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One Foot in the Ivory Tower:

Effect of Work Arrangements on Job Satisfaction and Performance among Part-time Faculty

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## Abstract

This study examines whether dimensions of part-time work arrangements (i.e., voluntariness, primacy, and stability) predict workers' job satisfaction, in-role performance, and extra-role performance. Results of multilevel cross-classified models based on a national sample of 2,938 part-time professors indicate that involuntary part-time faculty exhibit greater efforts in role-prescribed tasks although they report lower satisfaction than those who choose reduced work hours. Individuals whose part-time employment is a main job are associated with better in-role and extra-role performance than those treating part-time work as secondary. Finally, having a year-round contract as opposed to an assignment contract is positively related to in-role performance.

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### Effect of Work Arrangements on Job Satisfaction and Performance among Part-time Faculty

#### **Introduction**

The employment of part-time workers has been growing in the United States over the last several decades. In 1980, about 17% of those employed at that time worked part time; in recent years this proportion has increased to approximately 20%.<sup>1</sup> The higher education sector has experienced a more dramatic increase in the employment of part-time faculty during the same period of time. Recent data collected by National Center for Education Statistics (NCES) show that in fall 2009, nearly half (49.3%) of all faculty members in degree-granting postsecondary institutions were employed part-time, while this proportion was about one third (33.8%) in 1987.<sup>2</sup> A number of recent studies (Anderson, 2002, Conley & Lesley, 2002, Ehrenberg & Zhang, 2005) have documented this dramatic increase in the employment of part-time faculty in the United States.

The employment conditions for part-time faculty are quite different from their full-time counterparts. Part-time faculty are often portrayed as inexpensive and marginal labor and they are “victims of medieval employment conditions” (Gappa & Leslie, 1993, p. xi). The implicit assumption of this stream of research is that (almost) all part-time faculty work part-time involuntarily, which is probably the reason that studies on part-time faculty employment have usually been from the demand rather than supply perspective. This assumption appears to be at great odds with the findings from the recent National Study of Postsecondary Faculty (NSOPF:

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<sup>1</sup> Data source: Bureau of Labor Statistics, various years. BLS defines part-time employment as working fewer than 35 hours per week.

<sup>2</sup> Data source: Integrated Post-secondary Education Data System (IPEDS) Fall Staff Survey and Faculty Salary Survey. All degree-granting post-secondary institutions are included in early years and only institutions with at least 15 full-time employees since 2006. This change does not seem to affect the comparability of the aggregated proportion over time. Faculty are defined in IPEDS as having the main responsibilities for instruction, research, and public service, not including graduate teaching and research assistants.

2004) conducted by NCES, which reveals that among those who are employed part-time, only about one third prefer full-time faculty positions, suggesting that part-time faculty are far from a homogeneous group.

Despite the continued growth of part-time workers in general and part-time faculty in particular, empirical studies of the nature of part-time work arrangements and their effects on job attitudes and behavior remain limited (Barling & Gallagher, 1996; Feldman, 1990; Thorsteinson, 2003). To date, much of the relevant literature has focused on divergent outcomes between part-time and full-time employees. Research in this area has shown little systematic difference in overall levels of job satisfaction between these two types of employees (e.g, Broschak, Davis-Blake, & Block, 2008; Thorsteinson, 2003). Scholars have argued that a homogeneous view of part-time work might have obscured the relationship between part-time work arrangements and employee outcomes, and therefore call for new empirical investigations to advance the understanding of potential diversities among the part-time workforce (Barling & Gallagher, 1996; Feldman, 1990; Martin & Sinclair, 2007).

The objective of this study is to provide fine-grained analyses of part-time work arrangements and their effects on work outcomes among part-time faculty. To do this, we draw upon an analytical framework that distinguishes *among* part-time workers rather than between part-time and full-time workers. In particular, we explain why some part-time workers (i.e., voluntary vs. involuntary, main job vs. moonlighting, and year-round vs. assignment-based contract) are more content or work harder than others, even when individual, institutional, and disciplinary factors are controlled for. Moreover, this study includes objective behavioral indicators as well as perceptual measures to evaluate the consequences of part-time work arrangements. We examine in-role behaviors as prescribed by formal job duties and extra-role

behaviors defined as constructive work efforts that benefit the organization and go beyond the required work activities (Van Dyne, Cummings, & McLean Parks, 1995).

## **Literature Review**

Much of the literature on part-time work has focused on differences in job satisfaction between part-time workers and their full-time counterparts. Previous studies typically view work attitudes and behaviors as outcomes of an inducements-contributions transaction between workers and their employing organizations (Blau, 1964; Rotchford & Roberts, 1982). Because part-time employees are only partially included through spending fewer hours in the workplace and they generally receive fewer social-economic inducements such as benefits, training, job security, and advancement opportunities, they are expected to exhibit less favorable attitudes and behaviors at work than their full-time counterparts. Empirical studies testing these arguments, however, have shown mixed results. While some studies have demonstrated that part-time employment is related to positive attitudes, others have shown negative or non-significant associations (Conway & Briner, 2002; Stamper & Van Dyne, 2001). A meta-analysis conducted by Thorsteinson (2003) surveyed 30 studies on this topic and found little difference between part- and full-time workers on job satisfaction, organizational commitment, and intent to leave, with the exception that full-time workers appear to have more job involvement than part-time workers.

