Understanding the individual and institutional factors that affect part-time community college faculty satisfaction

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Abstract

This study uses the 2003 National Study of Postsecondary Faculty to fill gaps in the literature about the effects of part-time community college faculty appointments on faculty job satisfaction. When compared with their full-time counterparts, part-time community college faculty are less likely to be satisfied with their job. The representation of part-time faculty on a community college campus is negatively related to two of the five satisfaction measures tested, but having a union on a college campus is positively related with some of our satisfaction measures. Offering benefits to part-time faculty seems to ameliorate some of the satisfaction differences between faculty in part-time and full-time appointments.

Key words: college faculty, community colleges, job satisfaction

Understanding the individual and institutional factors that affect part-time community college faculty satisfaction

The last 30 years have brought about dramatic changes in the composition of the American professoriate. Between 1970 and 2003, the number of part-time faculty increased by 422%, while full-time faculty increased by only 71% (Schuster & Finkelstein, 2006). While reasons for the increases in the number of contingent appointments are various, few have examined the unintended consequences of employing large numbers of tenure-ineligible faculty. For example, the research on the job satisfaction of contingent faculty members is relatively limited and inconclusive. Some suggest that part-time faculty are dissatisfied with their job security (Gappa, 2000; Barker, 1998), advancement opportunities (Gappa, 2000), and benefits (Gappa and Leslie, 1993, Toutkoushian & Bellas, 2003). Yet, in terms of overall job satisfaction, part-time faculty members appear as satisfied as their full-time counterparts (Gappa & Leslie, 1993; Toutkoushian & Bellas, 2003). Likewise, there appears to be relatively little difference in satisfaction with salaries between part-time and full-time faculty (Toutkoushian & Bellas, 2003).

Often overlooked in these discussions of part-time faculty are those who work at community colleges. The part-time workforce in community colleges is a necessary consideration. In 1999, 44% of the nation's part-time faculty worked in community colleges (National Center for Education Statistics, 2001). Within community colleges, part-time employees are the majority of the faculty. In 1999, 60% of the community college faculty was part time (Clery, 2001). By 2003, more than two thirds of the faculty was part-time (Cohen & Brawer, 2003), which offers evidence of an increasing trend toward hiring part-time faculty members.

While part-time community college faculty members make up a large part of the college faculty workforce, we know relatively little about their job experiences. Specifically, relatively

few studies examine the job satisfaction of part-time community college faculty. This study attempts to fill gaps in the literature in three broad areas. First, this study uses an array of satisfaction variables to explore a broad conception of job satisfaction for both part-time and full-time community college faculty. Second, this study uses a multivariate approach that allows us to control for confounding variables that may affect the satisfaction of faculty. Third, this study examines the effects that benefits for part-time faculty and other institutional characteristics have on part-time faculty job satisfaction. That said, this study asks three questions:

1. Are part-time and full-time community college faculty members equally satisfied with various aspects of their jobs?
2. What affect do structural characteristics of community colleges (e.g., size, the proportion of part-time faculty) have on faculty job satisfaction, particularly for those in part-time appointments?
3. To what extent does offering benefits for part-time faculty have an effect on part-time faculty job satisfaction?

Review of the literature

Despite persistent gaps in the research literature, the postsecondary part-time faculty has received increased attention from both scholars and journalists. For community colleges in particular, a recent issue of *New Directions in Community Colleges* is dedicated to the topic of part-time faculty issues (Wagoner, 2007a). Much of the recent attention to part-timers, primarily at community colleges but at four-year institutions as well, focuses on their place as temporary labor within the broader neoliberal capitalist context of the new economy (Bosquet, 2008; Levin, Kater, & Wagoner, 2006; Slaughter & Rhoades, 2004). In partial response, part-time higher

education faculty are organizing to demand their rights, benefits, and greater justice within the system through both legislation and litigation (Bosquet, 2008; June, 2009; Ruiz, 2007; Yoshioka, 2007). Actions such as these indicate dissatisfaction with at least certain aspects of part-time faculty work, and provide evidence that further study is needed concerning part-time faculty work conditions and job satisfaction.

Researchers regularly study job satisfaction within higher education but most often for full-time faculty at 4-year institutions (e.g., Olsen, 1993; Rosser, 2005; Smart, 1990) or for 4-year faculty subgroups such as faculty of color or women faculty (Aguirre, 2000; Astin, Antonio, Cress, & Astin, 1997; Tack & Patitu, 1992; Turner & Myers, 1999). Community college faculty job satisfaction receives significantly less attention, and part-time community college faculty are particularly neglected in this regard.

Due to differences in the institutional missions, goals, and expectations of faculty between most 2- and 4-year institutions, it is logical to consider these institution-types separately in studies of the faculty. Community college faculty as a distinct group have been considered in recent literature (e.g., Outcalt, 2002), including the effects of gender and race/ethnicity on employment status, salary, rank, opinions, and perceived work climate (Bower, 2002; Hagedorn & Laden, 2002; Perna, 2003). These results uncover fundamental differences concerning the ways in which faculty are rewarded at 2-year versus 4-year institutions (Perna, 2003), which supports separate 2- and 4-year studies for topics such as job satisfaction.

Some studies of community college faculty partially address the issue of job satisfaction by considering broader attitudes and beliefs (Huber, 1998). Other studies examine job satisfaction as it relates to topics such as unionization (Castro, 2000) or turnover and retention (McJunkin, 2005; Ruhland, 2001). Research also examines the satisfaction of specific sub-

populations of the community college faculty such as new, rural faculty members (Murray, 2004) or occupational-technical faculty (Truell, Price Jr., & Joyner, 1998), often as part of institution-specific studies. Descriptive studies explore female community college faculty satisfaction (Townsend, 1998) and full-time community college faculty satisfaction (Hardy & Laanan, 2006). The latter study concludes that full-time faculty generally had high levels of satisfaction but are least satisfied with their salary and benefits.

