<runhead>Working Students and High-Impact Practices Participation

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<T>Do Working Students Buy Into HIPs? Working for Pay and Participation in High-Impact Practices

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High-Impact Practices (HIPs), a set of distinctive educational experiences associated with a range of educational benefits, have garnered the attention of educators, policy makers, and researchers alike. Concerns exist regarding who has access to HIPs, and one possible impediment is paid employment. This study investigated the relationship between student employment and participation in two HIPs: service learning and undergraduate research. Using data from 207,837 respondents to the 2015 and 2016 administrations of the National Survey of Student Engagement, we examined patterns of HIPs participation when considering the differing circumstances of part-time and full-time senior undergraduates with regard to paid employment on campus, off campus, and both. The findings can guide institutional practice, such as the design of campus employment opportunities as well as academic advising to promote HIPs participation.
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<N>As government subsidies per student have decreased, the cost of postsecondary education has been transferred to the consumer (Toutkoushian & Paulsen, 2016). According to the U.S. Department of Education, for 2011–12, the average educational debt among student borrowers aged 18 to 24 attending 4 or more years of postsecondary education was $26,600 (McFarland et al., 2017). To offset unmet financial need or to reduce borrowing, many students work while enrolled in college; however, students who work may have less time to invest in their studies, restricting their ability to participate in curricular opportunities intended to enhance the educational experience.

It is not uncommon for undergraduates to work while pursuing their degree. Work can enable students to fill unmet financial need, accumulate experience, connect classroom learning to real-world problems, and generate spending money; however, from an educational standpoint employment can present tradeoffs for the student. While some opportunities may serve a student's career or learning goals, others may not be educationally advantageous. In some cases, students may work at the expense of participating in educational opportunities that provide long-term benefits. High-impact practices (HIPs), like service learning or research with faculty, represent educational opportunities that some students may view as additional, optional, or even luxury experiences. Higher education groups, like the Association of American Colleges & Universities and state agencies (e.g., the California State University system and Tennessee Board of Regents), have endorsed the development and proliferation of HIPs due to their relationship with desired student outcomes (see Brownell & Swaner, 2010; Kuh, 2008). Some students may face a choice between working for pay and participating in these

opportunities. Using recent survey data we examined the relationship between student

employment and HIPs participation (specifically, service learning and research with

faculty). In order to fully understand this relationship, we first established the descriptive

relationship between participation in HIPs and employment, then explored how work

characteristics (hours and location) relate to HIPs participation, and finally incorporate

controls for student characteristics in examining how work relates to HIPs participation.

The findings from this study contribute to the broader understanding of HIPs opportunities

as well as enriching what we know about how employment relates to the undergraduate

experience. The process and results also provide a framework for institutional staff seeking

to understand patterns of participation in HIPs by students who work, providing guidance

for those implementing HIPs.

<A>Working College Students

<N>According to *The Condition of Education,* 43% of full-time undergraduate students and

81% of part-time undergraduate students worked while enrolled in 2017 (U.S. Department

of Education, 2019). Several scholars have established that working more than 20 hours

per week is inversely related to GPA (Hwang, 2013; Logan, Hughes, & Logan, 2016). In an

examination of the 2004 National Survey of Student Engagement data, Pike, Kuh, and

Massa-McKinley (2008) found that students working beyond this threshold reported lower

GPAs; however, in a structural equation model in which engagement was featured as a

mediator, students working 20 hours or less reported higher GPAs than students who did

not work. Furthermore, in a study based on the National Longitudinal Survey of Youth,

working more than 20 hours per week was inversely related to persistence (Choi, 2018).

Location of work has also been shown to be related to outcomes. For example, in

longitudinal research using data from the Wabash National Study, scholars found that students who worked off campus reported gains in leadership development (Salisbury, Pascarella, Padgett, & Blaich, 2012); meanwhile, Martinez, Bilges, Shabazz, Miller, and Morote (2012) found similar results related to resilience. These findings of divergent outcomes for employment duration and location guided our analysis of employment.

One study in particular influenced the design of this study. McCormick, Moore, and Kuh (2010) used data from the 2008 administration of the National Survey of Student Engagement (NSSE) to examine the relationship between student employment and engagement, self-reported gains, and grades. Using multilevel modeling, the researchers analyzed four categories of students based on class level (first-year or senior) and enrollment status (part-time or full-time), while accounting for various levels of employment on campus, off campus, and in both locations. By and large, working was positively related to the five engagement measures examined in the study without evidence of diminishing returns for students working more than 20 hours per week and working had only a modest negative relationship to self-reported gains. The researchers also found an inverse relationship between employment and GPA for students working more than 20 hours per week. This research suggests the importance of accounting for both work intensity (number of hours) and location (on campus, off campus, or both) in examining the relationship between work and HIPs participation.

<B>High-Impact Practices

<N>HIPs include activities such as service learning, learning communities, research with faculty, study abroad, internships or other field placements, and culminating senior experiences (Kuh, 2008; National Survey of Student Engagement [NSSE], 2007). Scholars

have begun to consider these activities as a uniform high-impact effort on college

campuses, instead of one-off efforts to improve educational quality (Association of

American Colleges & Universities [AAC&U], 2015; Gagliardi, Martin, Wise, & Blaich, 2015).