There is increasing evidence that treating part-time workers as a homogenous group may mask potential differences among this group. For example, Tilly (1996) differentiated secondary and retention part-time work arrangements. While secondary part-time work arrangements offer little training, low pay, and few connections to internal career ladders, retention part-time jobs

are created to retain qualified workers who cannot work on a full-time basis. Feldman (1990) conceptualizes part-time employment on five dimensions and hypothesizes how job attitudes and behaviors differ along these dimensions. Subsequent research in this area has studied potential differences among part-time workers, with a special focus on the voluntariness of these workers. Empirical work along this line does not seem to yield significant differences among part-time workers in different work arrangements. For example, Feldman (1990) hypothesizes that part-time workers who are working voluntarily have greater job satisfaction than those working part-time involuntarily. This hypothesis is confirmed in a study by Holtom, Lee, and Tidd (2002), who find that work status congruence is positively associated with job satisfaction and organizational commitment. In contrast, other studies find that this relationship is either very small or does not exist (Eberhardt & Moser 1995; Keil et al. 2000). Thorsteinson (2003) reviews ten studies that differentiated voluntary and involuntary part-time workers and finds very small if any differences in job satisfaction between these two types of part-time workers. Martin and Sinclair (2007) examined broader differences among part-time employees and developed a typology of eight distinct groups based on partial inclusion theory. Subsequent studies (Senter & Martin, 2007; Wittmer & Martin, 2011) validated this typology and found significant differences in turnover and its predictors of these different groups. These scholars called for further empirical research to investigate the effects of part-time work arrangements on a variety of worker attitudes and behavior.

Further, little is known whether dimensions of part-time employment have any effects on job performance for part-time workers, except for the assumed positive attitude-performance relationship. Research on the relationship between job satisfaction and performance has a long and controversial tradition. While most early studies suggested a weak relationship (e.g.,

Iaffaldano & Muchinsky 1985), more recent view has been that there is a moderate correlation (i.e., about 0.3) between these two and this relationship can be even stronger for complex professional jobs (Judge et al., 2001). Since almost all studies along this line have used full-time workers, it is unclear whether this attitude-performance relation holds for part-time workers from a limited number of studies based on part-time workers (Connelly & Gallagher 2004). For example, in a study of clerical and administrative workers in financial service firms, Broschak, Davis-Blake, and Block (2008) while voluntary part-time workers are more satisfied with their pay, they are not more productive and did not engaged in more helping behaviors than do their full-timecoworkers. In contrast, Marler, Barringer, and Milkovich (2002) compare “traditional” and “boundaryless” temporary workers and find that although the latter enjoy their temporary work status, their task performance is significantly lower than more “traditional” temporary workers. In light of scarce and mixed empirical evidence in this area, Connelly and Gallagher (2004) call for additional investigation of possible predictors of contingent workers’ performance.

In this study, we follow the lead of Feldman (1990) and Martin and Sinclair (2007) in studying dimensions of part-time arrangements and their relationship with job satisfaction and performance for part-time faculty at colleges and universities. In particular, we focus on three dimensions of part-time work arrangements, namely, voluntariness, primacy, and stability.

#### *Voluntariness*

Voluntariness addresses whether an individual works part-time by choice or due to the unavailability of full-time jobs. Some people deliberately reduce their work hours in order to facilitate work and life balance (Higgins, Duxbury, & Johnson, 2000), while others are steered into part-time jobs because of the employers’ inability or unwillingness to create suitable full-

time positions (Farber, 1999). While early studies view work attitudes as an outcome of part-time versus full-time work status (e.g., Eberhardt & Shani, 1984; Conway & Briner, 2002), recent research asserts that voluntariness, or the extent to which employers match employee preferences for work status and number of hours, is a significant predictor of attitudes such as satisfaction and commitment (Holtom, Lee, & Tidd, 2002). Voluntary employees who purposefully reduce work hours to accommodate non-work needs are able to achieve greater job satisfaction than others who are unwillingly confined to mismatched work schedules. Several studies provided empirical support for this argument (e.g., Stamper & Van Dyne, 2001; Walsh & Deery, 1999). Therefore, we expect that voluntary part-time faculty will report higher levels of job satisfaction than those who work part-time involuntarily.

The relationship between voluntariness and work performance for part-time faculty is more complicated. On one hand, part-time faculty who work part-time voluntarily are motivated by having their desired work arrangement may out-perform their involuntary peers who feel unwillingly situated in their current work arrangement and therefore withhold their efforts. Feldman and Turnley (2004) found that contingent faculty's voluntariness is positively related to both in-role and extra-role performance. On the other hand, job behavior is affected by an individual's purpose and plan, as well as affect and attitude (Locke, 2000). Aspiration to full-time positions of involuntary part-time faculty can be viewed as a specific but (increasingly) challenging aim to attain. Locke and Latham (1990) argue that unambiguous and difficult goals effectively stimulate self-regulatory mechanism and consistently lead to higher performance. Therefore, involuntary part-time workers are motivated to achieve better performance even though they bear costs such as lower wages, less security, and less preferred work status. In



short, the theoretical prediction about the relationship between voluntariness and job performance is far from clear.

### *Primacy*

Primacy indicates whether the part-time job constitutes an individual's primary source of salaried income, or serves as a second job to supplement his or her income. While some workers need second jobs to meet basic living expenses (e.g., Paxson & Sicherman, 1996), others especially professional and technical workers hold multiple jobs because of their relatively flexible schedule and marketable expertise (Amirault, 1997). Hiring part-time faculty who have a full-time job elsewhere allows an institution to bring in special expertise that is difficult or costly to develop in-house. Meanwhile, knowledge workers' decision to pursue a second job is mainly driven by the opportunity to use and extend their existing skills, rather than an interest in crafting a long-term career within the organization where they work part-time. Rajagopal and Lin (1996) report that part-time faculty who hold full-time jobs in other professional arenas are attracted to academe by their interest in teaching and having faculty contacts, rather than by their enthusiasm for developing a career in an educational institution. Unsurprisingly, knowledge workers who have another main job have lower expectations with regards to employer-provided inducements such as benefits and advancement. For these reasons, they are less affected by negative organizational events and are more likely to reach a higher level of job satisfaction (Eberhardt & Shani, 1984). By contrast, individuals who take a part-time position as a primary job expect a broader range organizational support and favorable work conditions from the employing organization, the main provider of these benefits. They have low tolerance for unfavorable organizational practices such as differential treatments between full-time and part-time workers (Coyle-Shapiro & Kessler 2002). Given the large difference in pay and benefits

between part-time and full-time faculty especially those tenured and on tenure-tracks, we expect faculty members who view their part-time teaching jobs as primary employment perceive lower levels of satisfaction at work than those who hold part-time teaching jobs as secondary employment.

