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The Impact of Work-Study Participation on the Career Readiness of Undergraduates

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The Impact of Work-Study Participation on the Career Readiness of Undergraduates

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The Federal Work-Study (FWS) program is an integral part of the federal financial aid plan in the United State since 1964 providing employment opportunities, financial assistance, and opportunities to improve career readiness to over 675,000 students annually. However, little investigation has been completed into the effects of participating in FWS in terms of either program effectiveness or effectiveness as a career development program. Previous research lacks consistent findings and focuses on academic outcomes, ignoring development aspects as well as the potential reframing of the program as a high-impact practice. This study assesses the career readiness of FWS eligible students, utilizing a pre-/post-test control group design with a longitudinal t-test assessment of measured outcomes at two time points as well as an analysis of longitudinal growth. Descriptive analysis found statistically significant differences in career readiness growth for FWS participants across all demographic groups.

Keywords: Federal Work-Study, career, career readiness

Aside from attending class, student employment is the single most common shared experience for undergraduate college students (Kuh, 2009; Pascarella & Terenzini, 2005) with over three-quarters of undergraduate students working and an average participation rate of 25.5 hours per week during academic terms (Dundes & Marx, 2006).

Working while in college has both challenges and benefits. Much of the research on the challenges of work focus on student success and academic balance, especially among low-income students (Gamson, 1993; Riggert et al., 2006; Scott-Clayton & Minaya, 2016). Additional money is often needed to close the gap between income and expenditure, and part-time employment is also likely to constrain both degree outcome and academic development (Hordósy et al., 2018). Lammers et al. (2001) conclusively showed that economic class has profound effects on a variety of academic success outcomes, with students from lower economic classes performing worse than their peers from higher classes. This work is echoed by other researchers who discovered that financial factors associated with higher economic class and family income were positively associated with retention rate (Gross et al., 2007) and that paying for one's own tuition is a contributing factor to discontinuing college (College Atlas, n.d.). Further, coming from a lower socioeconomic background is associated with higher financial stress, which causes lower retention rates, longer time to graduation, and lower GPAs (Engle & Tinto, 2008; Hogan et al., 2013; Joo et al., 2008). Finally, in addition to the financial aspects, part-time work is often not related to academic studies and may have monotonous and repetitive tasks, with limited progression opportunities and possible health implications (Garvey, 2018).

However, multiple studies found that, on average, students who work while in school have consistently higher post-graduation starting salaries than their non-working counterparts (Ehrenberg & Sherman, 1987; Gleason, 1993; Perna & DuBois, 2010). Related studies looking into the effects of in-school employment have consistently shown that working while attending school assists students in the development of professional characteristics leading to improved post-graduation outcomes as compared to non-working peers (Aina & Casalone, 2020; Blau & Snell, 2013; Häkkinen, 2006; Pascarella & Terenzini, 2005; Van Belle et al., 2020). It is evident that part-time work has both limitations and advantages, depending often on individual circumstances.

Work as a High Impact Practice

Internships, a common curricular route to work experience, serve to provide developmental benefits leading to improved academic and career outcomes (Beard, 2007; Binder et al., 2015; Callanan & Benzing, 2004; Cannon & Arnold, 1998; Gault et al., 2000; Knemeyer & Murphy, 2002; Knouse & Fontenot, 2008; McCollum & Schoening, 2004; Nnadozie et al., 2000; Sapp & Zhang, 2009; Siegel & Rigsby, 1988 Taylor, 1989). Through these temporary, short-term employment opportunities, students are able to test-drive employment opportunities, often receiving college credit for work in settings related to their career interest and with supervision and coaching from a professional. According to one study, in 2006 eighty-four percent of college students at four-year institutions completed at least one internship before graduation (Wise, 2009).