The reconceptualization of these practices as HIPs is in part because these activities share

several characteristics related to engagement and learning, such as integrating knowledge

from multiple sources, receiving frequent feedback from faculty, collaborating with diverse

individuals, and requiring substantial effort (Kuh, O'Donnell, & Reed, 2013). In an extensive

review of the scholarship on HIPs, Brownell and Swaner (2010) identified benefits of these

activities to include increases in GPA, retention and persistence, developmental growth,

and satisfaction with the undergraduate experience as a whole. Specific studies have shown

positive relationships between HIPs and deep learning, perceived gains, student

engagement (Kuh, 2008), career outcomes and earnings (Wolniak & Engberg, 2015), and

the development of key skills and abilities, including critical thinking, intercultural

effectiveness, and other cognitive outcomes (Kilgo, Ezell Sheets, & Pascarella, 2014).

Despite the individual benefits and institutional endorsement of HIPs participation,

some students may see these opportunities as unimportant compared to meeting degree

requirements, thinking of them as luxury activities. Specifically, students with financial

need may feel they must prioritize work for pay over such optional, luxury experiences. To

explore this possibility, we built on the existing literature that revealed a specific gap that

we address: the relationship between work and HIPs participation. Whereas the prior

researchers have examined a set of diffuse engagement outcomes (NSSE's Benchmarks of

Effective Educational Practice), we focused on a set of concrete educational experiences

that students may elect to participate in. Although these experiences are related to

engagement, they represent specific curricular interventions intended to improve learning

outcomes.

Because HIPs have garnered considerable attention among educators and

educational associations, it is important to extend the prior work with a specific focus on

HIPs participation. There has been a groundswell of interest in HIPs over the last decade:

the Association of American Colleges & Universities has published several reports on this

topic since 2008; taxonomies to measure the quality and prevalence of HIPs have been

developed by state systems such as the California State University system (Kuh et al.,

2013), the Tennessee Board of Regents (2016), and the University System of Georgia

(2018); and the National Association of System Heads (NASH; 2018) has targeted

implementation of HIPs as part of its "Taking Student Success to Scale" project. A common

thread among the work of these stakeholders is an equity agenda that asks: Do all students

have equal access to these opportunities? One of our goals for this study was to understand

if one group that is often underserved by colleges and universities—students who work—

is able to participate in HIPs.

<A>Theoretical Framework

<N>In examining the relationship between paid work and HIPs participation, we drew on

rational choice theory. Rational choice theorists describe consumer (in this case student)

decision making as a process that involves evaluating goals, constraints, and preferences to

pursue a particular line of action (DesJardins & Toutkoushian, 2005). This theory has been

applied in higher education research to explain college choice (Manski & Wise, 1983), the

influence of financial aid on student transfer (Jones-White, Radcliffe, Lorenz, & Soria,

2014), the relationships between background, college planning, and attendance (Wells &

Lynch, 2012), adult learners' decisions to return to college (Cruce & Hillman, 2012), and a host of other decisions. For our study, we looked at how students allocate their time between working for pay and participating in HIPs.

Students—especially those from low-income and first-generation backgrounds—might not be aware of the benefits of HIPs or may view them as not worth the time investment, counting the cost of taking time away from studies or working for pay. Previous researchers who have studied HIPs participation have uncovered unequal participation rates related to student characteristics. For example, some underrepresented minority groups, specifically African American, Latino, and first-generation students, are less likely to participate in undergraduate research (Chang, Sharkness, Hurtado, & Newman, 2014; Hu, Scheuch, Schwartz, Gayles, & Li, 2008; Hurtado et al, 2008; Pascarella & Terenzini, 2005). With the exception of service learning, first-generation students are less likely to participate in HIPs compared to their peers with college-educated parents. On the other hand, women are as likely as or more likely than men to participate in most HIPs (NSSE, 2013). Students of all racial and ethnic backgrounds and first-generation students who participate in HIPs are more likely to experience growth in the areas of deep learning, practical competence, and social development compared to peers who did not participate in HIPs (Finley & McNair, 2013). With regard to major, previous research has documented differences in HIPs participation between STEM and non-STEM majors (Ribera, Miller, & Dumford, 2017; Webber, Nelson Laird, & BrckaLorenz, 2013). Given previous findings documenting varied participation in HIPs by student and enrollment characteristics, models of the relationship between work and HIPs participation should take students' backgrounds into account.

Working for pay during college also involves decisions regarding how much and where to work. From a rational choice standpoint, the trade-off between work and HIPs participation may only come into play at higher levels of work commitment (hours per week). Previous research has also found that on-campus work is more likely to reinforce a student's connection with the institution and the student role than off-campus work (Martinez et al., 2012). We believe that both the intensity and location of work must be taken into account when investigating the relationship between work and HIPs participation.

The premise that working for pay is related to HIPs participation has yet to be investigated. Furthermore, the assumption that students who do not work are more likely to invest in these activities may not be justified. An understanding of the relationship between these student behaviors would be helpful in guiding institutions to promote participation in these important experiences.

Due to considerations of space, conceptual alignment, and analytic potential, we examined participation in just two HIPs: service learning and research with faculty. These HIPs were selected for several reasons. First, whereas culminating senior experiences (e.g., a capstone course) may be required in some majors and institutions, the selected HIPs are chosen by the student (consistent with the rational choice framework). Second, both service learning and research with faculty are opportunities that occur in the context of enrollment on campus, unlike study abroad and internships which typically take place away from campus (rendering moot the time allocation choice discussed above). Third, the selected experiences have varying levels of participation by major; therefore, assessing both HIPs provides for a comprehensive examination of experiences that are likely

available to all students. Finally, the selected HIPs differ in the extent of student

participation. Service learning is the most common HIP experience of those for which

comprehensive data are available. Results from the 2018 administration of the National

Survey of Student Engagement indicate that about 3 out of 5 seniors (62%) participated in

service learning (NSSE, 2018). Research with faculty merits investigation both because of

longstanding interest in exposing undergraduates to research opportunities and because

other than study abroad, it is one of the least common HIPs, reported by 23% of NSSE 2018

seniors. (As noted above, the choice framework used in this study is not applicable to study

abroad.)