Empirical research on part-time faculty job satisfaction also exists, though most often for 4-year institutions or in combined 2- and 4-year studies. Some of these suggest that part-time faculty are dissatisfied with their job security (Gappa, 2000; Barker, 1998), advancement opportunities (Gappa), and benefits (Gappa and Leslie, 1993, Toutkoushian & Bellas, 2003). In terms of overall job satisfaction, part-time faculty members appear as satisfied as their full-time counterparts (Gappa & Leslie, Toutkoushian & Bellas). Likewise, there appears to be relatively little difference in satisfaction with salaries between part-time and full-time faculty (Toutkoushian & Bellas).

The specific cohort of part-time community college faculty is perhaps the least studied. Descriptive studies comparing part-time community college faculty with part-time 4-year faculty conclude that their overall job satisfaction was similarly high (Antony & Valadez, 2002; Valadez & Antony, 2001). However, the researchers point out that measures of overall satisfaction may mask more nuanced aspects of satisfaction with specific parts of their jobs. For example, they find that community college part-timers to be less satisfied than their 4-year counterparts concerning autonomy and satisfaction with students.

In comparing part-time community college faculty to full-time community college faculty, some research concludes that part-time faculty are at least as satisfied with their jobs

(Leslie & Gappa, 2002), while other research suggests that part-timers are less satisfied than full-timers (Levin, Kater, & Wagoner, 2006). As mentioned above, broad analyses may mask differences in satisfaction between faculty members in some ways. For example, Levin, Kater, & Wagoner illustrate that part-time faculty may either be highly trained professionals with valued skills for the "new economy" or they may be an exploited part of the labor force if they do not work in fields of study that are valued in this economy. When analyzed based on their positions related to the competing missions and contradictory purposes (Dougherty, 1994) of community colleges in the new economy, vocational-oriented part-time community college faculty (with skills valued in the new economy inside and outside of the college) are more satisfied than their jobs than academic-oriented part-timers (who are also more likely to desire a full-time job) (Levin, Kater, & Wagoner; Wagoner, 2007b).

Researchers who examine the contingent community college cohort and the trend toward hiring more part-time faculty, posit that these hiring practices not only affect the individual, but the college overall. One related study examines the utilization and integration of part-time faculty at community colleges, and gave recommendations based upon their results (Roueche, Roueche, & Milliron, 1996).Hiring more part-time faculty may decrease faculty participation in college activities, faculty collaboration, and collegiality as well as changing the distribution of the workload among the faculty overall (Grubb, 1999). The way that such institutional-level practices may affect faculty job satisfaction, however, has not been examined.

The literature concerning the job satisfaction of part-time community college faculty is increasing, though still sparse and somewhat inconclusive. With a few exceptions, the literature for this cohort also lacks significant methodological rigor to uncover relationships between part-time status and various aspects of job satisfaction. Descriptive results may mask associations

between part-time status and various aspects of satisfaction once other factors are statistically controlled. In addition, literature concerning the effects that institution-level factors, such as the proportion of part-time faculty employed, have on the satisfaction of faculty members is rare. We aim to expand the literature on the individual job satisfaction of part-time faculty, and also to expand the understanding of what an increasing utilization of part-time faculty may mean to the job satisfaction of all faculty employed at community colleges.

Conceptual Framework

One theoretical framework that is germane to the study of contingent workers is social exchange theory (Blau, 1964). Social exchange theory posits that individuals form relationships with those who can provide valued resources. In exchange for these resources, individuals will reciprocate (Gouldner, 1960) by providing resources and support. Thus, individuals will exhibit greater commitment to an organization when they feel supported and rewarded (Rhoades, Eisenberger, & Armeli, 2001). Therefore, one would expect that, compared with their full-time peers, part-time faculty will exhibit lower levels of commitment to their college or university and will exhibit lower levels satisfaction.

Some also have argued that nontraditional work arrangements, such as part-time appointments, have a negative effect on other employees within an organization (Kraimer, Wayne, Liden, & Sparrowe, 2005; Pearce, 1993). They rely on psychological contract research, a concept closely related to social exchange theory, which suggests that employees and employers develop mutual obligations whereby the employee owes an employer certain contributions and the employer owes inducements for work (see Rosseau, 1995 or Robinson, Kratz, & Rousseau, 1994; Rosseau, 1995). Researchers contend that long-term employees of an organization where a large number of contingent workers are employed will be insecure about their status in their job;

thus, the psychological contract and employee trust in the organization are broken. It is then reasonable to expect that faculty on campuses with high numbers of part-time faculty will exhibit lower levels of satisfaction, regardless of appointment type.

Using social exchange theory and psychological contracts research, we offer three general hypotheses concerning the satisfaction of part-time community college faculty. First, part-time faculty will exhibit lower levels of satisfaction than their full-time colleagues will. Second, faculty on campuses with high levels of part-time faculty will be less satisfied than faculty on campuses with fewer part-time faculty. Third, part-time faculty will be more satisfied on campuses where they are offered benefits.

Data and Analyses

Sample

The primary data sources for this study are the faculty and institutional surveys that are part of the 2004 National Study of Postsecondary Faculty (NSOPF). The 2003-4 administration of the NSOPF offers a unique way to understand the complex issue of contingent faculty because the data represent a stratified sample of faculty from across the United States. The 2004 NSOPF included a sample of 1,080 public and private not-for-profit degree granting postsecondary institutions and a sample of 35,000 faculty and instructional staff. The weighted response rates for the two surveys were 86 and 76 percent, respectively. Thus, the final faculty-level dataset includes 26,108 faculty members, and the institution-level data set includes 920 colleges and universities.