Internships provide in-depth learning and development outcomes meeting the criteria of high-impact practices for students as conceptualized by George Kuh (2008). The practices are often thought of as academic or experiential opportunities such as intensive courses, diversity experiences, learning communities, or seminars (Kuh, 2008, 2009). Student employment is a not high-impact practice by default, however (Bransford et al., 1999). Even if employment includes experiential content, it often lacks the necessary structure to facilitate the learning and reflection required of high-impact practices (Felten et al., 2016; Perozzi, 2009). Student employment experiences like internships must be intentionally developed in order to ensure they meet the framework of high-impact practices and the conveyance of related benefits.

As college internships are frequently unpaid, it is sometimes impossible for low-income students to engage in meaningful internship experiences despite college internships becoming a near prerequisite for success in post-college employment (Edwards et al., 2010). Even with the growing prevalence and necessity of internship utilization, lower-income college students are often unable to participate in internship opportunities due to logistical and/or financial restrictions.

Federal Work-Study (FWS) Program

One possible route to work experience or internship-like experience for low-income students is the Federal Work-Study Program. In 2016, the U.S. Federal Work-Study program served more than 674,000 students across 3,800 institutions at a budgeted cost of just over $1 billion (US Department of Education, 2016). The FWS program was specifically designed to combat poverty in college students while simultaneously providing work "related to the student's educational objective" in an effort to intertwine work-study employment with post-college employability (Economic Opportunity Act of 1964, 1964) (p. 515). To qualify for the program, students must demonstrate "financial need" via a completed Free Application for Federal Student Aid (FAFSA) indicating that their families do not possess sufficient financial resources to cover the associated costs of attending college (U.S. Department of Education, 2019). The FWS program then offers low-income students a potential competitive advantage when seeking employment in FWS-approved work positions as program funds can be used to pay for up to 75% of wages in most positions (Federal Student Aid Handbook: Volume 6 - Campus-Based Programs (FWS), 2020). These FWS positions can be through the student's institutional education, local nonprofit organizations, or, in certain circumstances, local for-profit institutions during or between periods of student enrollment (U.S. Department of Education, 2019).

The college experiences of lower-income students, those who qualify for FWS funding and participation, are fundamentally divergent from their affluent peers. Students from low-SES backgrounds experience a fundamentally different experience than their more affluent peers, one in which they struggle to survive financially and academically (Walpole, 2003). As a result, their employment goals predominantly focus on short-term financial and logistical gains rather than long-term

professional development, to the student's detriment (Larkin et al., 2007). For many such students, the FWS program is the only option for employment-related professional development (Scott-Clayton, 2017). The ability of the FWS program to build career competence has important implications for student academic outcomes, student retention, post-graduation employment, socioeconomic mobility, and social justice as the program is open only to these under-resourced students (US Department of Education, 2020).

While student employment has been widely researched, investigation into the effects of the Federal Work-Study Program (FWS) program in particular is virtually absent from the body of knowledge (Scott-Clayton & Minaya, 2016). It is possible that Federal Work-Study can be a high-impact practice as it meets the required experiential criteria, has potential for structural learning supports (e.g., supervision, mentoring), and may provide many of the same benefits experienced by participants of other high-impact practices (Finley & McNair, 2013; Morgenstern, 2020). The FWS provides opportunity and structure including guidance on acceptable duties and creating a maximum limit on the amount of time students can work per week. Perhaps most importantly, program regulations pointedly requires that the work is related to the student's educational objective in an effort to tie work-study employment with post-college employment outcomes (Economic Opportunity Act of 1964, 1964).

Existing research regarding work-study has been largely limited to measures of student success (rather than career readiness) (Gamson, 1993; Riggert et al., 2006; Scott-Clayton & Minaya, 2016), and those studies have been largely contradictory in outcomes (Avdic & Gartell, 2015; Dundes & Marx, 2006; Horn, 1998; Miller et al., 2008; Riggert et al., 2006; Scott-Clayton & Minaya, 2016; Triventi, 2014). Further, research on student employment often fails to account for Federal Work-Study (FWS) participation. As such, the current body of knowledge is not conclusive on whether FWS participation results in any gain in career development by participating students. Even without evidence of professional development, work-study programs are essential avenues of financial support for students to "work their way through college" even as the current FWS program is assessed as "in desperate need of an overhaul" to achieve this goal (Goldrick-Rab, 2016).