The following research questions guided our investigation:

<number>1.   Is there an association between student work for pay and participation in

HIPs?

2.   Compared with students who do not work for pay, are working students more likely

to participate in HIPs based on the location and duration of work?

3.   When accounting for students' background characteristics, do the odds of HIPs

participation differ between students who work for pay and those not working? Does this

relationship vary by working students' location and duration of work?

<A>Method

<N>We used data from the 2015 and 2016 administrations of the National Survey of

Student Engagement, which is administered annually to first-year and senior students

enrolled at 4-year baccalaureate degree-granting institutions. NSSE asks students about the

extent to which they are engaged in a variety of educational practices connected to student

learning and development (Kuh, 2001; McCormick, Gonyea, & Kinzie, 2013; NSSE, n.d.a).

NSSE implements state-of-the-art survey processes and extensively documents evidence of reliability, validity, and other aspects of data quality (McCormick & McClenney, 2010; NSSE, n.d.b).

<B>Participants

<N>The sample for this study includes 207,837 seniors at institutions granting bachelor's degrees in the United States. In keeping with previous models measuring the relationship between student employment and engagement (see McCormick et al., 2010), we divided the sample according to enrollment status: $N_{\text{part-time}}$ = 37,212, $N_{\text{full-time}}$ = 170,625 More than 60% of the total sample identified as a woman and about the same share of respondents identified as White. Part-time students were more likely than full-time students to be first-generation college students or transfer students (defined below).

<B>Measures

<N>Covariates were selected based on literature reviewed above showing relationships between student characteristics and HIPs participation. NSSE respondents reported their gender identity, race/ethnicity, parents' highest level of education, transfer status (whether they started at another institution), age, major, and residence type. First-generation status was defined as highest level of parent/guardian education less than a bachelor's degree. Traditional age was defined as under 25. Living on campus was defined as living in campus housing or a fraternity or sorority house. Major was reduced to STEM or non-STEM, based on the literature cited above. Students who identified as Native American or multiracial or who selected *other* were assigned to the category another race. Because of their small numbers, students who did not identify as woman or man, or who selected *prefer not to respond* regarding gender identity were removed from the sample. Because the dataset

spans 2 years, a dichotomous variable was created indicating whether respondents answered the survey in 2016 to account for year-to-year variation.

Regarding employment, students responded to the question About how many hours do you spend in a typical 7-day week doing the following? with separate items for working for pay on campus and working for pay off campus; response options were *0, 1–5, 6–10, 11–15, 16–20, 21–25, 26-30,* and *more than 30*. Following McCormick et al. (2010), responses to these two items were used to create a set of dichotomous variables characterizing location and duration of work: Did not work, Hours worked on campus (1–10, 11–20, more than 20), hours worked off campus (1–10, 11–20, 21–30, more than 30), and hours worked both (1–20, 21–30, more than 30). The ranges vary due to distributional differences by location, as shown below. For students who worked both on campus and off campus, a point estimate of work hours for each location was computed based on the selected responses (midpoints for the bounded ranges and 32 for more than 30), the two estimates were summed, and the result was then assigned to the corresponding range.

Dichotomous variables were created to identify participation in the two HIPs selected for study. For service learning, students were asked About how many of your courses at this institution have included a community-based project (service learning)? Students who selected anything other than *none* were coded as service learning participants. One activity assessed by the question stem, Which of the following have you done or do you plan to do before you graduate?, was Work with a faculty member on a research project. Students who selected *done or in progress* were coded as having participated in research with a faculty member.

Table 1 displays descriptive statistics for part-time and full-time students, and

Figures 1 and 2 provide a corresponding overview of work for pay. The majority (61%) of

part-time seniors worked off campus, with the plurality (39%) doing so for more than 30

hours per week (not counting those working *both* on campus and off campus). About one

fifth of part-time seniors did not work for pay (some or most of whom may have worked in

the home). About one quarter (28%) of full-time seniors did not work. Nearly twice as

many full-time seniors worked off campus than on campus (40% versus 21%). About one

third of full-time seniors (32%) worked more than 20 hours per week. Across both groups,

about 8–12% worked *both* on campus and off campus.

<T>[Insert Table 1, Figure 1, & Figure 2 about here]

<A>Data Analysis

<N>The first two research questions were analyzed using chi-square tests of independence.

To answer the first research question, the independent chi-square statistic was calculated

between the 11 mutually exclusive employment conditions (including nonemployment)

and HIPs participation to test whether these two variables are independent. For the second

research question, the chi-square statistic was partitioned to measure the differences in

HIPs participation for students who did not work by the 10 categories of employment

intensity and location. Because of the large sample size, a conservative threshold of

significance ($p < .001$) was applied throughout the analysis.