Whether the part-time job is a primary or a secondary job could also be important in influencing an individual's work effort and job performance. As compared to part-time faculty who have other primary jobs, people who choose academic positions as their primary jobs have a keen motivation to derive self-fulfillment from academic work. Moreover, they are strongly motivated to perform well because their jobs, even at a reduced load, provide the main source of income. Finally, part-time only employees have a stronger interest in participating in the operations of the organization where they work. For example, Rajagopal and Lin (1996) find that the majority of part-time only faculty desire their institutions to provide a favorable work environment and stable appointment to part-time teachers, while fewer non-academic part-time faculty expect this of their institutions. Conversely, because of their primary commitment and attachment to another job, faculty whose part-time job is secondary may have low interests in organizational activities where they are only partially included. When there are incompatible values or behavioral demands between the full-time and part-time jobs, these workers place priority on their full-time, primary jobs. Therefore, their performance in the part-time job may be negatively affected.

### *Stability*

Stability elicits the expected duration of employment; it differentiates part-time workers who hold their part-time jobs year-round from others who are hired to accommodate temporary needs of specific assignments. Work attitude and performance may also vary based on the

expected duration of the employment relationship. For employees who are on assignment-based contracts, uncertainties about future employment and continuous search for work lead to strain and distress (Ashford, Lee, & Bobko, 1989; Rosenblatt & Ruvio, 1996). Therefore, they are generally less satisfied with their jobs than those who perceive their employment conditions to be more certain (Walsh & Deery, 1999). Moreover, due to low expectations of job continuity, individuals have low incentives to understand organization-specific routines and procedures and therefore lead to impaired performance. In this study, we expect that part-time employees on year-round contracts will exhibit higher levels of job satisfaction and performance than those on assignment-based contracts.

## **Data**

This study makes use of a restricted data set collected by the NSOPF in the 2003-04 academic year. The data set includes a nationally representative sample of 26,108 faculty members from 976 institutions. It provides a national profile of faculty and instructional staff: their background, responsibilities, workloads, salaries, benefits, and attitudes. Additional information concerning NSOPF and restricted data license is available at the NSOPF web page: <http://nces.ed.gov/surveys/nsopf>. In this study, we exclude full-time faculty because we are interested in studying dimensions that distinguish among part-time faculty rather than comparing part-time faculty with their full-time counterparts. We further limit our sample to those teaching at four-year colleges and universities and exclude those teaching at two-year and other institutions. Four-year institutions have similar core functions, including teaching and research, which makes comparison more meaningful than comparing them with two-year and other institutions. Finally, we eliminate a few individuals who were not teaching during the semester

when data collection took place, or who did not have valid information on their disciplinary fields. These restrictions result in a final sample of 2,938 part-time faculty members in 32 disciplinary fields and 482 institutions.

Table 1 lists all dependent and independent variables used in this analysis. The main dependent variables are part-time faculty members' job satisfaction and performance. We use two common approaches to the measurement of job satisfaction. The composite approach examines an individual's attitudes towards specific facets of the job (Spector, 1997). In this study, respondents were asked to indicate their degree of relative satisfaction regarding seven critical aspects of academic work, including satisfaction with authority to make decisions, with institutional support for teaching improvement, with equipment/facilities, with technology-based activities, with workload, with salary, and with benefits. A composite measure of general job satisfaction, which is an average score of the facet scales, is then created and used in the analysis, with reliability alpha of 0.768. In addition to the composite measure, extant research suggests a global approach to job satisfaction provides valuable additional information because it offers a more complete picture of a person's job satisfaction (Ironson et al., 1989; Wanous, Reichers, & Hudy, 1997). Therefore, this study includes a single-item measure of overall job satisfaction. Using both measurement approaches is beneficial as research has shown that global and composite measures of job satisfaction are only modestly correlated (Scarpello & Campbell, 1983). Responses were made on a four-point scale ranging from 0 (very dissatisfied) to 3 (very satisfied). High scores indicate a greater degree of satisfaction.

We examine two aspects of job performance: in-role behavior and extra-role behavior that is not stated in formal job requirements. In the setting of higher education, in-role performance refers to the delivery of instructional services. This study measures in-role

performance in terms of quantity and quality. Quantity of in-role performance is measured by the number of hours per week devoted to duties and responsibilities directly related to instruction delivery, such as teaching, clinical services, class preparation, and office hours. Quality of in-role performance is measured as the use of benchmarking instructional practices. Chickering and Gamson (1987) synthesized 50 years of research on good teaching principles into Seven Principles of Good Practices in Undergraduate Education, namely, encouraging contact between students and faculty, developing reciprocity and cooperation among students, encouraging active learning, giving prompt feedback, emphasizing time on task, communicating high expectations, and respecting diverse talents and ways of learning. These practices have been shown to improve students' cognitive and non-cognitive learning (Pascarella & Terenzini 2005). These seven principles of effective teaching are reflected in six teaching practices measured in this study. These practices include using term/research papers, multiple drafts of written work, oral presentation, group projects, student evaluations of each other's work, and service learning, co-op experiences or assignments requiring interactions with the community or business/industry. We use dummy variables to indicate whether a faculty member uses each of the above six effective teaching practices. The number of effective teaching practices used (i.e., the summation of the above six dummy variables) is an indicator of instruction quality by part-time faculty in this analysis. Finally, we include a measure of extra-role behavior that indicates the number of hours per week devoted to non-instructional activities beyond the formal job description, such as club assistance, recruiting, and attending institutional events.

