
Student age	Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005
Student major or faculty discipline	Eagan & Jaeger, 2009; Umbach, 2007
Student or institutional financial aid (e.g., loans, scholarships, Pell)	Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005
Parent or student income	Eagan & Jaeger, 2009
Student or faculty educational attainment	Eagan & Jaeger, 2009; Umbach, 2007
Institutional Characteristics	
Institutional selectivity	Bettinger & Long, 2010; Umbach, 2006
College or university location (e.g., urban, rural)	Eagan & Jaeger, 2009; Umbach, 2007
Institutional size or Carnegie classification measure (e.g., enrollments, student FTE)	Ehrenberg & Zhang, 2005; Jacoby, 2006; Zhang & Ehrenberg, 2010; Umbach, 2007
Private or public institutional status	Ehrenberg & Zhang, 2005; Zhang & Ehrenberg, 2010; Umbach, 2007
Institutional Operations & Outcomes	
Institutional R&D expenditures	Zhang & Ehrenberg, 2010
Proportion of in-state students	Bettinger & Long, 2010; Ehrenberg & Zhang, 2005
Student graduation rates	Jacoby, 2006
Proportion of total PT or FT faculty appointments	Eagan & Jaeger, 2009; Ehrenberg & Zhang, 2005; Jacoby, 2006; Zhang & Ehrenberg, 2010; Umbach, 2007
Proportion of courses students take with adjunct faculty	Bettinger & Long 2010
Students' degree seeking status	Jacoby, 2006
Teachers' prior teaching experience	Umbach, 2007

Ehrenberg, 2010), which has been used to reinforce the need for research-oriented and teacher-oriented bifurcations in faculty work. For the studies mentioned above, these outcomes were observed despite control variables for student population, faculty population, and institutional characteristics, which are outlined in Table 1.

The reviewed literature illustrates the policy landscape for NTTF, the perceived impact of those policies, and the relationships between the prevalence of NTTF and university outcomes. These areas, along with the theoretical framework, guided the variables and policies explored in this study. Although many research studies discussed in the literature review focused on individual-level data, where the individual faculty member was the primary unit of analysis, this research study focused on institutional-level data and analysis. Exploring individual-level data is necessary to understanding the importance of various NTTF-supportive policies and the inequities between NTTF and TTTF. However, this study focused on institutional-level data, and therefore the conceptual framework chosen for this inquiry helped organize the individual- and institutional-level variables into a cohesive model. In order to organize the various institutional and faculty characteristics and policies into one cohesive model, I used Bolman and Deal's (2008) organizational frameworks and associated theories such as political, structural, and human resources aspects of organizational environments.

Theoretical Framework

Organizational and social theories were essential to understand the institutional factors that may have been correlated with the existence of policies for NTTF members. This section provides the conceptual rationale for the model structure, including the independent and dependent variables included in this study. The theoretical framework was derived from Bolman and Deal’s (2008) organizational frames. Bolman and Deal (2008) evaluated literature

on organizational theory and summarized four distinct categories, or "frames," to understand organizational behaviors; these frames include the structural, political, human resources, and symbolic frames. Primarily, I drew upon three frames for the theoretical framework—structural, political, and human resources—as these frames were most relevant to the current research study. The symbolic frame places symbols at the forefront of understanding individual emotion, meaning-making, and belief structures. These concepts were not evaluated in this study because information on these symbolic attributes, while relevant, is not readily assessed within the existing IPEDS and NSPFP data sources. For example, the symbolic frame emphasizes unique institutional cultural norms, rituals, and ceremonies. Evaluating the symbols might mean evaluating the ways in which institutions embrace and include NTTF in these institutional rituals, which is obviously idiosyncratic across institutions and difficult to measure through quantitative data collection and analysis. Similar to Bolman and Deal's (2008) frame descriptions, I integrated meaningful theories into each frame discussion. For example, these included work by Mintzberg (1979), Pfeffer and Salancik (1978), DiMaggio and Powell (1991), and Deutsch (2006).

Structural Frame

The structural frame and related theories emphasize historic understandings of organizations as structures (e.g., organizational charts) and highlight the underlying social structures and the implications of these structures. Mintzberg's (1979) five structural configurations are particularly relevant to such structural classifications. The five configurations are as follows: simple structure, machine bureaucracy, divisionalized form, adhocracy, and professional bureaucracy. Mintzberg's "professional bureaucracy" configuration most closely resembles higher education institutions. Professional bureaucracies

are defined as having employees with standardized skill sets (e.g., faculty with specific research interests) and who function autonomously. Their desire for autonomy shapes the organization's operating foundation, which is defined as taking ownership in institutional decision-making, thus creating a decentralized structure whereby faculty members influence change within their respective fields. Under this configuration, not all faculty members have the same level of autonomy and influence over decision-making. For example, un-tenured faculty have historically been less likely to vote as part of university governing structures. As a result, this type of institutional structure may bolster systemic injustice within an institution whereby power is structurally allocated disproportionately and, as described by Deutsch (2006), those with authority seek to maintain their power while inadvertently oppressing individuals with less power. Highlighting these important structural aspects, I explore NTTF members' inclusion in campus governance systems within the list of structural variables included in the model. Hence although participation in governing systems is collected within the NSPFP and not the IPEDS data collection, I have included this structural aspect as an independent variable to align with Bolman and Deal's (2008) structural frame.

Also related to the structural frame is the theory of new institutionalism (DiMaggio and Powell, 1991). New institutionalism assumes that organizations influence one another and have developed their own set of scripts or standards for organizational behavior and decision-making. However, this may vary across organizational types, such as public, private, and four-year institutions. In line with new institutionalism, it is possible that institutions with similar profiles and characteristics have similar policies and practices for their NTTF populations. For this reason, I include several defining institutional characteristics such as institutional type (i.e.,

public, private), total enrollment, percentage of ungraduated enrollment, and Carnegie classification.

Political Frame

In addition to internal structural components that influence organizational behavior, the political frame recognizes that organizational decision-making is influenced by environments with scarce resources, competing interests, and power dimensions. This section addresses theories about how institutions are shaped by political environments, such as politically-oriented decision-making and policy-making. As Pfeffer and Salancik (1978) assert: "No organization is completely self-contained or in complete control of the conditions of its own existence" (pg. 19). In this regard, institutions intentionally or unintentionally respond to external factors. For example, four-year higher education institutions respond to environmental factors such as decreases or increases in state appropriations or federal appropriations such as Pell funding received by students (Johnstone & Marcucci, 2011). Additionally, collective bargaining at the state level is another external political factor; NTTF members' leverage over employment contracts is limited due to the power granted for collective bargaining rights from state legislation (Rhoades & Slaughter, 1997). For this reason, several of the aforementioned external factors were included in the institutional-level variables explored in this study, including: federal appropriations, the proportion of students who receive federal Pell funding, student enrollments, and the existence of state collective bargaining rights. Ultimately, the state appropriations factor was not included due to multicollinearity with institutions that were classified as public.