Purpose Statement

The purpose of this research is to determine whether participation in the Federal Work-Study program has an effect on the career readiness of undergraduate students as compared to their peers who choose not to participate in the program and to identify factors that may mediate outcomes. Our research question is: What is the relationship between work-study participation and career development of undergraduate students?

Methods

Data Source

Archival data from the 2019-2020 academic year was retrieved from the Office of Financial Aid and Scholarships at one large, highly-selective, public, research-intensive university in the Southeastern United States with the office's cooperation. The archival dataset includes survey information collected by the institution's Office of Financial Aid from non-incentivized program participants; the surveys were originally intended for evaluation and improvement of the institution's program. Also included in the archival dataset were FWS eligible students' demographic variables and their perceptions of the impact of FWS participation on career development. Demographic information included students' gender, race, and a measure of financial need as determined by a student's eligibility for Federal Pell Grant funding (a binomial measure of financial need with lower-resourced students receiving the grant).

Table 1. National Associate of College and Employers Standards for Career Readiness Competencies

Competency	Definition
Critical Thinking/Problem Solving	Exercise sound reasoning to analyze issues, make decisions, and overcome problems. The individual is able to obtain, interpret, and use knowledge, facts, and data in this process, and may demonstrate originality and inventiveness.
Oral/Written Communications	Articulate thoughts and ideas clearly and effectively in written and oral forms to persons inside and outside of the organization. The individual has public speaking skills; is able to express ideas to others; and can write/edit memos, letters, and complex technical reports clearly and effectively.
Teamwork/ Collaboration	Build collaborative relationships with colleagues and customers representing diverse cultures, races, ages, genders, religions, lifestyles, and viewpoints. The individual is able to work within a team structure, and can negotiate and manage conflict.
Digital Technology	Leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals. The individual demonstrates effective adaptability to new and emerging technologies.
Leadership	Leverage the strengths of others to achieve common goals, and use interpersonal skills to coach and develop others. The individual is able to assess and manage his/her emotions and those of others; use empathetic skills to guide and motivate; and organize, prioritize, and delegate work.
Professionalism/Work Ethic	Demonstrate personal accountability and effective work habits, e.g., punctuality, working productively with others, and time workload management, and understand the impact of non-verbal communication on professional work image. The individual demonstrates integrity and ethical behavior, acts responsibly with the interests of the larger community in mind, and is able to learn from his/her mistakes.
Career Management	Identify and articulate one's skills, strengths, knowledge, and experiences relevant to the position desired and career goals, and identify areas necessary for professional growth. The individual is able to navigate and explore job options, understands and can take the steps necessary to pursue opportunities, and understands how to self-advocate for opportunities in the workplace.
Global/Intercultural Fluency	Value, respect, and learn from diverse cultures, races, ages, genders, sexual orientations, and religions. The individual demonstrates, openness, inclusiveness, sensitivity, and the ability to interact respectfully with all people and understand individuals' differences.

Source: National Association of College and Employers Center for Career Development and Talent Acquisition, n.d.

The data source included a career readiness measure reflecting the NACE competencies as assessed through the Applied Career Competency Assessment (ACCA). The Applied Career Competency Assessment (ACCA, Hutson et. al., 2023) is centrally based on the two studies (Casner-Lotto & Barrington, 2006; National Association of Colleges and Employers, 2018) which identify 8 areas of career competency required for professional success in post-graduation employment. Table 1 provides a list of these competencies along with their definitions at the time the data were collected. The

ACCA utilized a stated definition of each core area followed by a request to self-rate on a 5-point Likert Scale. The reliability of the ACCA instrument is $\alpha = .832$ based on the pre-test data of this sample.