Main independent variables in this analysis are types of part-time work arrangements. We explore three dimensions including voluntary vs. involuntary, main job vs. moonlighting, year-round vs. assignment based contracts. Faculty members in NSOPF were asked about their

preference for part-time vs. full-time teaching positions. Based on this information, a dummy variable which indicates whether a part-time faculty member prefers part-time teaching positions is created as a measure of voluntariness. Primacy of part-time employment is measured by whether this current job is one's primary employment or not. Stability of part-time faculty position is measured by whether one has a year-round contract or not. Those part-time teaching positions based on *ad hoc* enrollment needs are less secure than those with year-round contracts.

In addition to these three dimensions of part-time employment, we also include a variety of workloads and income variables that have been shown to affect workers' job satisfaction and performance. Workloads to a large degree determine the time commitment to their institutions and work effort of part-time faculty members and may affect their job satisfaction and attitude toward their work. The very detailed information on courses provided by NSOPF allows us to construct several workload variables including the number of courses each faculty member is teaching at the time of survey, the average number of students in each class, the average credit hours for each class, and the number of undergraduate classes. Further, because a substantial body of literature has shown a positive income-happiness relationship across individuals (Argyle, 1999; Easterlin, 2003), we include two income measures in this analysis, namely, compensation from this part-time teaching job and total household income. Total household income could influence one's attitude toward this teaching job through affecting their job and life happiness in general.

Finally, we incorporate a myriad of individual, disciplinary, and institutional characteristics as control variables. A set of individual-level variables are created to account for individual differences, including age, gender, race/ethnicity, citizenship, marital status, highest degree obtained, and number of dependent children. These variables have been empirically

proven to influence individual labor supply decisions and job satisfaction (Feldman & Turnley, 2004; Toutkoushian & Bellas, 2003). The square term of age is also added to account for the fact that young faculty members who just start their academic career and senior members who are near retirement or have retired are more likely to prefer part-time positions.

The employment conditions could be different across institutions and disciplinary fields. Liu and Zhang (2007) provided a comprehensive review of theories pertinent to contingent employment and found that the practice of part-time faculty varies by institutional factors. These factors include institutional control and types of institutions. In addition to these variables, the proportion of part-time faculty in a particular institution might also affect how individual faculty members feel about their part-time employment at that institution. All these variables are constructed from Integrated Postsecondary Education Data System (IPEDS). We use the institution affiliation provided in NSOPF to merge IPEDS data for the same year we have NSOPF data. Finally, we employ several disciplinary-level variables to capture disciplinary differences. The proportion of part-time faculty differs great across fields of study, which is due to the basic supply and demand of faculty and pay structure across fields of study. The proportion of part-time faculty in a field is created by aggregating NSOPF data by Classification of Instructional Programs (CIP) code. Further, professional fields (e.g., business, health, and law) might be quite different from others in part-time employment practice and these fields are indicated by dummy variables.

## **Analysis**

Multilevel modeling technique is used to take into account the fact that individuals are hierarchically embedded within social systems. That is, individual faculty belong to disciplines

while they are nested within institutions. Nevertheless, our data structure differs from the usual nested hierarchical structure in that institutions and disciplines are not nested. This type of non-nested hierarchical structure is commonly named cross-classified structure and was used in organizational studies recently (Raudenbush & Bryk, 2002; Garner & Raudenbush, 1991; Goldstein, 1994). In this study, a general cross-classified model consists of two levels: a level-1 individual model within cells defined by institutions and disciplines, and a level-2 model which explains the difference among cells. To formally describe the cross-classified model, suppose there are  $i = 1, 2, \dots, m$  institutions and  $j = 1, 2, \dots, n$  disciplines; within each cell defined by the combination of  $ij$  (i.e., discipline  $j$  in institutions  $i$ , or institution  $i$  in discipline  $j$ ), there are  $k = 1, 2, \dots, p_{ij}$  individuals. Note that the number of individuals in each cell ( $p_{ij}$ ) could be different across cells. The level-1 individual level is as follows:

$$(1) \quad y_{ijk} = \beta_{0ij} + \sum_{q=1}^Q \beta_q X_{qijk} + \varepsilon_{ijk}$$

where  $y_{ijk}$  represents the outcome variable for individual  $k$  in institution  $i$  and discipline  $j$ ;  $\beta_{0ij}$  is the cell-specific intercept;  $\beta_q$  is the cell-specific coefficient for  $q$ th individual explanatory variable  $X_{qijk}$ ; and  $\varepsilon_{ijk}$  is the within-cell error term assumed to be iid.

In the level-2 analysis, we model the cell-specific intercept (i.e.,  $\beta_{0ij}$ ) as a combination of both institution- and discipline-level errors, that is:

$$(2) \quad \beta_{0ij} = \gamma_0 + \varepsilon_i + \varepsilon_j$$

where  $\gamma_0$  represents the overall intercept, and  $\varepsilon_i$  and  $\varepsilon_j$  are institution- and discipline-level error terms. In empirical analysis, we also estimate a modified version of equations (2), which adds institutional and disciplinary characteristics to explain level-2 variance, i.e.,



$$(3) \quad \beta_{0ij} = \varphi_0 + \sum_{r=1}^R \delta_r Z_{ri} + \sum_{s=1}^S \theta_s Z_{sj} + u_i + u_j$$

where  $\varphi_0$  represents the overall intercept;  $\delta_r$  is the institution-specific coefficient for  $r$ th institution variable  $Z_{ri}$ ;  $\theta_s$  is the discipline-specific coefficient for  $s$ th disciplinary variable  $Z_{sj}$ ;  $u_i$  and  $u_j$  are institution- and discipline-level error terms.