Human Resources Frame

The last frame used to situate the policies and resources available to faculty is the human resources frame. The human resources frame has four key guiding assumptions. The first guiding assumption is that an organization's primary function is to support human needs. Second, organizations and humans are dependent on one another, with organizations needing human talents and abilities and humans needing careers, pay, and professional opportunities. Third, when there is a weak person-organization fit, both the organization and the employee are disadvantaged or exploited. Fourth, when there is a good person-organization fit, employees are satisfied and find their work meaningful, and organizations benefit from employee talent and productivity. Employee-institution "fit" is defined by how well institutions respond to employee needs, how well employees' work allows them to convey their skills and character, and how well individuals' work fulfills their fundamental needs (Bolman & Deal, 2008). The human resources framework therefore encompasses aspects of employee performance, resource allocation, and supportive environments. In contrast, unsupportive environments reinforce specific injustices, as described by Deutsch (2006), and may include instances of distributive justice whereby productivity-facilitating resources are unfairly allocated, or perhaps moral exclusion, which manifests as unfair treatment between personnel groups based on their grouping, such as the lack-of job security experienced by NTTF as compared to TTTF. In summary, Table 2 illustrates the framework and variable alignment discussed in this section. The following section describes how I used these variables to explore the inequities and injustices between NTTF and TTTF.

Table 2
Conceptual Framework and Variable Alignment

Structural and Political Variables	
Structural IPEDS variables:	
Public institution	IPEDS IC
Carnegie Classification	IPEDS IC
Total 12-month undergraduate and graduate student enrollment	IPEDS FE
Proportion of enrollment represented by undergraduate students	IPEDS FE
Proportion of full-time faculty not on tenure-track	IPEDS HR
Structural NSPFP variables	
Representation in university governing structures (e.g., faculty senate)	NSPFP
Involvement in department or school-level governance structures (e.g., curricular committee)	NSPFP
Political variables:	
Endowment per FTE	IPEDS IC
Instructional expenses per FTE	IPEDS IC
Proportion of revenues that are federal appropriations	IPEDS FR
Percentage of students receiving federal grant aid	IPEDS FA
State policy prohibiting collective bargaining	State Data
Human Resources (Policy) Variables	
Contract-related policies:	
Defined dates for contract renewal and/or termination	NSPFP
Defined probationary period (similar to pre-tenure)	NSPFP
Multi-year appointments following a probationary period	NSPFP
Performance policies:	
Explicit evaluation criteria (e.g., evaluation based on teaching, research, etc.)	NSPFP
Regular (at least annual) performance reviews or evaluations	NSPFP
Academic promotions in rank (e.g., lecturer, senior lecturer)	NSPFP
Merit pay increases based on performance	NSPFP
Professional development policies:	
Paid sabbatical	NSPFP
Financial support to pursue professional development related to research	NSPFP

Financial support to pursue professional development related to teaching	NSPFP
Benefits policies:	
Full fringe benefits	NSPFP
Family leave benefits	NSPFP
Standard resources and support:	
Academic freedom protection	NSPFP
Institutional orientation	NSPFP
Individual office space	NSPFP
Administrative support	NSPFP

Methodology

The purpose of this quantitative study is to explore the institutional characteristics that relate to the prevalence of policies for non-tenure-track faculty populations at a sample of traditional four-year institutions. Basic descriptive statistics derived from Jones (manuscript 2) detailed the general policy landscape, and multivariate regression analyses in this study will identify the institutional factors associated with the prevalence of policies for part-time and full-time NTTF. In this section, I describe the research design, instrumentation, sample, data collection, variables, and analysis.

Research Design

This research study utilizes one secondary data source and one primary data source. The secondary data source was the Integrated Postsecondary Education Data System (IPEDS) Surveys, and the primary data source was the National Survey of Postsecondary Faculty Policies (NSPFP) that collected information from institutional administrators (e.g., provosts and vice provosts) regarding institutional policies for various faculty groups. This section discusses these data sources in relation to the proposed research design.

Instrumentation

The two instruments used for this study were the National Survey of Postsecondary Faculty Policies (NSPFP) and the Integrated Postsecondary Education Data Systems (IPEDS). The NSPFP data contains information from university administrators about NTTF-supportive institutional policies in place at their universities, policies pertaining to NTTF contracts, performance policies, professional support policies, benefits policies, and standard resources and supports. These policies are listed in Table 2 under the human resources variables list. As outlined in Jones (manuscript 1) and Jones (manuscript 2) the design of the NSPFP included tests for face validity, construct validity, a pilot phase, and procedures that reduced the overall survey error, which were informed by the Tailored Design Method (Dillman, Smyth, Melani, 2014).

The NSPFP data was merged with IPEDS 2013-2015 survey data, which included variables on institutional characteristics that aligned with the structural and political framework set forth by Bolman and Deal (2008). The IPEDS variables used for this study included data from the following IPEDS surveys: Institutional Characteristics, Finances, Human Resources, Student Financial Aid, and the Fall Enrollments. IPEDS data is routinely collected from two-year and four-year public and private, for-profit and not-for-profit institutions, including institutions in the United States and U.S. territories. Although surveys were collected from approximately 7,300 institutions, this research study only utilizes a small sample of those institutions, which I elaborate on in the subsequent section. Researchers from RTI International constructed the IPEDS methodology report, which outlined the reliability and validity of the IPEDS data (see Ginder, Kelly-Reid, & Mann, 2014).

Sample and Data Collection

All 1,189 IPEDS participating, Title IV granting, tenure-granting, public and private, non-profit, four-year higher education institutions in the United States, classified as baccalaureate colleges, master's colleges and universities, and research/doctoral universities, were included in the sample of institutions contacted for NSPFP participation. Based on institutional participation in the IPEDS survey and complete data for the selected variables, I eliminated 45 institutions due to incomplete IPEDS data entries. For the remaining institutions, I contacted two upper-level administrators, such as provosts and vice provosts, for each institution included in the sample; however I only requested one response from each institution. As outlined in Jones (manuscript 2), I retrieved email addresses from a directory of higher education personnel (HigherEd Direct) and, in a few cases, university websites. The contact list contained email addresses, names, position titles, unique school identifiers, and university affiliation, all of which were uploaded into the Qualtrics survey platform and allowed me to send personalized messages. Participation was voluntary along with answering individual survey questions, though all participants were eligible for a market research benchmarking report. Data were collected from August to September of 2016. In total, 479 institutions completed at least 25% of the NSPFP, resulting in 40.3% response rate and a 3.5% margin of error at a 95 percent confidence level. Missing values were not imputed and, although institutions that completed 25% of the survey were included, 93% of respondents completed at least 75% of the policy-related survey questions.