We limit our sample to those respondents with faculty status and instructional duties in the fall of 2003 at a community college who had matching data in the institutional survey data file. We removed schools with no part-time faculty respondents. The final data file includes

5,757 faculty members from 293 two-year colleges. All analyses were weighted using the contextual weight (WTC00), as recommended by the National Center for Educational Statistics for conducting multilevel analyses (for an explanation see Heuer, Kuhr, Fahimi, et al., 2004).

Analytic approach

We employ a series of hierarchical linear models (HLM) to examine institutional and individual characteristics related to the outcomes of interest. Implicit in the research questions posed is a data structure where faculty are nested within colleges and universities. Traditionally, researchers have built individual-level regression models where they included institution-level characteristics. This use of regression is considered by many as inappropriate when examining complex data at multiple levels (Heck & Thomas, 2000; Luke, 2004). In fact, it is quite possible that this traditional strategy will result in inaccurate parameter estimates (Ethington, 1997; Heck & Thomas, 2000; Luke, 2004; Raudenbush & Bryk, 2002). Using HLM overcomes the problems associated with complex multilevel data by simultaneously estimating equations for both individual and institutional effects.

In HLM, one can allow the intercept to vary, thereby partitioning the variance between the institution and the faculty member. In other words, we are able to attribute the variance associated with the faculty member and the variance associated with the institution. Additionally, because we want to test whether the effect of being a contingent faculty member varies between college campuses, we can allow the part-time and full-time non-tenure-track slopes to vary by institution. By allowing the slopes to vary, the coefficient for each of the contingent faculty groups then represents the average institutional difference between contingent faculty and tenured/tenure-track faculty on a college campus. If the contingent effect varies significantly by

institution, we can then model the average contingent differential using institutional characteristics.

Dependent measures. NSOPF 2003 asks a series of questions about job satisfaction and opinions about faculty work. We select five different measures of job satisfaction that are most salient to contingent faculty and have acceptable variability (see table 1 for descriptive statistics of all dependent and independent measures). We measure overall job satisfaction using three of the five measures. The first is faculty members' responses to the question, "If you had it to do over again, would you still chose an academic career?" Faculty can respond "yes" or "no" to the question. The second asks faculty the degree to which they are satisfied with their job overall and the responses are "very satisfied", "satisfied", "somewhat dissatisfied", and "very dissatisfied." The final overall satisfaction measure was the extent to which faculty agreed with the statement, "Part-time faculty are treated fairly." Faculty were given four possible responses: "strongly agree", "somewhat agree", "somewhat disagree", and "strongly disagree."

The final two measures assessed the degree to which faculty are satisfied with contractual terms related to their appointment. For these, NSOPF measures faculty satisfaction with salary and benefits. As with overall satisfaction, faculty responded to these questions using a scale that ranged from "strongly agree" to "strongly disagree."

Given the ordinal nature of the dependent measures (with the exception of choosing an academic career again, which is dichotomous), we attempted to run a series of ordinal logistic regression models in a multilevel context. Given the small number of cases in some of the response categories, the models were unable to converge. Therefore, we recoded each of categorical variables as dummy variables, such that 1 indicates being very or somewhat satisfied (or strongly agree and somewhat agree) and 0 indicates very or somewhat dissatisfied (or

somewhat disagree and strongly disagree. Because HLM analysis does not produce an appropriate result for binary outcomes, we use logistic HLM to estimate the determinants of job satisfaction.

Independent measures. Our primary independent variables of interest at level-1 (individual level) are appointment type. We include a single dummy-coded variable that represents part-time faculty (1=part-time, 0=full-time). In addition to the variables of interest, the models include a number of control variables thought to have an effect on faculty job satisfaction. Similar to previous research (Rosser, 2005; Toutkoushian & Bellas, 2003) using earlier versions of NSOPF to study faculty job satisfaction, we include variables for race, gender, dependents, highest degree earned, age, age squared, experience, union membership, hours worked in the faculty position, and household income earned other than from the faculty position. We also include student credit hours taught as an additional control for workload. Finally, we control for discipline of appointment using Biglan's (1973a, 1973b) empirically-derived classification of academic disciplines. Each faculty member is assigned to one of five disciplinary categories: hard pure, hard applied, soft pure, soft applied, and other.

Our two primary institution level-variables of interest are proportion of part-time faculty at an institution and the level of benefits provided to part-time faculty. Proportion of part-time faculty is simply the representation of part-time faculty relative to all faculty on a campus. Using whether colleges offered faculty partial or full subsidies for health insurance, dental insurance, disability insurance and life insurance, we created a single dummy variable for each institution that represents benefits offered to part-time faculty. Because the majority (approximately 66%) of two-year colleges offered no benefits to faculty, we assigned a variable to community colleges that represented whether they offered any benefits to part-time faculty members (1 if any

benefits, 0 if none). We controlled for benefits offered to full-time faculty by creating a dummy variable with the value of 1 if the school subsidized at least three of the benefits and a 0 if they subsidized less than three. We also include several level-two (institutional) control variables: instructional expenditures, student enrollment, urbanicity, and whether the institution is unionized.

Results

We first ran the null model or one-way ANOVA model, where the intercept is allowed to vary, thereby partitioning the variance within and between institutions. The results of the null model are used to estimate the proportion of variance that exists between colleges, also known as the intraclass correlation (ICC). The ICCs range from .05 for part-time faculty treated fairly to .09 for satisfaction with salary. These small between-institution variances are not unusual when running multilevel models using a dichotomous outcome (Raudenbush & Bryk, 2002). Although somewhat small, the variance between institutions for all of the measures is not trivial, and warrants further investigation. In addition, for this study, it is conceptually important to understand the organizational effects (e.g., proportion of contingent faculty) that significantly relate to the dependent measures used in this study.