Because the outcome of interest for the third research question is dichotomous (Did

the student participate in a particular HIP?) logistic regression was used to relate this

outcome with covariates (student characteristics) and independent variables (location and

duration of student work). Logistic regression models employ a logarithmic

transformation, which is most appropriate for dichotomous outcomes (Agresti, 2007). For

this study, four models were created to model participation in the two HIPs (service learning and research with faculty), estimated separately for part-time and full-time students. The following logistic regression formula was employed in each of the models:

<Q>$\text{logit}(\pi_x) = \alpha + \beta_1(woman) + \beta_2(Asian) + \beta_3(Black) + \beta_4(Latino) + \beta_5(anotherrace) + \beta_6(first\text{-}generation) + \beta_7(transfer) + \beta_8(age) + \beta_9(STEM) + \beta_{10}(liveon) + \beta_{11}(workon1\text{-}10) + \beta_{12}(workon11\text{-}20) + \beta_{13}(workon21+) + \beta_{14}(workoff1\text{-}10) + \beta_{15}(workoff11\text{-}20) + \beta_{16}(workoff21\text{-}30) + \beta_{17}(workoff31+) + \beta_{18}(workboth1\text{-}20) + \beta_{19}(workboth21\text{-}30) + \beta_{20}(workboth31+) + \beta_{21}(admin2016)$

<N>   All of the variables in the model are dichotomous. The covariates of woman, first-generation, transfer, traditional age, STEM major, and live on campus indicate the student identity (value equal to 1) compared with man, non-first-generation, nontransfer, nontraditional age, non-STEM major, and living off campus, respectively. Effect coding was applied for the race/ethnicity variables, with White monoracial students as the reference group. Consequently, coefficients indicate effects compared with all other students in the sample, not relative to White students (Mayhew & Simonoff, 2015a, 2015b). Students were placed into 1 of 10 dichotomous groups of work based on location (on campus, off campus, both on and off campus) and duration (number of hours worked), with students who did not work serving as the reference group. For each model, a likelihood ratio test was conducted and the deviance between the null and full model exceeded the standard for good model fit ($\chi^2_{20} = 45.31$, $p < .001$). Analysis was conducted using IBM SPSS Statistics, and missing values were addressed through multiple imputation. Covariates in the logistic regression models were imputed five times; about 6% of the sample had at least 1 missing value among these variables. Dependent variables were not imputed. Institution-level

variables were not included in the regression models to avoid aggregation bias and due to trivial amounts of variation attributed to the second level in previous research using NSSE data (Webber et al., 2013; Zilvinskis & Rocconi, 2018). Furthermore, institutional effects were not within the scope of our research questions.

<A>Results

<N>To answer the first research question, the chi-square statistic for each HIP ranged from 1,522.00 to 7,687.28, which is beyond a conservative threshold for significance, $p < .001$, for the degrees of freedom, $(i-1)(j-1) = (11-1)(2-1) = 10$, of a table of this dimension, $\chi^2_{10} = 29.59$, indicating that HIPs participation and employment status are not independent (Table 2). For the second research question, partitioned chi-square results were assessed using a conservative threshold, $\chi^2_1 = 10.83$, $p < .001$, to detect HIPs participation rates of employed students that were significantly different from those of students who did not work.

HIPs participation was significantly different for students who did not work compared with those who did. Consistent with other research documenting benefits associated with moderate levels of on-campus employment, seniors who worked up to 20 hours per week on campus were significantly more likely to participate in HIPs compared with students who did not work. Interestingly, we found several instances of benefits associated with higher levels of work and with off-campus work.

<T>[Insert Table 2 about here]

<N>   Seniors who worked both on campus and off campus were also more likely to participate in HIPs relative to nonworking students. For example, about 75% of full-time seniors who worked both on campus and off campus participated in service learning,

compared with 62% for their counterparts who were not employed. Part-time and full-time

students who worked off campus more than 30 hours per week were significantly less

likely to participate in HIPs compared with students who did not work. For example, only

9% of part-time seniors who worked more than 30 hours per week off campus participated

in research with a faculty member compared to the 16% participation rate for nonworking

seniors.

Service learning was generally more common among full-time seniors who worked

than among those who did not. Table 2 provides a comprehensive guide to understanding

the relationships between work and HIPs participation and would be a valuable resource

for institutional researchers who may want to compare their campus results to these

aggregate patterns.; however, these participation rates do not account for other factors

known to correspond to HIPs participation. Multivariate models are needed for a more

nuanced understanding.

To address the third research question, four models analyzed participation in the

two HIPs by enrollment status. These models expand on the previous findings by

controlling for student characteristics shown in prior research to be related to HIPs

participation.

<B>Part-Time Students

<N>Part-time seniors who worked exclusively on campus up to 10 hours per week were

not significantly more likely to participate in service learning than otherwise similar

nonworking students; however, students working exclusively on campus 11–20 hours per

week had 25% higher odds of participating, whereas the odds for students who worked

exclusively on campus more than 20 hours per week were 21% lower than for nonworking

students. Part-time seniors who worked exclusively off campus up to 30 hours per week

were more likely to participate in service learning, $1.18 \leq OR \leq 1.34$, whereas those who

worked exclusively off campus more than 30 hours were less likely to participate than

students who do not work. Students who worked both on campus and off campus were

significantly more likely to have participated in service learning than nonworking students,

$1.61 \leq OR \leq 2.02$.