Variables

There were four dependent variables in the multivariate analysis. Two of the variables included the sum of the 16 policies available to part-time and full-time NTTF populations,

separately. The other two dependent variables summed the part-time NTTF and full-time NTTF eight most discrepant policies between generalized groups of NTTF and TTTF populations. I identified the eight most discrepant policies by splitting the policies in half based on how equal the policy existence was across NTT and TTTF populations (see Table 7). If a respondent skipped a policy question or selected "Not Sure or Unclear" for more than 50% of part-time and full-time NTTF policies (separately), the institution was not included in the final regression analysis. Similarly, if the institution did not indicate whether part-time or full-time NTTF were represented in university-wide and department-level governance structures, those respondents were excluded from the multivariate regression analysis. Based on these criteria, I excluded 101 participating institutions from the part-time NTTF regression analyses and 73 participating institutions from the full-time NTTF regression analyses. The total sample size and margin of error for full-time NTTF analysis was 406 institutions and a 3.95% margin of error, and for the part-time NTTF regression analysis, 378 institutions and a 4.16% margin of error.

The independent variables were arranged into blocks for the regression analysis, as outlined in Table 3. Table 3 also identifies the independent variable type, such as continuous, percentage, or dummy variable. Block entry multivariate analysis was utilized to understand the percentage of variance explained by each conceptual block, but not to look at individual coefficient changes from one block to the next.

Table 3
Independent Variables

Block 1: Political variables:	Survey	Type
Endowment per FTE	IPEDS IC	Continuous
Instructional expenses per FTE	IPEDS IC	Continuous
Proportion of revenues that are federal appropriations	IPEDS FR	Percentage (0 to100)
Percentage of students receiving federal grant aid	IPEDS FA	Percentage (0 to100)
State policy prohibiting collective bargaining	State Data	Yes/No
Block 2: Structural IPEDS variables:		
Public institution	IPEDS IC	Dummy (1, 0)
Carnegie Classification (Reference group = Baccalaureate Colleges and Universities focusing on Arts and Sciences)	IPEDS IC	Dummy (1, 0)
Total 12-month undergraduate and graduate student enrollment	IPEDS FE	Continuous
Proportion of enrollment represented by undergraduate students	IPEDS FE	Percentage (0 to100)
Proportion of full-time faculty not on tenure-track	IPEDS HR	Percentage (0 to100)
Block 3: Structural NSPFP variables:		
Representation in university governing structures (e.g., faculty senate)	NSPFP	Dummy (1, 0)
Involvement in department or school-level governance structures (e.g., curricular committee)	NSPFP	Dummy (1, 0)

Analysis

The primary analysis was multivariate regression analysis, which was used to answer the following primary research question: How do institutional factors relate to the prevalence of NTTF policies at a sample of public and private four-year institutions? In preparation for the multivariate analysis, I ran several means comparison tests and compared the sample of institutions included in the analysis versus those excluded due to missing data or nonresponse.

Additionally, skewness statistics, kurtosis statistics, and multicollinearity diagnostics (i.e., VIF and tolerance) were used to assess the normality and collinearity of all independent and dependent variables (Table 5 and Table 6). Lower tolerance values or higher VIF values represent high multicollinearity. For the metrics included in this analysis, the VIF values ranged from 1.12 to 5.62, all acceptable levels of multicollinearity. As a result of the multicollinearity diagnostics, I previously included a variable that captured the state appropriations as a percentage of core revenues, however this was highly correlated with an institution's public status and therefore removed. Given the mostly nonsignificant and inconsistent findings associated with the comparisons between institutions included and excluded from the multivariate analysis, I did not weight the data.

Results

When I compared the group of institutions that were included in the analysis versus the population of institutions not included in the analysis, a couple of the political and structural variables differed significantly. In summary, for the sample of institutions included in the part-time and full-time NTTF faculty multivariate analysis, the average endowment per FTE was significantly lower for the sample population compared to the population of institutions surveyed. Additionally, for the part-time NTTF multivariate analysis, the proportion of first-time, full-time students who received Pell funding was significantly higher for the institutions included in the analysis versus those excluded from the analysis. The results of the population comparisons are found in Table 4 along with the interpretation in the far right column. The detailed results including the means, standard deviation, and test statistics are presented in Appendix A through Appendix D.

There were four dependent variables used for the multivariate analyses including the total number of policies available to part-time and full-time NTTF, separately, and the total number of highly discrepant policies available to each faculty group, again separately. The total number of policies available to each group was a simple summation of all possible 16 non-governance-related policies listed in Table 2 under the human resources variables. The summation of discrepant policies includes the top eight policies for which there was inequality between NTTF and TTTF, as identified in Table 7. In general, policies were more favorable towards TTTF compared to NTTF. For example, and not surprisingly, about 68.3% of institutions do not have equal paid sabbatical policies for TTTF and NTTF, whereby 67.6% of institutions have a policy for TTTF faculty, but not NTTF. Therefore, less than 1% of institutions have a paid sabbatical policy that supports NTTF and not TTTF. Similarly, 26.5% of institutions had unequal policies for financial support to pursue professional development related to research whereby nearly all of the discrepancy favored TTTF over NTTF.

As indicated in Jones (manuscript 2), governance-related and professional development policies were the most different between the two groups and favored TTTF over NTTF. Policies that supported NTTF participation in governance, both university and school/departmental, were noteworthy given the general policy discrepancies, and they also represented two independent variables for each of the multivariate regression analyses. TTTF groups were included in departmental and university-wide governance structures for at least 97% of the institutions represented in the sample. This was in stark contrast to part-time faculty, where only about one-third of institutions mandated that part-time NTTF members were included in either departmental or university-wide governance structures. Full-time NTTF inclusion fell between TTTF and part-time, but closer to TTTF; 77% of institutions mandated that full-time NTTF

were included in university-wide governance structures, and the figure was 90% for departmental governance structures. These findings were particularly important because the last block of independent variables entered into the regression analyses was NTTF members' inclusion in these university governance structures.