Ten percent of the FWS eligible students at the institution completed survey responses (with the majority completed by FWS participants). In total, 475 complete pre-survey responses were in the data set, while 700 complete post-survey responses were included. Among these, 240 respondents had completed both the pre- and post- survey, of whom 192 were FWS participants and 48 were not. While demographic data was provided for some respondents, insufficient data was available to complete analysis across any demographic categories.

Data Analysis

Responses from the pre-survey (August) and post-survey (May) were combined based on the respondent identification field. This allowed records to be placed into one of three groups: (1) respondents who completed only the pre-survey, (2) respondents who completed only the post-survey, or (3) respondents who completed both the pre-survey and the post-survey. This structure allows comparison of results for FWS participants and non-participants in both time points as well as comparison of growth between the two time points.

To enable this longitudinal analysis, additional variables were calculated for group 3 (students who completed both the pre-survey and post-survey) to measure the change in individual items and overall scores over the observed period. Only those individuals who completed the pre-survey and post-survey were included in longitudinal analysis of group 3 conducted via a longitudinal t-test.

Next, paired t-tests were completed for each item and ACCA overall score to compare outcomes between FWS participants and non-participants. The paired-tests were used to examine whether a difference in scores could be observed between students who participated in the work-study program and those who did not in both the initial and final time points as well as whether the change in scores over the observed time period was statistically significant.

Results

There were no statistically significant differences between FWS participants and non-participants in any of the constructs measured in the pre-survey. However, on the post-survey, FSW participants and non-participants differed significantly on Oral/Written Communications, Teamwork/Collaboration, Leadership, and the Overall Score (see Table 2). Work-study participants reported higher levels of Oral/Written Communication competency on the post-survey (participant $M = 3.82$, non-participant $M = 3.33$, $p = 0.0011$) following their period of employment. The Teamwork/Collaboration competency was also statistically significant only on the post-employment survey (participants $M = 4.14$, non-participant $M = 4.00$, $p = 0.0366$).

Table 2. An overview of the t-test results from post-employment survey data comparing instrument component & overall scores between participants of the FWS program and non-participants.

	WS (N=192)		**NWS (N=48)**				
	Mean	SD	Mean	SD	t	df	*p*
Applied Career Competency Assessment Subscales							
Critical Thinking/ Problem Solving	3.885	.789	3.792	.874	-.7144	238	.4757
Oral/Written Communication	3.818	.911	3.333	.883	-3.3136	238	.0011**
Teamwork/Collaboration	4.146	.738	3.875	.789	-2.2437	238	.0258*
Digital Technology	3.682	.843	3.646	.887	-.2653	238	.791
Leadership	3.740	.924	3.313	.903	-2.8778	238	.0044**
Professionalism/Work Ethic	4.307	.815	4.167	.834	-1.0644	238	.2882
Career Management	3.276	1.029	3.021	1.082	-1.5209	238	.1296
Global/ Intercultural Fluency	3.921	.897	3.804	.957	-.7706	238	.4418
Overall Score	3.845	.568	3.617	3.463	-2.5186	238	.0124*

*p<.05 **p<.01 ***p<.001

The Leadership competency showed a statistically significant difference in the post-survey (participant $M = 3.74$, non-participant $M = 3.31$, $p = .0044$) *and* in the rate of change for the longitudinal group (participant *Mdiff* = 0.24, non-participant *Mdiff* = *-0.27*, $p = 0.0005$). Combined with the lack of difference on the pre-test ($p = .6065$), this indicates that differences in growth are associated with the observed differences in outcome levels. Additionally, the overall score demonstrated statistically significant differences in both the post-test (participant $M = 3.85$, non-participant $M = 3.62$, $p = 0.0124$) and longitudinal assessment (participant *Mdiff* = 0.14, non- participant *Mdiff* = -0.05, $p = 0.0345$). Based on the longitudinal assessment's test statistics (Table 3), this relationship has a medium-small effect size with a Cohen's *d* value of 0.367 indicating that the effect is both practically and statistically significant.