The above models inherently account for the fact that individual faculty are cross-classified by both disciplines and universities. Faculty members within the same discipline and/or the same institution are more similar than those who are from different disciplines and institutions. The covariance between two individuals is (1) the variance of the discipline, when individuals are from the same discipline but different institutions, (2) the variance of the institution, when individuals are from the same institution but different discipline, (3) the variance of the discipline plus the variance of the institution, when individuals are from the same discipline and the same institution, and (4) zero, when the two individuals are from different disciplines and different institutions (Goldstein, 1994).

## Results

Table 2 reports correlation statistics for the variables used in the analysis. The relationships among our main dependent and independent variables based on pairwise correlations are largely consistent with our predictions. For example, preference for part-time employment is positively related to job satisfaction, but negatively related to work performance. Part-time faculty who view their teaching job as the primary job have lower job satisfaction, but higher levels of work performance. Finally, part-time faculty with relatively stable employment contracts have higher levels of work performance; however, they have lower levels of job

satisfaction, although the association is rather small and not statistically significant.

(Significance levels are not reported due to space considerations.) We next turn to our regression analyses that control for a myriad of individual, institutional, and disciplinary factors that may have caused these observed simple correlations.

We estimate cross-classified random effects models with and without institutional and disciplinary characteristics. Since results from these two models are very similar and likelihood ratio tests in general favor the former, we present our results without institutional and disciplinary variables in Table 3 and results with these additional variables in Appendix Table A. It is note-worthy that in both tables, only results for part-time work arrangement, income, and teaching loads are reported; results for other individual, institutional, and disciplinary level variables are available upon request. Before we get into detailed results in Table 3, it is important to note that the likelihood ratio test for these multilevel cross-classified models versus multiple regression models without institutional and disciplinary random error components favors the former. For all models, the Chi-square statistics with 2 degrees of freedom for the likelihood ratio test exceed the 5% threshold of 5.99, suggesting that even after controlling for all individual, institutional and disciplinary variables included in models, there are considerable variations across institutions and disciplines, which are also reflected in the significant variance components across institutions and disciplines reported in the random part of the table.

The first two columns in Table 3 use the composite and single measures of job satisfaction. Results from these models are similar. Preference for part-time work arrangement has a large and significant impact on their job satisfaction. Those part-time faculty members who prefer part-time teaching jobs have a satisfaction level that is 0.23-0.24, which is approximately half standard deviation of the composite job satisfaction index, higher than their

counterparts. The primacy and stability of part-time employment does not seem to affect job satisfaction. Not surprisingly, one's household income is positively related to job satisfaction, probably through raising one's general satisfaction toward life. The compensation from the current part-time teaching job, however, does not seem to affect one's job satisfaction. We also tried salary per class to control for workload; however, this variable does not seem to affect job satisfaction either. Finally, workload variables have either very small or statistically insignificant effects on job satisfaction.

Since we have data on faculty member's job satisfaction toward a myriad of job characteristics, they provide a unique opportunity to examine how work status preference and other dimensions of part-time employment might affect different aspects of job satisfaction. We have attempted to use factor analysis via polychoric correlation procedure as recommended by Kolenikov and Angeles (2004) to group these satisfaction measures. The factor analysis, however, produces only one factor with factor loadings between 0.43 and 0.67 for all seven aspects of job satisfaction. Based on this analysis, we run separate models for each of the seven job satisfaction measures. Results are reported in Appendix Table B. Besides largely confirming our results in Table 3, results in Appendix Table B also reveal some differences among satisfaction measures. Work status preference has significant impact on part-time faculty's job satisfaction with workload, salary, benefits, and institutional support for teaching improvement, but little effect on satisfaction with authority to make decisions, technology-based activities, and equipment/facilities, although all of these effects are statistically significant. If a part-time faculty member views this teaching job as his/her primary job—presumably this means a relative heavy dependence on the income from this job—he/she is less satisfied with the salary of his/her part-time teaching job. Having a year-round contract has a negative effect on job

satisfaction with workload but a positive effect on satisfaction with benefits. This is so because part-time faculty with year-round contracts, instead of based on ad hoc needs, are more likely to have heavier teaching loads and better benefits that come with longer working hours. One's household income is positively related to most job satisfaction indicators. While the compensation from this teaching job does not matter much to overall job satisfaction, it has a positive and significant impact on one's job satisfaction with salary. Finally, teaching load variables do not seem to have consistent and significant effects on different aspects of job satisfaction.

While part-time workers who are voluntary are more satisfied with their employment, they do not appear to achieve greater performance. Columns 3 in Table 3 reports results for work performance measured by time spent per week in instructional activities. Results suggest that part-time faculty who prefer part-time employment on average spend one hour less per week on role-prescribed duties. Not surprisingly, part-time faculty who view this job as their primary employment and have year-round contracts spend significantly more time on in-role activities. While one's household income does not appear to influence time commitment, his/her salary from this teaching job is positively associated with one's time commitment to the teaching job. Finally, part-time faculty who teach larger class with more credit hours spend more time in instructional activities. Taken together, these results suggest that part-time faculty who are less connected or committed to their teaching job (i.e., those who prefer part-time appointment, have other primary employment, do not have year-round contracts, teach small classes with fewer credit hours, and have lower compensation) on average spend less time on their part-time teaching activities.

Time spent represents the quantity aspect of one's work commitment, it is also important to examine the quality aspect of one's effort. In the next column, we estimate the relationship between dimensions of part-time employment and the use of various teaching methods by part-time faculty members. Results suggest that those part-time faculty who prefer part-time employment adopt fewer effective teaching practices although the difference (-0.177) is small and only represents about one tenth of the standard deviation. Whether the teaching job is primary or has a year-round contract does not seem to affect the use of effective teaching practices. Neither household income nor income from this teaching job is significantly related to the use of effective teaching methods. Finally, part-time faculty teaching few classes, small classes, and undergraduate classes are more likely to adopt effective teaching practice.