As seen in Table 6, the total number of full-time NTTF policies ranges from zero to 16, where the mean was 11.85, and the distribution was slightly negatively skewed. The variable for the eight most discrepant policies ranged from zero to 8, had a mean of 4.56, and had a slightly positive skew. Conversely, for part-time NTTF policies (see Table 5), the range was consistent with the full-time NTTF ranges, but the means were much lower for the total 16-policy variable and the 8-policy discrepant variable: 6.22 and 1.36 respectively, and both were positively skewed, not negatively skewed. This was not surprising given that more policies supported full-time NTTF over part-time NTTF.

Table 4
Summary of Chi-Square and T-Tests for Analysis-Specific Included versus Excluded Institutions

	Full-Time Multivariate Analysis	Part-Time Multivariate Analysis	Summary of Findings: For instances where significant differences are noted, compared to institutions excluded from the analysis the…
Sample			
Included in analysis	406	378	--
Excluded in analysis[†]	783	811	--
Percent Sample Included	34.1%	31.8%	--
Margin of Error	3.95%	4.16%	--
Endowment per FTE	*	**	…average endowment/FTE is significantly lower for the institutions included in the analysis.
Instruction expenses per FTE	NS	NS	--
Federal appropriations as a percentage of core revenues	NS	NS	--
Percentage of full-time first-time students who receive Pell funding	NS	*	…mean percentage of students who receive Pell funding is significantly higher for institutions included in the analysis.
Right-to-Work State	NS	NS	--
Private and Public Status	NS	NS	--
Carnegie Classification	NS	NS	--
12-month full-time equivalent enrollment	NS	NS	--
Percentage of FTE enrollment who are undergraduate students	NS	NS	--
Percentage of faculty members who are NTT	NS	NS	--

* p <.05, **p <.005, NS=Not Significant; for full results see Appendix A, B, C and D.
[†]For the full-time and part-time multivariate analysis, excluded institutions were non-responding institutions (n=710) and institutions that had too much missing data for the dependent variables or missing data for either of the policy-related independent variables; these dependent and independent variables were collected in the NSPFP and are not available for the entire sample of non-responding institutions.

Table 5
Descriptive Statistics for Part-Time NTTF Multivariate Analysis (n=378)

	Min	Max	Mean	Std. Dev.	Skew	Kurt	Toler -ance	VIF
Endowment per FTE ($)	38	1087059	41532	94187	6.05	50.02	0.49	2.06
Instruction expenses per FTE ($)	3426	83779	10396	7124	5.94	52.78	0.40	2.50
Federal appropriations as a percentage of core revenues (%)	0.00	46.00	11.11	10.94	0.90	0.03	0.32	3.14
Percentage of full-time first-time students who receive Pell funding (%)	8.00	90.00	39.50	16.64	0.65	0.29	0.57	1.76
University is in a Right-to-Work State (1)	0.00	1.00	0.45	0.50	0.20	-1.97	0.89	1.12
Public Sector (1)	0.00	1.00	0.41	0.49	0.36	-1.88	0.28	3.51
Baccalaureate Colleges--Arts & Sciences (1)	0.00	1.00	0.19	0.40	1.56	0.44	--*	--*
Baccalaureate Colleges--Diverse Fields (1)	0.00	1.00	0.16	0.37	1.85	1.42	0.52	1.91
Master's Colleges and Universities (smaller programs) (1)	0.00	1.00	0.07	0.25	3.51	10.34	0.68	1.47
Master's Colleges and Universities (medium programs) (1)	0.00	1.00	0.10	0.30	2.62	4.89	0.53	1.89
Master's Colleges and Universities (larger programs) (1)	0.00	1.00	0.25	0.43	1.15	-0.68	0.32	3.13
Doctoral/Research Universities (1)	0.00	1.00	0.05	0.22	4.01	14.16	0.49	2.03
Research Universities (high research activity) (1)	0.00	1.00	0.09	0.29	2.88	6.32	0.35	2.87
Research Universities (very high research activity) (1)	0.00	1.00	0.08	0.27	3.06	7.40	0.18	5.62
12-month full-time equivalent enrollment	240	61470	7197	9454	2.77	9.02	0.24	4.15
Percentage of FTE enrollment who are undergraduate students ($)	29.42	100.00	86.84	11.95	-1.45	3.11	0.44	2.29
Percentage of faculty members who are NTT ($)	0.00	92.59	24.47	15.38	1.30	3.19	0.82	1.21
Part-time NTTF representation in university governing structures (1)	0.00	1.00	0.26	0.44	1.10	-0.79	0.64	1.57
Part-time NTFF involvement in department or school-level governance structures (1)	0.00	1.00	0.35	0.48	0.64	-1.61	0.64	1.57
Total part-time NTTF policies among 8 most discrepant policies	0.00	8.00	1.36	1.79	1.339	1.035	--*	--*
Total part-time NTTF policies among all 16 policies	0.00	16.00	6.22	2.96	0.691	0.135	--*	--*

*Represents reference group or dependent variables, for which tolerance and VIF statistics are not available.

Table 6
Descriptive Statistics for Full-Time NTTF Multivariate Analysis (n=406)

	Min	Max	Mean	Std. Dev.	Skew	Kurt	Toler -ance	VIF
Endowment per FTE ($)	11	1207638	47186	119671	6.25	47.85	0.50	2.00
Instruction expenses per FTE ($)	3426	83779	10500	7170	5.60	48.02	0.40	2.49
Federal appropriations as a percentage of core revenues (%)	0.00	46.00	11.39	10.88	0.85	0.01	0.32	3.13
Percentage of full-time first-time students who receive Pell funding (%)	8.00	90.00	38.89	16.30	0.66	0.40	0.55	1.82
University is in a Right-to-Work State (1)	0.00	1.00	0.47	0.50	0.14	-1.99	0.90	1.11
Public Sector (1)	0.00	1.00	0.44	0.50	0.25	-1.95	0.29	3.45
Baccalaureate Colleges--Arts & Sciences (1)	0.00	1.00	0.20	0.40	1.51	0.28	--*	--*
Baccalaureate Colleges--Diverse Fields (1)	0.00	1.00	0.16	0.36	1.91	1.66	0.53	1.90
Master's Colleges and Universities (smaller programs) (1)	0.00	1.00	0.06	0.23	3.85	12.89	0.71	1.40
Master's Colleges and Universities (medium programs) (1)	0.00	1.00	0.10	0.30	2.70	5.34	0.55	1.83
Master's Colleges and Universities (larger programs) (1)	0.00	1.00	0.25	0.44	1.14	-0.71	0.31	3.23
Doctoral/Research Universities (1)	0.00	1.00	0.06	0.24	3.75	12.14	0.48	2.08
Research Universities (high research activity) (1)	0.00	1.00	0.09	0.29	2.85	6.16	0.36	2.79
Research Universities (very high research activity) (1)	0.00	1.00	0.09	0.28	2.96	6.79	0.20	5.01
12-month full-time equivalent enrollment	240	61470	7705	9679	2.48	7.22	0.27	3.71
Percentage of FTE enrollment who are undergraduate students ($)	29.42	100.00	87.10	11.61	-1.44	3.18	0.44	2.25
Percentage of faculty members who are NTT ($)	0.00	92.59	24.52	14.81	1.24	3.21	0.81	1.24
Full-time NTTF representation in university governing structures (1)	0.00	1.00	0.79	0.41	-1.40	-0.05	0.74	1.36
Full-time NTFF involvement in department or school-level governance structures (1)	0.00	1.00	0.90	0.30	-2.66	5.09	0.72	1.38
Total full-time NTTF policies among 8 most discrepant policies	0.00	8.00	4.56	1.86	-0.40	-0.18	--*	--*
Total full-time NTTF policies among all 16 policies	3.00	16.00	11.85	2.47	-0.90	1.09	--*	--*