Random intercept models of faculty job satisfaction

We then ran the random intercept models, where we allowed the intercept to vary by institution and modeled satisfaction with both institutional and individual variables. In this stage, we allow the part-time slope to vary to test whether the effect of being in a part-time appointment varies significantly between institutions. Table 2 presents the statistically significant changes in probability on faculty job satisfaction (See appendix A for the complete model results). To aid in the interpretation of the effects of the independent measures, we report all of

the results using changes in probabilities[1]. For continuous measures, the probability can be interpreted as a change in the probability resulting from a one-unit change in the independent variable. For categorical measures, probabilities can be interpreted as a difference in the probability between the test group and the reference group. For dummy-coded variables, the delta-p represents the difference in the probability of being "satisfied" between the target and reference group. Thus, the number represented in the table is the change in the probability of being satisfied that results from a one-unit change in the relevant explanatory variable (see Long and Freese, 2003, for details).

After controlling for all of the other variables in the model, part-time faculty members at community colleges are less likely to be satisfied than are their full-time counterparts. In terms of overall satisfaction, part-time faculty are approximately 8 percentage points less likely than full-timers to want to pursue an academic career again. They are approximately 9 percentage points less likely to be satisfied with their overall job. However, part-time faculty members are as likely as their full-time colleagues to report that part-time faculty are treated fairly.

We also see a clear pattern of differences between appointment types with regard to satisfaction with contractual elements of their jobs. Faculty in part-time appointments are less likely to be satisfied with their salaries and benefits. Part-time community college faculty are approximately 7 percentage points less likely to be satisfied than their full-time colleagues with their salary. Even more dramatic are the differences in the likelihood of being satisfied with benefits. Part-timers are 14 percentage points less likely to be satisfied with their benefits than full-timers.

[1] We calculate the probabilities from the logit coefficients using the following formula: $Pr(y=1|x) = \exp(x)/(1+\exp(x))$. For each statistically significant coefficient, we perform this estimate the probability (before and after changing the variable of interest) and then calculate the difference. For categorical variables, this change is from 0 (the reference group) to 1 (the comparison group). For continuous variables, we calculated the change in probability for a one-unit increase centered around the mean, rather than simply a one unit increase.

At the institution level, some additional patterns emerge from the model results. The proportion of part-time faculty members on a community college campus is negatively related with the likelihood of faculty members reporting they would choose the same career again and satisfaction with benefits. With every standard deviation increase in the proportion of part-time faculty members on a campus (when part time faculty representation increases by approximately 14%), the likelihood of faculty indicating they would chose an academic career over again decreases approximately 5 percentage points, and the likelihood of being satisfied with benefits decreases approximately 2 percentage points. In contrast, faculty members, regardless of their appointment type, who work on campuses that have unions, are more likely to be satisfied with contractual elements of their jobs. Offering benefits to part-time faculty members also increases the probability by about 5% that both full-time and part-time faculty are satisfied with their salaries.

Several individual characteristics of faculty members also are related with faculty elements of job satisfaction. Community college faculty members with a Ph.D. are less likely than their peers who have a bachelor's degree or less to report overall satisfaction, satisfaction with salary, and satisfaction with benefits (19, 17, and 2 percentage points less, respectively). Relative to faculty members with a bachelor's degree, faculty members who have a master's degree are less likely to be satisfied with their job overall and their salaries and benefits. They also are less likely to believe that part-time faculty members are treated fairly. Finally, with only one exception, the fair treatment of part-time faculty members, Latino/a faculty members are more likely to be satisfied than White faculty members.

Elements of faculty members' jobs also are related to job satisfaction. The more student credit hours faculty members teach, the less likely they are to be satisfied with their job. Student

credit hours are negatively related to all five of the satisfaction outcomes used in this study. Academic discipline also is related to job satisfaction. Compared with hard pure faculty, faculty in soft pure disciplines are less likely to be satisfied with some aspects of their jobs.

Models of institutional averages and part-time differentials

In the third step in the modeling process, we build the full between-institution model (also known as the level two model) by allowing intercepts and slopes to vary by institution. We then modeled these intercepts (or institutional averages) and slopes (or average differentials) with institutional characteristics. The variance components for part-time slopes for faculty in the salary and benefits satisfaction models are statistically significant. These statistically significant slopes suggest that the difference between part-time and full-time faculty in the likelihood of being satisfied with salary and benefits varies between colleges. Therefore, for these two dependent measures, we are able to model these slopes as outcomes. In other words, we are able to model the average college part-time satisfaction differential with college-level attributes. Table 3 presents the statistically significant changes in probability from the full models of satisfaction with salaries and benefits (See appendix B for a complete table including parameter estimates from the full models).

The models of institutional averages (the intercepts) are similar to those presented in table 2. The proportion of part-time faculty is negatively related with likelihood of being satisfied with benefits, regardless of appointment type. A standard deviation increase in part-time faculty on a community college campus results in a 4 percentage point decrease in the likelihood of being satisfied with benefits. Regardless of appointment type, the presence of a union on campus increases the likelihood that faculty members are satisfied with salaries and benefits (approximately 6 and 3 percentage points, respectively). Consistent with our previous models,

offering benefits to part-timers increases the probability that faculty members on a campus are satisfied with their salaries.

While the part-time satisfaction with salary and benefits differentials remains statistically significant in these last set of models (approximately 6 percentage points and 21 percentages points lower than full-time faculty members, respectively), two distinct variables are related to the part-time differential (part-time slope). First, part-time community college faculty members on campuses that offer them benefits are more satisfied with contractual elements of their job. On campuses where they are offered at least some benefits, part-time faculty members are 8 percentage points more likely to be satisfied with their salary and 5 percentage points more likely to be satisfied with their benefits. In fact, the increase in the likelihood of being satisfied that is related to benefits all but reduces the part-time differential for the salary model and reduces the differential by approximately one fourth for the benefits model.