<T>[Insert Table 3 about here]

<N>   In the model for part-time seniors participating in research with faculty, those who

worked exclusively on campus up to 20 hours per week have more than twice the odds of

participating in this experience, $2.08 \leq OR \leq 2.10$, compared to similar nonworking

students; however, the participation rates were not significant between the reference

group and part-time seniors working more than 20 hours on campus. For students working

exclusively off campus, the only significant difference in participation in research with

faculty was for students who worked more than 30 hours per week, who had 36% lower

odds of participating than students who did not work. As with service learning, part-time

seniors who worked both on campus and off campus for any amount of time were

significantly more likely to have participated in research with faculty compared to

nonworking students, $2.08 \leq OR \leq 2.10$.

<B>Full-Time Students

<N>In the model for full-time seniors participation in service learning, working exclusively

on campus up to 20 hours per week was positively associated with participation compared

with nonworking students, $1.10 \leq OR \leq 1.11$, but the effect was small. The service learning

participation rate among full-time seniors working more than 20 hours per week on

campus was comparable to that of nonworking students. Full-time seniors working up to

30 hours per week off campus were more likely to have participated in service learning,

$1.17 \leq OR \leq 1.35$; however, working more than 30 hours per week off campus was

associated with a 12% reduction in the odds of service learning participation compared

with students who did not work. Seniors who worked both on campus and off campus for

any duration were more likely to participate in service learning compared with

nonworking students, $1.63 \leq OR \leq 1.72$.

<T>[Insert Table 4 about here]

<N>   In the model for full-time seniors participating in research with faculty, those who

worked exclusively on campus for any duration were significantly more likely to

participate compared with students who did not work, $1.67 \leq OR \leq 1.93$. For students who

worked exclusively off campus, working up to 20 hours participated at rates comparable to

nonworking students; however, students working off campus more than 20 hours per week

were less likely than nonworking students to engage in research with faculty, $.72 \leq OR \leq$

$.92$. Like part-time seniors, full-time seniors working both on campus and off campus for

any duration had almost twice the odds of participating in research with faculty compared

with students who did not work, $1.78 \leq OR \leq 1.87$.

<A>Limitations

<N>As with any secondary data analysis, this study has limitations that affect the

generalizability of the findings. First, the analysis assumes that employment information

captured on the survey represents a stable and long-standing pattern that overlapped with

HIPs participation. Students reported how much they worked in a typical 7-day week

during the spring of their senior year, but we do not know whether this was typical of their

collegiate career. Similarly, the timing of HIPs participation is not known, providing another way that work information and HIPs participation may not be temporally aligned. Second, although work may influence a student's choice to participate in HIPs, other factors related to finances but not captured by NSSE (such as number of dependents, unmet financial need, debt, and grant aid) may provide a more complete picture. Also, it is possible that some students' research with faculty was compensated, but there is no way to assess this possibility with the NSSE data. (We note that the survey wording, "Work with a faculty member on a research project," does not connote an employment relationship.) Third, although our conservative threshold for significance, $p < .001$, was analytically justifiable considering our large sample size and the number of comparisons, this conservative approach may increase vulnerability to type II error; in the context of our study, improperly concluding that some differences in HIPs participation between students who worked and those who did not were not significant.

Finally, the analysis was conducted at the student level and not at the program or institution level. Although multilevel modeling is often employed due to the nested nature of data in higher education (Ethington, 1997; Pike & Rocconi, 2012), nesting HIPs experiences within institutions or even programs ignores the fact that many of these experiences can differ notably within an institution (Brownell & Swaner, 2010). It is also possible that some HIPs experiences were at a different institution (as in the case of transfer students). Here again, more specific information about the locus and timing of HIPs experiences would strengthen the analysis. Despite these limitations, our study illuminates suggestive patterns that can offer guidance for educators, researchers, and policy makers.

<A>Discussion

<N>Several state boards of education (e.g., California, Tennessee, and New York) have created initiatives to promote implementation of HIPs and measure the quality of these experiences (Kuh, O'Donnell, & Schneider, 2017). Given the amount of resources and attention paid by state boards and national organizations, such as the AAC&U and NASH, a central question must focus on access: Are students equally able to participate in HIPs? We addressed this question of access through the lens of student employment: Are students who work less likely to participate in the most common HIP, service learning, and one of the least common, research with faculty? Whereas previous investigations of the impact of student employment have focused on specific outcomes (e.g., GPA, persistence, perceived gains) or diffuse measures of educational participation (e.g., student engagement), we focused on whether and how employment is related to participation in two specific and widely endorsed educational offerings, examined separately for part-time and full-time seniors. The study thus adds to our understanding of both student employment and HIPs participation. The findings disrupt the notion that working for pay necessarily reduces access to these educationally beneficial experiences due to time constraints, while also providing a nuanced understanding of the conditions in which work may interfere with access to HIPs. The results suggest that there is a complex relationship between student employment and HIPs participation; however, it is not the case that students who work are inherently less likely to participate in HIPs than similar students who do not work for pay. Indeed, students who worked up to 30 hours per week on campus and who worked both on campus and off campus (regardless of the number of hours) generally reported significantly higher levels of HIPs participation than students who did not work for pay.

Scholars have previously demonstrated that working beyond 20 hours per week is adversely related to desired outcomes, such as GPA (Hwang, 2013; Logan et al., 2016; Pike et al., 2008) and persistence (Choi, 2018). McCormick et al. (2010) ascertained the same cutoff for grades, but did not find a similar effect in their examination of five engagement measures. In contrast with previous research, we located the threshold for negative impact on HIPs participation at 30 hours per week (with some exceptions documented in the previous section).