*Represents reference group or dependent variables, for which tolerance and VIF statistics are not available.

Table 7
Equal and Unequal Policies between NTTF and TTTF

	Policy Exists for TTT, not NTT	Policy Exists for NTT, not TTT	Unequal Policy	Policy Exists for both	Policy Does NOT Exist for Either	Equal Policy	Missing or not sure
8 Most Discrepant Policies							
Paid Sabbatical	67.6%	0.6%	68.3%	19.8%	6.7%	26.5%	5.2%
Defined Probationary Period	47.6%	0.8%	48.4%	41.5%	3.5%	45.1%	6.5%
Academic Promotion in Rank	33.6%	0.4%	34.0%	60.8%	0.6%	61.4%	4.6%
Multi-year Appointments Following Probationary Period	14.4%	13.8%	28.2%	30.7%	27.6%	58.2%	13.6%
Financial Support to Pursue Professional Development Related to Research	26.1%	0.4%	26.5%	59.9%	3.1%	63.0%	10.4%
*Representation in University Governing Structures	21.3%	0.4%	21.7%	71.2%	1.7%	72.9%	5.4%
Merit-based Salary Increases	10.4%	1.9%	12.3%	45.1%	34.9%	80.0%	7.7%
Financial Support to Pursue Professional Development Related to Teaching	11.7%	0.6%	12.3%	75.4%	2.1%	77.5%	10.2%
*Involvement in Department or School-level Governance Structures	11.5%	0.2%	11.7%	81.0%	0.0%	81.0%	7.3%
Family Leave Benefits	10.4%	0.2%	10.6%	78.9%	3.1%	82.0%	7.3%
8 Less Discrepant Policies							
Individual Office Space	10.0%	0.4%	10.4%	81.6%	0.6%	82.3%	7.3%
Regular (at least annual) Performance Reviews or Evaluations	7.1%	2.1%	9.2%	81.2%	3.1%	84.3%	6.5%
Explicit Performance Evaluation Criteria	7.1%	0.8%	7.9%	84.1%	2.1%	86.2%	5.8%
Defined Dates for Contract Renewal or Termination	3.3%	1.7%	5.0%	91.4%	0.2%	91.6%	3.3%
Full Fringe Benefits	3.8%	0.2%	4.0%	93.5%	0.2%	93.7%	2.3%
Orientation	3.1%	0.6%	3.8%	90.4%	0.2%	90.6%	5.6%
Explicit Academic Freedom Protection	1.3%	0.2%	1.5%	92.3%	1.0%	93.3%	5.2%
Administrative Support	0.8%	0.6%	1.5%	83.1%	6.7%	89.8%	8.8%

*These are independent variables and not included in 8 most discrepant policies summation for the multivariate regression analysis dependent variables.
n=479; if a policy existed for either tenured or tenure-track faculty, the policy was marked as "existing" for the TTTF group. Similarly, if a policy existed for part-time NTTF or full-time NTTF, the policy was marked as "existing" for the NTTF group. As such, the equality calculation favors the sub-group that has more favorable policies (i.e., tenured, and full-time NTTF in most cases). In cases where both NTTF faculty groups or both TTTF groups unanimously had missing or "Not sure or unclear" responses for a given policy, those are classified under the "Missing or Not Sure" column.

Multivariate Analysis

The results for the multivariate regression analysis, where the dependent variable was the prevalence of part-time NTTF policies, are presented in Table 8. Although the variables were entered into three blocks, as described in the analysis section and displayed in Table 3, I used the block entry to understand the block's contribution to the overall model significance and to understand the variance explained for each block entered. As a result, the standardized beta coefficients found in the table represent the final standardized beta coefficients and not those corresponding to separate block entries. The first set of columns present the zero order correlation, the standardized beta coefficient, and the variable or model significance. Table 8 presents the results for two separate regression analyses. For the first regression analysis, the dependent variable captured the prevalence of all 16 part-time NTTF policies, whereas the second regression analysis captured the prevalence of the eight most discrepant part-time NTTF policies. The same table and analysis structure was applied to the multivariate analysis whereby full-time NTTF policies were the dependent variables, as seen in Table 9.

Institutions' Carnegie classifications and affiliation with a Right-to-Work state were the only significant political or structural IPEDS variables after all blocks were entered into the regression analysis. Specifically, for both part-time regression analysis there was a significant and positive relationship between institutions that were doctoral/research universities and the number of policies that support part-time NTTF members. Similarly, the same relationship exists between research universities (very high research activity) and the prevalence of policy existence across the eight more discrepant policies model. Conversely, there was a significant and negative relationship between institutions affiliated with a Right-to-Work state and the prevalence of the eight more discrepant policies. In other words, doctoral/research universities were more likely to

provide all 16 of the policies to NTTF members, and Doctoral/Research universities, Research Universities (very high research activity), and institutions that are *not* affiliated with a Right-to-Work state were more likely to provide the eight more discrepant policies to NTTF members. Across the two regression analyses, the standardized beta coefficients for these two Carnegie classifications were .12 for Doctoral/Research Universities and between .18 and .22 for Research Universities (very high research activity). The standardized beta coefficient for institutions affiliated with a Right-to-Work state was -.09 for the eight more discrepant policies model.