Second, urbanicity also appears to be related to part-time faculty members satisfaction with benefits and salary. Part-time faculty who work at suburban colleges are less satisfied with contractual elements of their job than are part-timers at rural colleges. Compared with part-time community college faculty on rural campuses, part-timers on suburban campuses are 12 percentage points less likely to be satisfied with their salary and 5 percentage points less likely to be satisfied with their benefits. We observe no statistically significant differences between part-time faculty on urban and rural campuses.

Limitations

This study is not without its limitations. While one of the great strengths of the most recent NSOPF is its generalizability, it lacks in measures that tap the broad array of faculty job satisfaction and worklife issues, even more so than in previous iterations of the Study. Therefore,

we were forced to rely on single-item measures that have limited variability. A study that uses constructs created based on theory to explore differences between contingent faculty and full-time tenured and tenure-track faculty would extend this study in ways not possible given the data used here. The work of Johnsrud and her colleagues (Johnsrud & Heck, 1998; Johnsrud & Rosser, 2002), Rosser (2005), and Hagedorn (1996) provide good starting points for such an endeavor. It also might be useful to test directly the theories of social exchange and psychological contracts on the effectiveness of contingent faculty by measuring feelings of trust and commitment and their relationship with satisfaction. Nevertheless, this study provides a good starting point for future work on the factors affecting part-time faculty job satisfaction.

Additionally, the intraclass correlations, or the amount of variation explained by institutional affiliation, are somewhat low ranging from 0.04 to 0.09. In other words, most of the variance between faculty (90% to 96%) lies within institutions rather than between institutions. Any assertions made about organizational effects should not be overstated. However, while small, these effects are not negligible. Because models of behaviors and attitudes often explain very little of the variance between individuals, the conclusions drawn here should not be disregarded as trivial.

Discussion and implications

The findings of this study suggest that that part-time community college faculty are less satisfied than their full-time counterparts. It seems that part-time faculty are less likely than their peers to choose an academic career again if they have a choice. Perhaps the constant uncertainty of their status weighs on them to the point of questioning the direction of their career choice. Part-time faculty at community colleges are also less likely than their colleagues to be satisfied

with their jobs overall. Somewhat surprisingly, part-time faculty do not significantly differ in their beliefs about the fair treatment of part-timers.

Part-time faculty members also are consistently less likely to be satisfied with their benefits and salaries. Similar to previous research (Toutkoushian & Bellas, 2003), the negative effects of being in a part-time appointment on satisfaction with salaries is relatively small, yet nontrivial. The negative effects of holding a part-time appointment on the likelihood of satisfaction with benefits is considerably greater.

This study offers some mixed support that the psychological contract is broken for faculty on campuses employing high percentages of contingent faculty. On campuses where large numbers of part-time faculty are employed, faculty, regardless of their appointment type, are less likely to be satisfied with their benefits and are less likely to report that they would choose a faculty career again. Additional support for the theory of psychological contracts is also evident in the positive relationship between offering part-timers benefits and satisfaction with salary. These findings suggest that providing benefits to part-time faculty can extend beyond those directly affected and can engender good will among the entire faculty population.

In addition, offering support for part-time faculty by the way of benefits has a substantial positive affect on part-timers' satisfaction with salaries and benefits. This is particularly important because, as social exchange theory suggests, part-time faculty are likely to reciprocate the support they receive from colleges and universities by increasing their job performance. This finding provides important insight into recent research that has found a negative relationship between part-time appointments and positive undergraduate experiences. Recently, studies have found a negative relationship between the number of part-time faculty members on a campus and persistence (Eagan, Jaeger, & Thornton, 2008) and graduation rates (Ehrenberg & Zhang, 2005;

Jacoby, 2006). Some (Eagan & Jaeger, 2009) also have suggested a negative relationship between student exposure to part-time community college faculty and the likelihood of transferring to a four-year college. Others (Umbach, 2007) suggest that, compared with their full-time peers, part-time faculty interact less frequently with students, spend less time preparing for classes, and have lower expectations of their students. In accord with social exchange theory, perhaps the dissatisfaction among part-time faculty observed here translates into a reduction in their performance and productivity as it relates to undergraduates.

We believe these findings have important implications for policy and practice. First, evidence from this study will help inform decisions about the employment of part-time faculty. As administrators must balance efficiency and effectiveness when deciding who should deliver instruction on their campuses, they would be wise to consider the job satisfaction of contingent faculty, particularly part-time faculty. Additionally, they would be advised to consider that hiring large numbers of contingent faculty might have a negative effect on the satisfaction of all faculty members on the campus.

Second, colleges and universities are advised to offer benefits to part-time faculty. This is in line with the suggestions forwarded by Gappa and Leslie (1993) and Baldwin and Chronister (2001) to improve relations with contingent faculty. As this study suggests, by providing benefits, the satisfaction of part-time (and, in some cases, full-time) faculty members is likely to increase. In turn, it is quite possible that part-timers will be more effective in their jobs. In fact, the findings of this study might suggest that if campuses must decide between pay increases to part-time faculty and offering part-timers benefits, holding all else equal, it might be wise to invest in benefits from the perspective of increasing job satisfaction on campus.

Third, colleges and universities also are advised to seek other ways to support contingent faculty that are likely to increase their commitment, trust, and satisfaction. For part-time faculty, Gappa and Leslie (1993) offer a number of suggestions. Among them, they recommend that colleges conduct regular performance reviews, provide instructional support and professional development, develop a salary scale, create standards for progression through the salary scale, and provide equitable compensation to part-time faculty. Baldwin and Chronister (2001) provide similar suggestions to institutions when working with full-time tenure-ineligible faculty, but offer some additional recommendations. They suggest institutions create a defined probationary period and explicit evaluation criteria for contingent faculty. They also recommend that contingent faculty be allowed to participate in campus governance and curriculum development. Further research into the effects of these suggestions would extend the findings of this study and provide institutions with valuable information as they seek to improve relationships with part-time faculty members.