Table 5 summarizes the pattern of significant effects from multivariate analyses of the relationship between work and participation in the two HIPs after controlling for a range of student characteristics that are related to HIPs participation (our third research question). For part-time seniors, working was generally positively related to service learning and research with faculty (12 significant positive parameters out of 20); but the highest levels of work intensity showed some negative relationships with HIPs participation relative to nonworking students. Among full-time students, the overall pattern was a positive relationship between work and HIPs participation: 14 significant, positive parameters out of 20 for seniors. The relationships only turn negative at high levels of exclusively off-campus work. Lastly, the relatively small group of students who worked both on campus and off campus were in general more likely to participate in both HIPs than nonworking students. This unusual and little-studied group merits further analysis. These findings indicate that institutions should recognize and strive to offset the educational costs of working off campus more than 30 hours per week, because these students were significantly less likely to participate in the two HIPs studied; however, students who work should not be seen as a group that routinely opts out of special

educational opportunities, as many of these students were in fact more likely to participate in service learning or research with faculty than comparable students who did not work.

<T>[Insert Table 5 about here]

<N>   This study extends previous research of McCormick et al. (2010), presenting novel findings for a new generation of educators working to improve educational outcomes using specific curricular interventions—HIPs. The finding that students who do not work are often less likely to participate in HIPs than those who work is surprising and counterintuitive, posing a challenge for the rational choice framework guiding this study. One speculative possibility is that working students are mindful of the risk that work might interfere with their studies, leading them to invest extra effort in identifying and taking advantage of important educational opportunities. In this view, students who work are more successful in surveying their environment and thus more likely to seek out valuable educational opportunities such as HIPs. We may also need to interrogate the assumption that students who do not work have more time available to them than working students. It may be that nonworking students have commitments such as student organizations, athletics, or work in the home that cause them to sacrifice educational opportunities such as HIPs.

The negative relationships between high work intensity and HIPs participation, by contrast, are consistent with the rational choice framework. As college costs continue to rise faster than inflation and accounts of excessive student debt proliferate in the news, it may be that work for pay is increasingly taken for granted as part of the college experience for most students, and it is only at the highest levels of work intensity that students must sacrifice distinctive educational opportunities for paid work.

While a premise informing this study is that work and HIPs participation are independent activities, our findings suggest another intriguing possibility: that certain types of work (especially work on campus) may actually facilitate HIPs participation, for example by expanding students' social networks to include informants (supervisors and other student workers) who might acquaint those students with valuable opportunities. Assumptions that students who do not work are more able to participate in HIPs may inform critical institutional decision making with regards to the development and promotion of student employment opportunities and the practice of educators. The finding that work is often positively related to HIPs participation and the ways these patterns manifest can be helpful in developing policies and resources to promote student participation in service learning and research with faculty.

Our findings offer a caution to these stakeholders to examine their assumptions about who participates in HIPs and how work for pay enables or constrains such participation.

<A>Future Research

<N>NSSE offers a broad view of the higher education landscape. To confirm and expand the findings of this study, researchers could use institutional or system data to further investigate the relationship between student employment and HIPs participation. Institutions have data that bear on student employment, such as unmet financial need and campus employment in aid packaging, and these factors may also be related to HIPs participation. Institutions may also collect data regarding HIPs participation as these programs evolve into standardized experiences included in transcripts and degree audits (Kuh et al., 2013). The use of such data may help verify student participation in these

opportunities and the relative timing of work for pay and HIPs participation, while also providing a structure to investigate specific experiences in HIPs relative to employment, measuring the program-level variance of students who participate in specific programs on campus. Such research might reveal that some programs are more conducive to participation by working students.

One of the more perplexing findings of this study is that students who worked both on campus and off campus (12% of full-time seniors) were the most likely to participate in HIPs compared with students who did not work. This is difficult to interpret and merits additional study. Researchers could interview students with multiple jobs to understand the types of jobs involved and how these students balance work, classroom learning, and participation in HIPs . In a qualitative study of underserved students, Finley and McNair (2010) described some of these aspects by interviewing students regarding the ways HIPs prepare them for employment beyond college. Some of the findings of this research clearly articulate the ways students balance these priorities. Additional research on how students manage multiple jobs and HIPs participation would provide further insight. The finding that student employment is related to HIPs participation, often in positive ways, should help guide the decision making of institutional stakeholders wanting to increase participation in these important experiences. By collecting more data about the relationship between student employment and HIPs participation, institutional researchers can be better informed on how to intentionally encourage working students to participate in HIPs while also enriching the general knowledge base surrounding these activities.

Paradoxically, this study also points to the need to better understand students who do not work. Previous research showed that this group has lower persistence and lower

grades than students with moderate levels of work, and we found a similar handicap with

respect to HIPs participation. For understandable reasons, working students have

commanded the attention of scholars and practitioners, but perhaps it is important to

understand the appreciable fraction of undergraduates who do not work (28% of full-time

seniors in our study). The assumption seems to be that these students are inherently

advantaged, yet we know little about how they allocate their time. Are nonworking

students the sons and daughters of privilege who are disengaged from their studies and

partying their way through college? Might they also include students with sizable

cocurricular commitments such as editing the campus newspaper, participating in the arts,

or competing in varsity athletics? Our findings and those of previous scholars suggest that

to better understand the distinctive experiences of working students, we may need to also

better understand their nonworking counterparts.

In closing, we note that of late some scholars have begun to consider student

employment itself as a high-impact practice. Kuh et al. (2013) write: "One area that could

be morphed into a high-impact experience, if structured as such, is student employment.