Prior to entering the NSPFP structural (governance) variables into the part-time NTTF regression, 10.1% and 12.8% of the variance was explained by the political and structural IPEDS variables in the 16-policy and 8-policy models, respectively. Moreover, both political and structural IPEDS block entries resulted in statistically significant models. After entering the final block into the two part-time NTTF regression analyses, which included the two part-time NTTF governance variables, 37.7% and 44.3% of the variance for the 16-policy model and the 8-policy model, respectively, was explained by the independent variables in the models. The zero order correlations for the two governance variables—including university-wide representation on university governing boards and departmental or school-level involvement in governance structures—range between .50 and .56 across the two regression analyses. The final standardized beta coefficients for the governance variables ranged from .28 to .37 across the two regression analyses. In summary, while the political and structural (IPEDS) aspects of an institution explain roughly 10 to 12 percent of the variance in part-time NTTF-supportive polices, much more variance was explained by the existence of a policy that requires universities or departments to include part-time NTTF in university-wide and departmental governance structures. This was not

particularly surprising since institutions with inclusive governance policies are likely to have other NTTF-friendly policies and resources.

With regard to the second set of regression analyses (Table 9), whereby the dependent variables emphasized policy existence for full-time NTTF, the only structural IPEDS or political variables that were significant in the final model were the percentage of first-time, full-time (FTFT) students who received Pell funding. However, this was only significant for the dependent variable that captured the prevalence of all 16 full-time NTTF policies, but not the 8-policy model. Specifically, there was a negative relationship between the percentage of FTFT students who received Pell funding and the prevalence of 16 policies that supported full-time NTTF. In other words, schools with lower proportions of Pell recipients were more likely to include all 16 NTTF-supportive policies. This relationship was not true for regression analysis where the dependent variable captures the eight more discrepant policies.

During the first and second block entry, which included the structural IPEDS and political variables, the model was non-significant for the 16-policy dependent variable and was significant for the 8-policy model. The variance explained by the 16-policy dependent variable was 6.4%, and 8.9% for the 8-policy dependent variable. After I entered the final block with the two NSPFP governance variables, the variance explained significantly increased and was 29.2% for the 16-policy dependent variable and 25.9% for the 8-policy dependent variable. The zero order correlations for the two governance variables (university governance and departmental governance) range between .36 and .45 across the two regression analyses. The final standardized beta coefficients for these independent governance variables were .19 to .32 where university governance coefficients were higher than departmental governance coefficients. The

final model was significant, but explained less variance than the part-time NTTF multivariate regression models.

Table 8
Multivariate Regression Analysis for Part-Time NTTF Policies

	Part-time NTTF: Prevalence of					
	All 16 Policies			Discrepant 8 Policies		
	r	Final β		*r*	Final β	
Political Variables						
Endowment per FTE	0.127	0.117		0.132	0.097	
Instruction expenses per FTE	0.115	0.004		0.154	0.008	
Federal appropriations as a percentage of core revenues	0.126	0.024		0.088	-0.018	
Percentage of full-time first-time students who receive Pell funding	-0.081	-0.051		-0.088	0.001	
University is in a Right-to-Work State	-0.095	-0.066		-0.133	-0.088	*
R^2 After 1st Block Entry and Overall Model Significance	0.062		***	0.061		***
Structural IPEDS Variables						
Public Sector	0.171	0.085		0.121	0.015	
Baccalaureate Colleges--Diverse Fields	-0.090	0.015		-0.128	-0.030	
Master's Colleges and Universities (smaller programs)	-0.030	0.019		-0.035	0.015	
Master's Colleges and Universities (medium programs)	0.043	0.041		0.068	0.063	
Master's Colleges and Universities (larger programs)	-0.065	0.041		-0.106	-0.013	
Doctoral/Research Universities	0.051	0.118	*	0.078	0.120	*
Research Universities (high research activity)	0.049	0.117		0.067	0.119	
Research Universities (very high research activity)	0.151	0.180		0.210	0.217	*
12-month full-time equivalent enrollment	0.181	-0.068		0.234	-0.015	
Percentage of FTE enrollment who are undergraduate students	0.019	0.083		-0.058	0.045	
Percentage of faculty members who are NTT	-0.023	-0.047		0.024	-0.018	
R^2 After 2nd Block Entry and Overall Model Significance	0.101		**	0.128		***
Structural NSPFP (Governance) Variables						
Part-time NTTF representation in university governing structures	0.497	0.281	***	0.557	0.365	***
Part-time NTTF involvement in department or school-level governance structures	0.512	0.329	***	0.521	0.285	***
R^2 After Final Block Entry and Overall Model Significance	0.377		***	0.443		***

**p < .05, **p < .005; p < .001. "r" is the zero-order correlation and "Final* β" is the final block's standardized beta coefficient.

Table 9
Multivariate Regression Analysis for Full-Time NTTF Policies

	Full-Time NTTF: Prevalence of					
	All 16 Policies			Discrepant 8 Policies		
	r	Final β		*r*	Final β	
Political Variables						
Endowment per FTE	0.005	0.046		0.055	0.086	
Instruction expenses per FTE	0.004	-0.097		0.042	-0.102	
Federal appropriations as a percentage of core revenues	-0.032	-0.038		-0.077	-0.096	
Percentage of full-time first-time students who receive Pell funding	-0.107	-0.117	*	-0.109	-0.068	
University is in a Right-to-Work State	0.013	0.003		-0.014	-0.018	
R^2 After 1st Block Entry and Overall Model Significance	0.014			0.014		
Structural IPEDS Variables						
Public Sector	-0.004	-0.021		-0.056	-0.030	
Baccalaureate Colleges--Diverse Fields	0.009	0.066		0.025	0.057	
Master's Colleges and Universities (smaller programs)	0.019	0.037		0.024	0.032	
Master's Colleges and Universities (medium programs)	-0.024	0.047		-0.019	0.040	
Master's Colleges and Universities (larger programs)	-0.037	-0.012		-0.093	-0.076	
Doctoral/Research Universities	0.002	0.051		-0.013	0.007	
Research Universities (high research activity)	0.130	0.107		0.131	0.088	
Research Universities (very high research activity)	0.082	0.115		0.106	0.112	
12-month full-time equivalent enrollment	0.131	-0.011		0.133	0.032	
Percentage of FTE enrollment who are undergraduate students	-0.083	0.010		-0.097	-0.024	
Percentage of faculty members who are NTT	0.138	0.053		0.179	0.092	
R^2 After 2nd Block Entry and Overall Model Significance	0.064			0.089		**
Structural NSPFP (Governance) Variables						
Full-time NTTF are represented in university governing structures	0.448	0.317	***	0.396	0.298	***
Full-time NTTF are involved in department or school-level governance structures	0.417	0.256	***	0.356	0.193	***
R^2 After Final Block Entry and Overall Model Significance	0.292		***	0.259		***

**p < .05, **p < .005; p < .001. "r" is the zero-order correlation and "Final* β" is the final block's standardized beta coefficient.