In the last column, we report results regarding faculty time spent on extra-role activities. Results are similar to time spent on in-role activities, but effects are much smaller and sometimes not statistically significant. For example, results suggest that part-time faculty who prefer part-time employment on average spend less time on extra-role duties, although the difference is not statistically significant. Part-time faculty who have other primary employment spend 0.71 hours per week less on extra-role activities. Finally, the compensation from the current teaching job is positively associated with one's time commitment to both in-role and extra-role activities.

Results in Appendix Table A, which includes both institutional and disciplinary variables to our empirical model, are very similar to those reported in Table 3. Although these institutional and disciplinary variables have shown to affect employment practices at colleges and universities (Liu & Zhang, 2007), they do not seem to be related to job satisfaction and performance of part-time faculty members. (Detailed results for these variables are available upon request.) The only significant difference is that part-time faculty in private institutions are more satisfied with their

teaching jobs than their counterparts in public institutions, although the difference is rather moderate at approximately one-fifth of the standard deviation.

## **Discussion and Conclusion**

This study provides empirical support for a heterogeneous view of the part-time workforce. While previous studies tend to focus on differences in occupation and demographic characteristics, we find that part-time workers differ significantly in how they structure their work time and how they perceive their jobs even within the same occupation. The distinctions are important because workers situated in different types of part-time work arrangements have divergent expectations, orientations, and work plans. We contend that understanding voluntariness, primacy, and stability dimensions of part-time work arrangements is useful in explaining job satisfaction, in-role and extra-role performance. We empirically test this idea in a national sample of faculty in four-year universities and colleges in the United States. Our results suggest that people who are involuntarily steered into part-time positions exhibit significantly greater in-role performance although they are less satisfied with their jobs than people who work part-time by choice. Moreover, individuals whose part-time employment is a main job are associated with better role-prescribed and extra-role performance than those who treat part-time work as secondary. Finally, part-time employees who are on year-round contracts engage in more role-related activities than those who are hired on assignment-based contracts.

This study extends previous discussions of the role of work schedule preferences, or voluntariness, in predicting work-related attitudes and behavior. This study shows that while involuntary part-time employees report lower satisfaction than those who choose to reduce work time by choice, they exhibit significantly greater efforts in role-prescribed duties and

responsibilities, measured in the amount of time and the number of benchmarking practices used. This finding suggests that part-time faculty who aspire to full-time positions are motivated to achieve high levels of performance because a part-time job prepares them for full-time employment. First, on-the-job experience provides opportunities for the development of vocational skills that are valued by and transferrable to other organizations. Second, it advances access to professional networks which may increase visibility in the job market. Finally, past performance is a strong indicator of future performance. If an individual demonstrates competence and productivity at the present job in which they are partially engaged, it sends a positive signal to the current and other employers, which may lead to more desirable and stable jobs. This finding is consistent with an emerging view that when opportunities to transition to standard positions motivated temporary workers to exhibit more positive attitudes toward supervisor and coworkers and better performance than their peers in standard work arrangements (Broschak, Davis-Blake, & Block, 2008).

The use of multilevel cross-classified random effects models provides a case of modeling and theory testing for future research. Multilevel modeling addresses statistical concerns of dependence by permitting complex error structures at each level of analysis (Hofmann, Griffin, & Gavin, 2000). It directly permits the partitions of the shared variance between individuals, disciplines, and institutions and therefore allows us to estimate their relative explanatory power. Modeling these cross classifications simultaneously provides considerable flexibility and important new insights in understanding the relationship among factors across levels.

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Table 1: Definition and descriptive statistics

Variable	Mean	S.D.
<i><u>Job satisfaction and behavior</u></i>		
Composite job satisfaction	2.174	0.551
Overall job satisfaction	2.403	0.710
In-role behavior – quantity (# hours devoted to instruction)	14.656	10.884
In-role behavior – quality (# effective teaching practices used)	2.186	1.900
Extra-role behavior – quantity (# hours devoted to non-instruction)	1.706	3.745
<i><u>Employment arrangement</u></i>		
Prefer part-time employment (1=prefer part-time; 0=otherwise)	0.656	0.475
Current job is primary employment (1=primary; 0=otherwise)	0.325	0.468
Employment with year-round contract (1=year-round; 0=otherwise)	0.290	0.454
<i><u>Income and workloads</u></i>		
Log household income	11.301	0.655
Log salary from this job	8.907	1.034
Number of classes taught	1.784	1.291
Average number of students in a class	6.189	9.736
Average credit hours each class	-0.923	1.217
Proportion of undergraduate class	0.271	0.229
<i><u>Individual characteristics</u></i>		
Have doctoral degrees	0.288	0.453
Female	0.465	0.499
Hispanic	0.064	0.245
Black	0.065	0.246
Asian	0.041	0.199
Age	49.763	11.887
Number of kids	0.877	1.175
Married	0.720	0.449
Live with partner	0.046	0.209
Divorced	0.113	0.317
<i><u>Institution-level variables</u></i>		
Proportion of part-time faculty	0.302	0.116
Private institution	0.571	0.495
Doctoral institution	0.391	0.488
Comprehensive institutions	0.425	0.494
<i><u>Discipline-level variables</u></i>		
Proportion of part-time faculty	0.364	0.138
Business	0.100	0.300
Health	0.071	0.258
Law	0.029	0.167