After attending class, working on or off campus while going to college is the second most

common activity among undergraduates" (p. 11). This observation was extensively

elaborated in McClellan, Creager, and Savoca's (2018) book, *A Good Job: Campus

Employment as a High-Impact Practice*. Meanwhile, institutions such as the University of

Wisconsin–Whitewater (n.d.) have begun to reframe student employment in this way. With

the development of these programs and rigorous assessment of their contribution to

student learning and success, it may be that in the future, employment will not be seen as

an alternative to HIPs, but as a manifestation.

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<table title>FIGURE 1. Percentage Distribution of Work Status by Student Type

<table title>FIGURE 2. Percentage Working Up to 20 and More than 20 Hours per Week by

Student Type

<table number>Table 1.

<table title>Sample Descriptive Statistics

	Part-Time			Full-Time	
	n	*%N*		*n*	*%N*
Demographics					
Woman	23,784	64.1		111,077	65.1
Asian or Native Hawaiian or Other Pacific Islander	2,121	5.7		11,235	6.6
Black or African American	3,595	9.7		13,134	7.7
Hispanic or Latino	3,628	9.7		13,437	7.9
Another Race/Ethnicity[a]	3,106	8.3		15,149	8.9
White	24,771	66.6		117,731	69.0
First-Generation[b]	20,802	56.0		75,362	44.3
Transfer	23,531	63.4		68,797	40.4
Traditional Age[c]	13,969	37.9		127,286	74.6
STEM Major	6,680	18.1		38,737	22.9
Living On Campus[d]	1,514	4.1		31,050	18.2

Did Not Work	7,786	20.9		46,863	27.5
Hours Worked On Campus					
1–10	1,044	2.8		16,284	9.5
11–20	1,401	3.8		15,268	8.9
More Than 20	1,146	3.1		3,711	2.2
Hours Worked Off Campus					
1–10	1,531	4.1		11,381	6.7
11–20	2,933	7.9		19,115	11.2
21–30	3,915	10.5		16,409	9.6
More Than 30	14,483	38.9		20,869	12.2
Hours Worked Both					
1–20	729	2.0		7,068	4.1
21–30	857	2.3		6,893	4.0
More Than 30	1,396	3.8		6,843	4.0
HIPs Participation					
Service Learning	20,785	56.3		110,658	65.4
Research With Faculty	6,194	16.9		46,370	27.5
2016 Administration	21,955	59.0		99,986	58.6

<table note>[a] Students who identified as Native American, multiracial, or selected *other*.

<table note>[b] Neither parent/guardian holds a bachelor's degree.

<table note>[c] Under 25 years old for seniors.

<table note>[d] Students who lived in a dormitory or other campus housing or in a fraternity

or sorority house.

<table note>e Percentages are based on listwise deletion of missing data.

<table number>Table 2.

<table title>Partitioned and Total chi-Square Results for High-Impact Practices

Participation Rates by Enrollment Status and Class Level

Part–Time Students	Service Learning		Research With Faculty	
	M	χ²	*M*	χ²
Students Who Did Not Work	0.55		0.16	
Hours Worked On Campus				
1–10	0.62	20.42 *	0.40	343.40 *
11–20	0.62	24.69 *	0.37	356.75 *
More Than 20	0.49	14.13 *	0.20	12.48 *
Hours Worked Off Campus				
1–10	0.63	36.23 *	0.20	14.06 *
11–20	0.61	39.49 *	0.20	19.61 *
21–30	0.60	32.50 *	0.17	1.21
More Than 30	0.50	47.00 *	0.09	279.21 *
Hours Worked Both				
1–20	0.74	102.10 *	0.32	122.44 *

21–30	0.70	79.78	*	0.33	162.27	*
More Than 30	0.67	78.35	*	0.30	163.05	*
χ^2 Total		621.81			2,071.15	
Full–Time Students						
Students Who Did Not Work	0.62			0.24		
Hours Worked On Campus						
1–10	0.64	31.44	*	0.44	2,389.50	*
11–20	0.65	49.94	*	0.39	1,356.87	*
More Than 20	0.64	12.87	*	0.36	263.17	*
Hours Worked Off Campus						
1–10	0.69	230.83	*	0.26	11.84	*
11–20	0.67	206.83	*	0.23	11.96	*
21–30	0.66	125.71	*	0.20	104.90	*
More Than 30	0.59	29.19	*	0.13	1,056.9	*
Hours Worked Both						
1–20	0.74	435.14	*	0.39	746.25	*
21–30	0.74	393.23	*	0.37	556.89	*
More Than 30	0.75	468.98	*	0.35	369.84	*
χ^2 Total		1,522.00			7,687.28	

<table note>* $p < .001$.

<table number>Table 3.

<table title>Logistic Regression Results for Part-Time Students Who Completed a Given High-Impact Practice

	Service Learning				Research With Faculty			
	β	Wald	p	OR	β	Wald	p	OR
Demographics								
Woman	0.23	95.54	< 0.001	1.26	0.07	5.04	0.025	1.07
Asian or Native Hawaiian or Other Pacific Islander	0.18	117.22	< 0.001	1.19	−0.11	26.51	< 0.001	0.90
Black or African American	0.10	57.52	< 0.001	1.10	0.03	2.39	0.477	1.03
Hispanic or Latino	0.07	30.35	< 0.001	1.07	−0.14	55.10	< 0.001	0.87
Another Race/Ethnicity	−0.16	144.44	0.439	0.85	0.14	64.79	< 0.001	1.15
First-Generation	0.07	8.57	0.003	1.07	−0.27	73.89	< 0.001	0.76
Transfer	−0.26	101.77	< 0.001	0.77	−0.27	62.98	< 0.001	0.77
Traditional Age	0.29	103.13	< 0.001	1.33	0.46	158.22	< 0.001	1.59
STEM Major	−0.72	592.64	< 0.001	0.49	0.60	288.77	< 0.001	1.82