Separate from the main regression analyses and research questions explored in this manuscript, Table 10 presents ancillary regression analyses. For these regression analyses I entered each block independently and summarized each block's adjusted r-square, variable significance, and direction of the correlation. This was conducted due to the amount of variance

Table 10
Individual Multivariate Regression Analyses Variable and Model Significance

	Part-Time NTTF Regression Models		Full-Time NTTF Regression Models	
	16-Policy	8-Policy	16-Policy	8-Policy
Political Variables Entered Independently				
Endowment per FTE	* +			
Instruction expenses per FTE				
Federal appropriations as a percentage of core revenues	*** +	** +		
Percentage of full-time first-time students who receive pell funding			* -	
University is in a Right-to-Work State	* -	* -		
R^2 for Individual Block	0.06***	.06***	0.01	0.01
Structural IPEDS Variables Entered Independently				
Public Sector				* -
Carnegie Classification[a]				
12-month full-time equivalent enrollment				
Percent of FTE enrollment who are undergraduate students				
Percent of faculty members who are NTT				* +
R^2 for Individual Block	0.06*	.08**	.05*	.07**
Structural NSPFP Variables Entered Independently				
Part-time OR full-time NTTF representation in university governing structures	*** +	*** +	*** +	*** +
Part-time OR full-time NTTF involvement in department or school-level governance structures	*** +	*** +	*** +	*** +
R^2 for Individual Block	0.32***	.37***	.25***	.19***

**p < .05, **p < .005; p < .001.*

[a]Carnegie classifications are collapsed as no individual classification was significant across the four regression models.
"+" refers to a positive relationship between the independent variable and dependent variable where as a "–" refers to a negative relationship between the independent and dependent variable.

absorbed by the governance variables, as indicated in Table 8 and Table 9. The model and variable significance for these independent regression analyses revealed several additional findings. For example, institutions with a higher proportion of federal appropriations were positively associated with both the part-time 16- and 8-policy models whereas institutional affiliation with a right to work state was negatively associated with both part-time models.

Discussion

Limitations

There are six key limitations for this study. First, there may be discrepancies between university or institutional-level policies and departmental or school-level policies, which were not captured in this study, and these discrepancies could result in either an over or an underrepresentation of policy existence at a particular institution since only one administrator was surveyed per institution. For example, it was unclear whether respondents internally validated their entries, thus compromising the accuracy of the policy reports. Second, definitions of part-time and full-time NTTF are not universal, and therefore participants' interpretations of those faculty groups were not precisely aligned. Third, the correlation between governance policies and other policies that support NTTF was not a causal relationship, and inclusion in governance may have reflected other tacit or unidentified cultural aspects of an institution. Fourth, due to the significant and high correlations observed between the governance variables and the dependent variables in the regression analyses, the regression models may have understated the significance of various political variables, such as federal appropriations and right-to-work state status. Fifth, I simply split the 16 policies in half when I identified the policies included in most discrepant (8-policy) dependent variable. This grouping may overstate the differences between some of the most discrepant policies that were nearly as un(equal) as

some of the less discrepant policies. Finally, this study does not assess the quality of policies available to various faculty groups, just the baseline availability. For example, how much financial support do NTTF receive for professional development related to teaching and research? How substantial are the merit-based salary increases? What proportion of NTTF actually participate in governance structures? Or how extensive was the administrative support provided to NTTF? These aspects of policy quality are not addressed in this study.

Predictors of NTTF Policy Prevalence

When the dependent variable was the prevalence of policies that support part-time NTTF, the largest predictor was part-time faculty participation in governance structures. A policy that supports part-time NTTF inclusion in university and departmental governance structures accounts for 27.6% of the variance in the 16-policies model and 31.5% of the variance for the discrepant 8-policy model. Similarly, for the equivalent full-time NTTF models, 22.8% of the variance for the 16-policy model and 17% of the variance for the discrepant 8-policy model was explained by full-time NTTF inclusion in university and departmental governance structures. While the overall models for part-time faculty explained between 38% to 44% of the overall variance in the two policy models, the full-time NTTF models only account for 26% to 29% of the overall variance.

Although a strong correlation exists between governance policies and policy prevalence for NTTF groups, this may be related to institutions' valuation of NTTF generally and thus indirectly correlated with overall policy prevalence. In particular, this may be most true for part-time NTTF given the limited number of institutions that included this group in university-wide and departmental governance structures. Aside from inclusion in campus governance structures, an institution's affiliation with a Right-to-Work state was negatively related to the 8-policy part-

time NTTF policy model. In addition, an institution's classification as a Doctoral/Research University and Research University (very high research activity) was positively related to policy prevalence for part-time faculty where the reference group was baccalaureate colleges focusing on arts and sciences. However this finding was not consistent for the full-time NTTF model results. For full-time NTTF policy prevalence, the percentage of first-time, full-time students who received Pell funding was negatively correlated to policy prevalence. As indicated in Steinberg, Piraino, and Haveman's (2009) research, Pell funding may be a proxy for institutional selectivity whereby institutions with more Pell recipients or less selective institutions have fewer policies that support NTTF.

Suggestions for Practice

This study contributes to the body of research evaluating the importance of NTTF representation in campus governance (Baldwin & Chronister, 2001; Eagan et al., 2015; Gappa and Leslie, 1993; Kezar, 2012; Kezar, 2013; Kezar & Sam, 2010). Kezar (2013) identified a similar trend when comparing a small group (n=30) of institutions that had adopted either more or fewer policies that supported contingent faculty. For the group of institutions that had more contingent-friendly policies, these institutions more frequently included contingent faculty in campus governance, thus propelling other policy changes (Kezar, 2013). For this study, this was especially true for part-time NTTF inclusion in campus governance structures.

Kezar (2013) also found that institutions with more policies in place had better contingent representation in governance and not just token representation. For example, institutions with more policies in place for NTTF had governance representation that was more proportional to the actual faculty-type representation on their campuses. That is, not only should institutions explicitly include NTTF groups, but their representation in governance structures should look

similar to the campuses' faculty-type (NTTF vs TTTF) distributions. Finally, as recommended by Jones et al. (2017) and Kezar (2013), institutions should improve the clarity of their governance inclusion or exclusion policies, making eligibility requirements clear and accessible to part-time and full-time NTTF. Given that NTTF may view governance participation unfavorably, institutions should explore ways to encourage and support NTTF participation in university and departmental governance structures. Finally, because institutional affiliation with a Right-to-Work state was associated with fewer policies for part-time NTTF, these forms of governance inclusion are especially important for institutions within these states.