The findings of this study also raise many questions for future research. For example, our models suggest some important differences between academic disciplines. In general, community college faculty members in soft pure disciplines are less satisfied than those in hard pure disciplines. One important avenue of research that is beyond the scope of this study would be to explore the experiences of part-time faculty in different disciplines. Although we know that academic discipline is a salient factor in the careers of college faculty, few, if any studies, have explored the intersection of academic discipline and appointment type. Other studies might explore compensation of part-time community college faculty. While it is clear that part-timers are dissatisfied with their salaries, we know relatively little about the factors that affect the how

part-time faculty are paid. Other studies also might explore the effects of the intersection of race/ethnicity or gender and appointment type on satisfaction.

It also has been shown that about half of all part-time faculty prefer to teach part-time, whereas the other half are underemployed and would prefer to work full-time (Leslie & Gappa, 2002). There is evidence that this distinction – voluntary part-time versus involuntary part-time employment – may be a cause for differences in job satisfaction (Maynard & Joseph, 2008). This is beyond the scope of our study, but would be worthy of further examination for community college faculty specifically.

Given the contradictory missions of community colleges, future research should also consider how these effects may change when part-time faculty from various units or departments are considered. Satisfaction with various aspects of the job has been shown to vary among part-timers in the arts and sciences and vocational and technical areas (Wagoner, 2007b). Expanding on this, the effects of benefits, and the satisfaction with those benefits, may differ based on a part-time faculty members ability to work outside of the college in the new economy, which rewards faculty from specific areas much more than others. In addition, whether the mission or culture of an institution is more heavily oriented toward vocational education and training or the arts and sciences, perhaps based on a four-year college transfer mission, may affect how the proportions of part-time faculty affect overall satisfaction on the campus. All of these aspects of the part-time community college faculty should be examined further in future research.

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Table 1. Descriptive statistics for variables included in the model

Independent variable	Mean	SD	Min.	Max.	Desription
Institutional Characteristics		(N=293)			
Instructional expenditures	18,445	17,720	773	98,365	Instructional expedintures in 1,000s (source: IPEDS 02/03 Finance data)
Enrollment	8,565	7,899	215	42,043	Student headcount (Source: 03 IPEDS Enrollment data
Proportion part-time	0.638	0.143	0	0.921	Proportion of faculty holding part-time appointments
Urban	0.437	0.497	0	1	Urbanicity: 1=urban, 0=all other
Suburban	0.270	0.445	0	1	Urbanicity: 1=urban fringe, 0=all other
No tenure	0.294	0.456	0	1	No tenure system=1=no, 0=yes
Union	0.430	0.496	0	1	Union= 1=yes, 0=no
Part-time benefits	0.334	0.473	0	1	Part-time benefits: 1=provided partial or full subsidy for any of the following: health care, dental care, disability insurance, life insurance; 0=all other
Full-time benefits	0.700	0.459	0	1	Full-time benefits: 1=provided partial or full subsidy for at least three of the following: health care, dental care, disability insurance, life insurance; 0=all other
Individual Characteristics		(N=5,757)			
Part-time	0.486	0.500	0	1	1=part-time status, 0=all other
Asian Pacific American	0.047	0.212	0	1	1=Asian Pacific American, 0=all other
African American	0.150	0.358	0	1	1=African American, 0=all other
Latino/a	0.091	0.288	0	1	1=Latino/a, 0=all other
Other race	0.037	0.189	0	1	1=Other race/ethnicity, 0=all other
PhD	0.146	0.353	0	1	1=Ph.D./Ed.D, 0=all other
Professional degree	0.029	0.166	0	1	1=Professional degree (e.g., MD, JD, DVM)
Master's	0.594	0.491	0	1	1=Master's degreel, 0=all other
Female	0.497	0.500	0	1	
Spouse	0.740	0.438	0	1	
Children	0.954	1.200	0	10	
Experience	12.107	10.643	0	62	Years teaching in higher education
Age	48.860	10.818	20	85	Age in years
Age squared	2504.310	1060.210	400	7225	Age in years squared
Union member	0.387	0.487	0	1	
Other household income	53892.260	50545.470	0	984477.00	
Hourse worked	43.985	18.639	1	167	
Student credit hours	8.478	5.951	0	60	
Discipline: Hard applied	0.147	0.354	0	1	Discipline of appointment (Biglan): 1=hard applied, 0=all other
Discipline: Soft pure	0.371	0.483	0	1	Discipline of appointment (Biglan): 1=soft pure, 0=all other
Discipline: Soft applied	0.184	0.387	0	1	Discipline of appointment (Biglan): 1=soft applied, 0=all other
Discipline: Other	0.029	0.168	0	1	Discipline of appointment (Biglan): 1=other disciplines, 0=all other
Dependent measures (Satisfaction)					
Do over	0.914	0.281	0	1	1=choose academic career again, 0=not choose academic career again
Overall	0.922	0.268	0	1	1=very satisfied, somewhat satisfied, 0=somewhat dissatisfied, very dissatisfied
Part-time fair	0.713	0.452	0	1	1=strongly, somewhat agree, 0=somewhat diagree, strongly disagree
Benefits	0.676	0.468	0	1	1=very satisfied, somewhat satisfied, 0=somewhat dissatisfied, very dissatisfied
Salary	0.697	0.460	0	1	1=very satisfied, somewhat satisfied, 0=somewhat dissatisfied, very dissatisfied

Table 2. Random-intercept model results of job satisfaction: Changes in probability of statistically significant variables