Table 2: Correlation matrix for variables used in this analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Composite job satisfaction												
(2) Overall job satisfaction	0.78											
(3) In-role behavior – quantity	-0.09	-0.08										
(4) In-role behavior – quality	-0.11	-0.06	0.12									
(5) Extra-role behavior – quantity	-0.10	-0.07	0.09	0.09								
(6) Prefer part-time employment	0.27	0.21	-0.13	-0.16	-0.07							
(7) Current job is primary employment	-0.08	-0.05	0.42	0.13	0.16	-0.16						
(8) Employment with year-round contract	0.00	-0.02	0.28	0.02	0.08	0.00	0.22					
(9) Log household income	0.19	0.13	-0.06	-0.18	-0.06	0.24	-0.17	0.05				
(10) Log salary from this job	-0.02	-0.03	0.40	0.02	0.15	-0.07	0.37	0.37	0.08			
(11) Number of classes taught	-0.06	-0.04	0.22	0.15	0.08	-0.14	0.20	0.11	-0.05	0.30		
(12) Average number of students in class	-0.08	-0.06	0.26	0.02	0.07	-0.09	0.22	0.17	-0.01	0.29	0.46	
(13) Average credit hours each class	-0.08	-0.06	0.27	0.17	0.10	-0.15	0.24	0.12	-0.05	0.35	0.85	0.52
(14) Proportion of undergraduate class	-0.12	-0.09	0.21	0.47	0.09	-0.22	0.24	0.07	-0.18	0.21	0.69	0.40
(15) Have doctoral degrees	0.01	-0.03	0.10	-0.13	0.02	0.02	0.06	0.10	0.08	0.17	-0.02	0.06
(16) Female	-0.09	-0.06	0.05	0.15	0.03	0.02	0.12	0.03	-0.11	-0.05	0.00	-0.03
(17) Hispanic	-0.04	-0.03	-0.03	0.02	0.02	-0.06	0.01	0.04	-0.06	-0.02	0.00	-0.02
(18) Black	-0.01	-0.06	-0.04	0.05	0.01	-0.05	-0.05	0.00	-0.05	-0.05	0.03	-0.01
(19) Asian	-0.05	-0.06	0.00	-0.04	0.01	-0.04	0.04	0.04	-0.01	0.06	-0.01	0.00
(20) Age	0.16	0.13	0.03	-0.07	0.00	0.15	0.07	0.03	0.19	0.12	0.03	0.00
(21) Number of kids	0.01	0.02	-0.09	-0.02	-0.08	0.02	-0.12	0.00	0.15	-0.03	-0.01	0.00
(22) Married	0.08	0.07	-0.05	-0.07	-0.08	0.12	-0.02	0.00	0.33	-0.01	-0.04	-0.01
(23) Live with partner	-0.03	-0.02	0.04	0.03	0.04	-0.03	0.00	0.02	-0.06	0.00	-0.01	0.02
(24) Divorced	-0.03	-0.02	0.00	0.06	0.02	-0.04	-0.03	-0.01	-0.13	0.00	0.02	0.00
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(13) Average credit hours each class												
(14) Proportion of undergraduate class	0.68											
(15) Have doctoral degrees	0.00	-0.09										
(16) Female	0.01	0.02	-0.12									
(17) Hispanic	0.01	-0.02	0.01	0.03								
(18) Black	0.01	0.01	0.01	-0.01	-0.01							
(19) Asian	0.00	0.01	0.06	-0.01	0.01	-0.03						
(20) Age	0.06	-0.05	0.22	-0.14	-0.08	-0.02	-0.07					
(21) Number of kids	-0.03	-0.01	-0.05	-0.04	0.01	0.01	-0.01	-0.19				
(22) Married	-0.04	-0.04	0.02	-0.13	-0.02	-0.09	-0.01	0.13	0.30			
(23) Live with partner	0.00	0.01	-0.01	0.02	0.01	-0.02	-0.02	-0.07	-0.12	-0.35		
(24) Divorced	0.04	0.01	0.00	0.14	0.02	0.08	-0.03	0.10	-0.08	-0.57	-0.08	

Note: Institutional and disciplinary variables are not reported in this table because they are excluded from our preferred model specification in Table 3.

Table 3: Maximum Likelihood Estimates of Cross-Classified Model for Job Satisfaction and Behavior

	Composite job satisfaction	Overall job satisfaction	In-role behavior- quantity	In-role behavior- quality	Extra-role behavior- quantity
<u>Fixed part</u>					
Prefer part-time	0.228*** (0.022)	0.237*** (0.029)	-1.025** (0.382)	-0.160* (0.063)	-0.156 (0.154)
Primary job	-0.010 (0.024)	0.017 (0.032)	6.113*** (0.426)	0.096 (0.070)	0.703*** (0.171)
Year-round contract	0.021 (0.023)	-0.008 (0.031)	2.940*** (0.415)	0.138* (0.068)	0.117 (0.166)
Log household income	0.092*** (0.017)	0.073** (0.022)	-0.198 (0.299)	-0.103* (0.050)	-0.068 (0.120)
Log salary from this job	-0.002 (0.011)	-0.007 (0.015)	1.989*** (0.201)	-0.006 (0.033)	0.338*** (0.080)
Number of classes taught	0.030* (0.015)	0.033 (0.019)	-0.472 (0.258)	-0.355*** (0.043)	-0.136 (0.104)
Average number of students in a class	-0.003* (0.001)	-0.002 (0.002)	0.087*** (0.021)	-0.020*** (0.003)	-0.004 (0.008)
Average credit hours each class	-0.034* (0.017)	-0.031 (0.022)	0.904** (0.292)	-0.082 (0.048)	0.237* (0.117)
Proportion of undergraduate class	-0.046 (0.066)	-0.091 (0.085)	1.614 (1.161)	5.601*** (0.193)	0.275 (0.459)
<u>Random part</u>					
$sd(\varepsilon_i)$ [institution]	0.092*** (0.018)	0.080* (0.028)	2.530*** (0.295)	0.241*** (0.048)	0.418* (0.169)
$sd(\varepsilon_j)$ [discipline]	0.063*** (0.017)	0.045* (0.019)	0.763** (0.280)	0.545*** (0.086)	0.307** (0.106)
$sd(\varepsilon_{ijk})$ [individual]	0.508*** (0.007)	0.678*** (0.009)	8.851*** (0.126)	1.471*** (0.020)	3.634*** (0.050)
Log Likelihood	-2297	-3111	-10669	-5409	-8007
LR test vs. OLS	31.74	7.19	49.89	261.04	8.40
$N$	2938	2938	2938	2938	2938

Note: Models also include individual characteristics but not institutional and disciplinary characteristics listed in Table 1. Results for individual variables are not reported here and are available upon request.