Suggestions for Future Research

Given the importance of including NTTF in governance, as indicated in this study and by past research and policy recommendations, future research should explore the quality of governance representation and participation. For example, what is the relationship between the percentage of NTTF representation in university governance structures and the prevalence of NTTF-supportive policies? Beyond the quality of governance participation, future research should explore other qualitative aspects of these policies. For example, in cases where both NTTF and TTTF are offered professional development funding for teaching or research, is the amount of funding similar or disparate between these two groups? In addition to the pursuit of policy equality between NTTF and TTTF, scholars and practitioners should explore policy equity and the ways in which policy equity is related to institutional characteristics, university outcomes, and faculty perceptions of their working conditions.

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Appendix A

Chi-Square Tests Comparing Inclusion and Exclusion of Institutions for the Full-Time NTTF Multivariate Analysis

	Excluded from FT Multivariate Analysis (n=783)		Included in FT Multivariate Analysis (n=406)	
	%	Adj. Res.	%	Adj. Res.
Private and Public Status				
Private (n=700)	67.4%	1.4	32.6%	-1.4
Public (n=489)	63.6%	-1.4	36.4%	1.4
χ^2 (1, N=1,189) = 1.877, p = .171				
Right-to-Work State				
Right-to-Work State (n=532)	64.5%	-0.9	35.5%	0.9
Not a Right-to-Work State (n=657)	67.0%	0.9	33.0%	-0.9
χ^2 (1, N=1,189) = .815 p = .367				
Carnegie Classification				
Baccalaureate Colleges-Arts & Sciences (n=209)	61.2%	-1.5	38.8%	1.5
Baccalaureate Colleges-Diverse Fields (n=200)	68.5%	0.9	31.5%	-0.9
Master's Colleges and Universities (smaller programs) (n=67)	65.7%	0.0	34.3%	0.0
Master's Colleges and Universities (medium programs) (n=130)	69.2%	0.9	30.8%	-0.9
Master's Colleges and Universities (larger programs) (n=325)	68.3%	1.1	31.7%	-1.1
Doctoral/Research Universities (n=64)	62.5%	-0.6	37.5%	0.6
Research Universities (high research activity) (n=92)	59.8%	-1.3	40.2%	1.3
Research Universities (very high research activity) (n=102)	65.7%	0.0	34.3%	0.0
χ^2 (7, N=1,189) = 5.958, p = .545				

Appendix B

Independent Samples T-Tests Comparing Inclusion and Exclusion of Institutions for the Full-Time NTTF Multivariate Analysis

	Excluded from FT Multivariate Analysis (n=783)		Included in FT Multivariate Analysis (n=406)		Sig. (2-tailed)	t
	Mean	SD	Mean	SD		
Federal appropriations as a percentage of core revenues	10.6%	10.5%	11.4%	10.9%	0.217	1.235
Instruction expenses per FTE ($)	$11,337	$9,765	$10,500	$7,170	0.093	-1.679
Endowment per FTE ($)	$65,950	$206,505	$47,186	$119,671	0.048	-1.981
Percentage of full-time first-time students who receive Pell funding	37.5%	17.0%	38.9%	16.3%	0.177	1.351
12-month full-time equivalent enrollment	7117.0	8798.6	7704.6	9678.7	0.292	1.055
Percent of FTE enrollment who are undergraduate students	86.1%	13.1%	87.1%	11.6%	0.193	1.303
Percent of faculty members who are NTT	24.1%	16.2%	24.5%	14.8%	0.683	0.409

Appendix C

Chi-Square Tests Comparing Inclusion and Exclusion of Institutions for the Part-Time NTTF Multivariate Analysis

	Excluded from PT Multivariate Analysis (n=811)		Included in PT Multivariate Analysis (n=378)	
	%	Adj. Res.	%	Adj. Res.
Private and Public Status				
Private (n=700)	68.3%	0.1	31.7%	-0.1
Public (n=489)	68.1%	-0.1	31.9%	0.1
χ^2 (1, N=1,189) = .005, p = .946				
Right-to-Work State				
Right-to-Work State (n=532)	68.3%	-0.1	31.7%	0.1
Not a Right-to-Work State (n=657)	68.0%	0.1	32.0%	-0.1
χ^2 (1, N=1,189) = .012 p = .913				
Carnegie Classification				
Baccalaureate Colleges-Arts & Sciences (n=209)	65.1%	-1.1	34.9%	1.1
Baccalaureate Colleges-Diverse Fields (n=200)	69.5%	0.4	30.5%	-0.4
Master's Colleges and Universities (smaller programs) (n=67)	62.7%	-1.0	37.3%	1.0
Master's Colleges and Universities (medium programs) (n=130)	70.0%	0.5	30.0%	-0.5
Master's Colleges and Universities (larger programs) (n=325)	70.8%	1.2	29.2%	-1.2
Doctoral/Research Universities (n=64)	68.8%	0.1	31.3%	-0.1
Research Universities (high research activity) (n=92)	63.0%	-1.1	37.0%	1.1
Research Universities (very high research activity) (n=102)	69.6%	0.3	30.4%	-0.3
χ^2 (7, N=1,189) = 4.452, p = .726				

Appendix D

Independent Samples T-Tests Comparing Inclusion and Exclusion of Institutions for the Part-Time NTTF Multivariate Analysis

	Excluded from PT Multivariate Analysis (n=811)		Included in PT Multivariate Analysis (n=378)		Sig. (2-tailed)	t
	Mean	SD	Mean	SD		
Federal appropriations as a percentage of core revenues	10.7%	10.5%	11.1%	10.9%	0.578	0.557
Instruction expenses per FTE ($)	$11,356	$9,700	$10,396	$7,124	0.055	-1.919
Endowment per FTE ($)	$67,938	$209,990	$41,532	$94,187	0.003	-2.993
Percentage of full-time first-time students who receive Pell funding	37.3%	16.8%	39.5%	16.6%	0.033	2.135
12-month full-time equivalent enrollment	7373.9	8948.9	7197.0	9454.0	0.755	-0.312
Percent of FTE enrollment who are undergraduate students	86.3%	12.9%	86.8%	12.0%	0.475	0.714
Percent of faculty members who are NTT	24.2%	15.9%	24.5%	15.4%	0.759	0.307