		Overall Satisfaction			Satisfaction with contractual elements	
	Change	Do over	Overall	PT treated fairly	Salary	Benefits
Institutional Model						
Instructional expenditures	1 SD					
Enrollment	1 SD		0.048 *			
Proportion part-time	1 SD	-0.049 **				-0.023 ***
Urban	0 to 1					-0.027 **
Suburban	0 to 1					-0.017 +
No tenure	0 to 1					
Union	0 to 1				0.053 *	0.016 *
Part-time benefits	0 to 1				0.053 *	
Full-time benefits	0 to 1					
Individual Model						
Part-time	0 to 1	-0.080 *	-0.086 *		-0.068 *	-0.143 ***
Asian Pacific American	0 to 1					
African American	0 to 1			0.033 **		
Latino/a	0 to 1	0.097 +	0.129 *		0.092 *	0.034 **
Other race	0 to 1			-0.026 +		-0.039 **
PhD	0 to 1		-0.192 **		-0.166 ***	-0.021 *
Professional degree	0 to 1				-0.206 ***	
Master's	0 to 1		-0.122 *	-0.039 ***	-0.133 ***	-0.015 +
Female	0 to 1				-0.042 *	
Spouse	0 to 1					
Children	1 child					
Experience	1 yr.			-0.001 *	0.003 *	
Age	1 yr.		-0.026 *	-0.008 **		
Age squared	1 yr. sqd.		0.001 *	0.000 **		0.000 +
Union member	0 to 1	0.070 *		-0.022 *		
Other household income	1 SD	0.024 +				
Hours worked	1 hour					
Student credit hours	1 SCH	-0.005 *	-0.006 +	-0.003 ***	-0.005 **	-0.002 *
Discipline: Hard applied	0 to 1		0.092 +			
Discipline: Soft pure	0 to 1			-0.040 ***	-0.059 **	-0.015 *
Discipline: Soft applied	0 to 1	0.097 *				
Discipline: Other	0 to 1					
Variance Components						
Intercept		0.2488 ***	0.2368 ***	0.163 ***	0.278 ***	0.154 ***
Part-time slope		0.9442	1.200	1.101	0.534 ***	0.388 **
Reliability of intercept		0.227	0.226	0.331	0.435	0.267
Reliability of slope		0.212	0.240	0.245	0.270	0.183

Note: ***p < .001, **p < .01, *p < .05 , +p < .10

Numbers in columns four and five represent statistically significant changes in probability resulting from unit changes in second column (see Long and Freese, 2003, for details).

Table 3. HLM results from level-two models of institutional averages (intercepts) and the part-time satisfaction differential (slopes): Changes in probability of being satisfied with salary and benefits

	Change	Satisfaction with salary	Satisfaction with benefits
Institutional Characteristics			
Instructional expenditures	1 SD		
Enrollment	1 SD		
Proportion part-time	1 SD		-0.037 ***
Urban	0 to 1		
Suburban	0 to 1		
No tenure	0 to 1		
Union	0 to 1	0.058 *	0.025 *
Part-time benefits	0 to 1	0.050 +	
Full-time benefits	0 to 1		
Part-time slope	0 to 1	-0.062 *	-0.210 ***
Instructional expenditures	1 SD		
Enrollment	1 SD		
Proportion part-time	1 SD		
Urban	0 to 1		
Suburban	0 to 1	-0.123 +	-0.049 +
No tenure	0 to 1		
Union	0 to 1		
Part-time benefits	0 to 1	0.080 +	0.051 *
Full-time benefits	0 to 1		
Variance Components			
Intercept		0.288 ***	0.153 ***
Part-time slope		0.523 ***	0.361 **
Reliability of intercept		0.444	0.264
Reliability of slope		0.268	0.172

Note: ***p < .001, **p < .01, *p < .05 , +p < .10
Numbers in columns four and five represent statistically significant changes in probability resulting from unit changes in second column (see Long and Freese, 2003, for details).
In addition to the level two variables, the model includes the following Level 1 controls: appointment type, race, gender, dependents, highest degree earned, age, age squared, experience, union membership, hours worked in the faculty position, household income earned other than from the faculty position, student credit hours taught, and academic discipline of appointment. See appendix B for more detail about the models.

APPENDIX A – Parameter estimates for random intercept models.