Living On Campus	0.21	12.17	< 0.001	1.24	0.30	23.78	< 0.001	1.35
Hours Worked On Campus								
1–10	0.21	8.77	0.003	1.24	0.74	100.22	< 0.001	2.10
11–20	0.22	12.69	< 0.001	1.25	0.73	121.98	< 0.001	2.08
More Than 20	−0.24	13.00	< 0.001	0.79	0.25	8.94	0.003	1.28
Hours Worked Off Campus								
1–10	0.29	23.47	< 0.001	1.34	0.14	3.36	0.067	1.14
11–20	0.22	21.95	< 0.001	1.24	0.10	3.19	0.074	1.11
21–30	0.17	15.92	< 0.001	1.18	−0.03	0.29	0.593	0.97
More Than 30	−0.11	13.68	< 0.001	0.89	−0.44	95.35	< 0.001	0.64
Hours Worked Both								
1–20	0.70	58.62	< 0.001	2.02	0.62	48.11	< 0.001	1.85
21–30	0.59	50.42	< 0.001	1.80	0.70	72.06	< 0.001	2.00
More Than 30	0.47	52.60	< 0.001	1.61	0.65	86.86	< 0.001	1.91
2016 Administration	0.02	0.48	0.489	1.02	−0.08	6.28	0.012	0.93
Cox and Snell				0.051				0.074

Not Done Percent Correct Classification	35.0	99.1
Done Percent Correct Classification	81.1	4.8
Overall Percent Correct Classification	60.9	83.1

<table number>Table 4.

<table title>Logistic Regression Results for Full-Time Students Who Completed a Given High-Impact Practice

	Service Learning				Research With Faculty			
	β	Wald	*p*	*OR*	β	Wald	*p*	*OR*
Demographics								
Woman	0.17	216.40	< 0.001	1.18	0.16	158.65	< 0.001	1.17
Asian or Native Hawaiian								
or Other Pacific Islander	0.15	427.63	< 0.001	1.17	−0.12	241.19	< 0.001	0.88
Black or African American	0.05	52.22	< 0.001	1.05	−0.05	37.40	< 0.001	0.95
Hispanic or Latino	0.06	75.81	< 0.001	1.06	−0.07	87.75	< 0.001	0.93
Another Race/Ethnicity	−0.12	342.98	< 0.001	0.89	0.14	398.32	< 0.001	1.15

First-Generation	0.11	96.38	< 0.001	1.12	−0.18	221.22	< 0.001	0.83
Transfer	−0.22	305.54	< 0.001	0.81	−0.34	610.72	< 0.001	0.71
Traditional Age	0.17	140.16	< 0.001	1.19	0.25	193.09	< 0.001	1.28
STEM Major	−0.78	3820.75	< 0.001	0.46	0.80	3669.47	< 0.001	2.23
Living On Campus	0.02	1.44	0.231	1.02	0.16	118.95	< 0.001	1.18
Hours Worked On Campus							
1–10	0.11	27.55	< 0.001	1.11	0.66	1045.66	< 0.001	1.93
11–20	0.09	20.40	< 0.001	1.10	0.56	738.30	< 0.001	1.76
More Than 20	0.06	2.50	0.114	1.06	0.51	190.17	< 0.001	1.67
Hours Worked Off Campus							
1–10	0.30	164.15	< 0.001	1.35	0.08	9.33	0.002	1.08
11–20	0.21	121.08	< 0.001	1.23	−0.02	0.48	0.489	0.99
21–30	0.16	61.48	< 0.001	1.17	−0.09	14.63	< 0.001	0.92
More Than 30	−0.13	47.12	< 0.001	0.88	−0.33	175.56	< 0.001	0.72
Hours Worked Both							
1–20	0.52	300.57	< 0.001	1.69	0.62	502.36	< 0.001	1.87

21–30	0.49	259.34	< 0.001	1.63	0.59	431.02	< 0.001	1.80
More Than 30	0.54	306.58	< 0.001	1.72	0.58	398.98	< 0.001	1.78
2016 Administration	0.04	13.96	< 0.001	1.04	−0.01	0.53	0.466	0.99
Cox and Snell				0.042				0.078
Not Done Percent Correct Classification				15.8				96.3
Done Percent Correct Classification				93.0				14.0
Overall Percent Correct Classification				66.3				73.7

<table number>Table 5.

<table title>Summary of Logistic Regression Results for Participation in HIPs by Work Location and Enrollment

Enrollment	Service Learning	Research With Faculty
Part-Time Students		
Hours Worked On Campus (3)	+ –	+ +
Hours Worked Off Campus (4)	+ + + –	–
Hours Worked Both (3)	+ + +	+ + +
Full-Time Students		
Hours Worked On Campus (3)	+ +	+ + +
Hours Worked Off Campus (4)	+ + + –	– –
Hours Worked Both (3)	+ + +	+ + +

<table note>*Notes.*   Numbers in parentheses indicate the number of work duration parameters in models. The symbols + and – denote the presence and direction of significant ($p < .001$) parameter estimates. See Tables 3 and 4 for full details, including control variables included in models.