Appendix Table A: Maximum Likelihood Estimates of Cross-Classified Model for Job Satisfaction and

Behavior	Composite job satisfaction	Overall job satisfaction	In-role behavior- quantity	In-role behavior- quality	Extra-role behavior- quantity
<u>Fixed part</u>					
Prefer part-time	0.224*** (0.022)	0.231*** (0.029)	-1.012** (0.384)	-0.172** (0.063)	-0.147 (0.155)
Primary job	-0.009 (0.024)	0.022 (0.032)	6.017*** (0.428)	0.113 (0.070)	0.706*** (0.172)
Year-round contract	0.029 (0.024)	0.002 (0.031)	2.906*** (0.419)	0.126 (0.068)	0.086 (0.167)
Log household income	0.090*** (0.017)	0.070** (0.023)	-0.247 (0.303)	-0.086 (0.050)	-0.060 (0.122)
Log salary from this job	0.000 (0.011)	-0.003 (0.015)	1.927*** (0.202)	0.008 (0.033)	0.336*** (0.081)
Number of classes taught	0.030* (0.015)	0.031 (0.019)	-0.456 (0.258)	-0.355*** (0.043)	-0.142 (0.104)
Average number of students in a class	-0.002 (0.001)	-0.001 (0.002)	0.078*** (0.022)	-0.018*** (0.004)	-0.006 (0.009)
Average credit hours each class	-0.038* (0.017)	-0.036 (0.022)	0.965*** (0.293)	-0.081 (0.048)	0.257* (0.117)
Proportion of undergraduate class	-0.042 (0.067)	-0.083 (0.088)	1.613 (1.190)	5.484*** (0.197)	0.235 (0.475)
<u>Random part</u>					
$sd(\epsilon_i)$ [institution]	0.082*** (0.020)	0.069* (0.030)	2.447*** (0.303)	0.238*** (0.048)	0.413* (0.175)
$sd(\epsilon_j)$ [discipline]	0.071*** (0.020)	0.052* (0.020)	0.920** (0.310)	0.573*** (0.096)	0.366** (0.120)
$sd(\epsilon_{ijk})$ [individual]	0.508*** (0.007)	0.678*** (0.009)	8.851*** (0.126)	1.468*** (0.020)	3.636*** (0.051)
Log Likelihood	-2304	-3117	-10656	-5405	-8006
LR test vs. OLS	29.44	6.99	46.35	227.63	9.94
$N$	2938	2938	2938	2938	2938

Note: Models also include all individual, disciplinary, and institutional variables listed in Table 1. Results for these variables are not reported here and are available upon request.

Appendix Table B: Maximum likelihood estimates of cross-classified model for job satisfaction

Job Satisfaction	Workload	Salary	Benefits	Authority to make decisions	Tech- nology activities	Equipment and facilities	Institu- tional Support
Prefer part-time	0.280*** (0.031)	0.359*** (0.039)	0.432*** (0.043)	0.063** (0.024)	0.066* (0.032)	0.144*** (0.034)	0.253*** (0.037)
Primary job	-0.064 (0.034)	-0.139** (0.043)	0.019 (0.048)	0.049 (0.027)	0.041 (0.035)	0.052 (0.038)	-0.049 (0.041)
Year-round contract	-0.101** (0.033)	-0.065 (0.042)	0.295*** (0.047)	-0.030 (0.026)	0.024 (0.034)	0.019 (0.037)	0.020 (0.039)
Log household income	0.131*** (0.024)	0.085** (0.030)	0.168*** (0.034)	0.086*** (0.019)	0.096*** (0.025)	0.030 (0.027)	0.071* (0.029)
Log salary from this job	-0.022 (0.016)	0.067** (0.020)	0.043 (0.023)	-0.008 (0.013)	-0.014 (0.017)	-0.048** (0.018)	-0.029 (0.019)
Number of classes taught	0.038 (0.021)	0.031 (0.026)	0.012 (0.029)	0.021 (0.016)	0.039 (0.021)	0.025 (0.023)	0.044 (0.025)
Average # of students in class	-0.005** (0.002)	-0.004 (0.002)	-0.003 (0.002)	-0.001 (0.001)	-0.001 (0.002)	-0.002 (0.002)	-0.004 (0.002)
Average credit hours each class	-0.030 (0.023)	-0.020 (0.030)	0.002 (0.033)	-0.066*** (0.018)	-0.055* (0.024)	-0.042 (0.026)	-0.032 (0.028)
Proportion of undergraduate class	0.008 (0.091)	-0.188 (0.118)	-0.198 (0.131)	0.125 (0.071)	0.102 (0.094)	-0.063 (0.104)	-0.086 (0.109)
Log Likelihood	-3300	-4002	-4298	-2627	-3393	-3600	-3809
LR test vs. OLS	7.80	48.65	33.12	3.34	4.79	71.43	17.10
N	2938	2938	2938	2938	2938	2938	2938

Note: Models also include all individual, disciplinary, and institutional variables listed in Table 1. Results for these variables are not reported here and are available upon request.