	Do over		Overall		PT treated fairly		Salary		Benefits	
	Logit	SE	Logit	SE	Logit	SE	Logit	SE	Logit	SE
Institutional Characteristics										
Instructional expenditures	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Enrollment	0.000	0.000	0.000 *	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Proportion part-time	-1.413 **	0.535	-0.668	0.730	-0.236	0.490	0.264	0.501	-2.342 ***	0.400
Urban	-0.281	0.181	-0.113	0.179	-0.060	0.128	-0.177	0.131	-0.387 **	0.130
Fringe	-0.312	0.203	-0.005	0.201	0.108	0.148	-0.169	0.137	-0.257 +	0.142
No tenure	0.036	0.144	-0.004	0.158	0.090	0.101	0.074	0.111	-0.070	0.107
Union	0.044	0.137	-0.030	0.162	0.063	0.109	0.215 *	0.108	0.224 *	0.102
Part-time benefits	0.106	0.146	-0.075	0.160	0.083	0.103	0.212 *	0.103	0.140	0.096
Full-time benefits	0.016	0.150	0.041	0.154	-0.034	0.102	0.090	0.113	-0.062	0.097
Individual Characteristics										
Part-time	-0.336 *	0.177	-0.356 *	0.193	0.027	0.101	-0.274 *	0.111	-1.919 ***	0.120
Asian Pacific American	0.230	0.313	0.028	0.301	0.091	0.182	-0.209	0.156	0.119	0.216
African American	0.097	0.172	0.156	0.220	0.342 **	0.114	0.082	0.106	0.080	0.122
Latino/a	0.422 +	0.224	0.520 *	0.252	0.122	0.162	0.369 *	0.130	0.422 **	0.158
Other race	-0.281	0.315	-0.075	0.306	-0.343 +	0.195	0.124	0.190	-0.733 **	0.223
PhD	-0.090	0.206	-0.854 **	0.250	-0.660	0.131	-0.699 ***	0.124	-0.336 *	0.158
Professional degree	0.008	0.378	-0.396	0.487	-0.221	0.234	-0.909 ***	0.202	-0.397	0.248
Master's	-0.192	0.162	-0.498 *	0.199	-0.433 ***	0.111	-0.538 ***	0.103	-0.209 +	0.110
Female	-0.042	0.114	0.094	0.134	-0.135	0.071	-0.167 *	0.077	-0.001	0.080
Spouse	0.016	0.143	0.116	0.139	0.073	0.083	0.141	0.092	0.127	0.098
Children	0.048	0.062	0.060	0.060	0.023	0.037	0.033	0.036	0.056	0.036
Experience	-0.006	0.007	0.002	0.009	-0.013 *	0.005	0.011 *	0.005	0.001	0.005
Age	-0.038	0.038	-0.105 *	0.051	-0.092 **	0.030	-0.041	0.028	-0.043	0.029
Age squared	0.000	0.000	0.001 *	0.001	0.001 **	0.000	0.000	0.000	0.001 +	0.000
Union member	0.295 *	0.149	-0.167	0.156	-0.255 *	0.106	0.138	0.110	0.131	0.107
Other household income	0.000 +	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hours worked	-0.002	0.004	-0.001	0.004	-0.002	0.002	0.000	0.002	0.001	0.002
Student credit hours	-0.022 *	0.011	-0.025 +	0.014	-0.032 ***	0.008	-0.018 **	0.007	-0.022 *	0.009
Discipline: Hard applied	0.248	0.230	0.374 +	0.227	-0.120	0.133	0.147	0.144	0.079	0.129
Discipline: Soft pure	-0.083	0.156	-0.167	0.149	-0.481 ***	0.109	-0.239 **	0.090	-0.225 *	0.091
Discipline: Soft applied	0.418 *	0.199	0.248	0.191	-0.170	0.119	0.039	0.115	0.130	0.109
Discipline: Other	0.317	0.373	0.754	0.515	-0.123	0.236	0.137	0.187	-0.032	0.222
Variance Components										
Intercept	0.2488 ***		0.2368 ***		0.163 ***		0.278 ***		0.1536 ***	
Part-time slope	0.9442		1.200		1.101		0.534 ***		0.3884 **	
Reliability of intercept	0.227		0.226		0.331		0.435		0.267	
Reliability of slope	0.212		0.240		0.245		0.270		0.183	

Note: ***p < .001, **p < .01, *p < .05 , +p < .10

APPENDIX B: Parameter estimates from level-two models of institutional averages (intercepts) and the part-time satisfaction differential (slopes): Probabilities of being satisfied with salary and benefits

	Salary		Benefits	
	Logit	SE	Logit	SE
Institutional Characteristics				
Instructional expenditures	0.000	0.000	0.000	0.000
Enrollment	0.000	0.000	0.000	0.000
Proportion part-time	0.256	0.514	-2.469 ***	0.434
Urban	-0.185	0.143	-0.378	0.132
Suburban	-0.153	0.148	-0.178	0.151
No tenure	0.072	0.122	-0.072	0.111
Union	0.237 *	0.116	0.231 *	0.108
Part-time benefits	0.203 +	0.115	0.077	0.097
Full-time benefits	0.093	0.125	-0.059	0.102
Individual Characteristics				
Part-time	-0.255 *	0.128	-1.938 ***	0.128
Instructional expenditures	0.000	0.000	0.000	0.000
Enrollment	0.000	0.000	0.000	0.000
Proportion Contingent	0.096	0.922	0.927	0.839
Urban	0.057	0.255	-0.025	0.243
Suburban	-0.515 +	0.302	-0.508 +	0.282
No tenure	-0.006	0.211	-0.007	0.191
Union	-0.281	0.202	-0.071	0.187
Part-time benefits	0.326 +	0.194	0.458 *	0.196
Full-time benefits	0.073	0.218	0.019	0.199
Asian Pacific American	-0.219	0.166	0.125	0.216
African American	0.077	0.113	0.077	0.123
Latino/a	0.386 **	0.146	0.426 **	0.159
Other race	0.118	0.206	-0.746 **	0.222
PhD	-0.732 ***	0.133	-0.340 *	0.159
Professional degree	-0.951 ***	0.216	-0.409	0.252
Master's	-0.557 ***	0.113	-0.208 +	0.110
Female	-0.177 *	0.083	-0.002	0.080
Spouse	0.140	0.099	0.121	0.098
Children	0.037	0.040	0.058	0.035
Experience	0.011 *	0.005	0.001	0.005
Age	-0.042	0.030	-0.043	0.029
Age squared	0.000	0.000	0.001 +	0.000
Union member	0.128	0.118	0.123	0.107
Other household income	0.000	0.000	0.000	0.000
Hours worked	0.000	0.002	0.001	0.002
Student credit hours	-0.019 *	0.007	-0.022 *	0.009
Discipline: Hard applied	0.168	0.157	0.088	0.129
Discipline: Soft pure	-0.251 *	0.097	-0.226 *	0.091
Discipline: Soft applied	0.041	0.125	0.132	0.109
Discipline: Other	0.160	0.220	-0.030	0.222
Variance Components				
Intercept	0.2882 ***		0.1531 ***	
Part-time slope	0.5232 ***		0.3606 *	
Reliability of intercept	0.444		0.264	
Reliability of slope	0.268		0.172	

Note: ***p < .001, **p < .01, *p < .05 , +p < .10