It should be noted that the FWS non-participant group demonstrated a decrease in five of eight competencies, as well as in the overall measure. In contrast, the FWS participants show gains in seven of eight component scores and the overall competency assessment and only a mild decrease in global/intercultural fluency.

Table 3. An overview of the t-test results from combined pre-employment & post-employment survey data comparing instrument component & overall scores between participants of the FWS

	WS (N=192)		**NWS (N=48)**				
	Mean Difference	SD	Mean Difference	SD	*t*	df	*p*
Critical Thinking/ Problem Solving	.182	.852	.020	.901	-1.1733	238	.2418
Oral/Written Communication	.167	.934	-.102	.770	-1.8579	238	.0644
Teamwork/Collaboration	.099	.841	-.143	.913	-1.7650	238	.0788
Digital Technology	.156	.896	.265	.638	.8012	238	.4238
Leadership	.234	.928	-.265	.861	-3.4128	238	.0008**
Professionalism/Work Ethic	.073	1.016	.041	1.020	-.1973	238	.8437
Career Management	.208	1.038	-.061	.945	-1.6517	238	.0999
Global/ Intercultural Fluency	-.028	.965	-.085	.974	-.3571	238	.7213
Overall Score	.139	.567	-.046	.432	-2.1263	238	.0345*

*p<.05 **p<.01 ***p<.001

Discussion

While there are studies that examine FWS participation, few have focused on the career readiness aspects of the program despite it being one of the major goals of the Federal Work-Study program. This study suggests that FWS participation may accelerate developmental growth and career competency. Further, the longitudinal change points to a positive impact from work-study experience, revealing clear skill gains in Communication, Teamwork, Leadership and overall career competency appear connected to FWS participation. This is a particularly important perspective on student development and professional maturation prior to graduation as a precursor to job attainment. Work-study assignments are often treated primarily as a mechanism to distribute aid rather than as opportunities to support student learning or professional development; this study suggests that Federal Work-Study may have the potential to operate as a *high-impact practice*—especially for low-income students—when appropriately structured.

While the Federal Work-Study program has federal guidelines, the application and implementation of the program is widely diverse. The study is limited to the work-study program at a single institution, and data was available for approximately one-quarter of the 4,345 individuals in the studied population. Given that over 674,000 students across the U.S. participate in the Federal Work-Study program each year (US Department of Education, 2016), it is unlikely that this study will be representative of the experiences of all program participants, especially students not attending a similar type of school (i.e. a four-year, public, flagship, tier-one research institution). This is due both to the nature of the work-study program varying with the type and location of the school but also due to the variable makeup of students attending different institutions. Most notably, the job type, range, and number of positions offered through the work-study program differ widely between institutions as no two schools can offer the same variety of work opportunities. Future research should seek to expand both the quantity and diversity of institutions studied in order to increase the robustness of additional research and determine whether the conclusions reached in this study hold true in other higher education environments.

Additionally, future studies should seek to expand on the framework of this study by differentiating the FWS non-participant group into (a) students who are not working and (b) students who are working through non-FWS employment. This expanded framework should also incorporate measures of experience intensity and prior professional experiences for students participating in the program in order to isolate the effects of WS participation. While the current framework provided insight into whether FWS participation provided students with increased career competence as compared to students not participating in the program, it did not determine whether that observed differentiation was due to factors associated with the FWS program or factors associated with employment. By comparing FWS participants to employed non-FWS participants and non-employed peers, studies can more effectively determine the cause of the observed professional development.

Finally, the ACCA data source on NACE competencies is not the only measure of preparedness of college students for entry into the post-degree workforce. While the NACE framework is based on a series of validated studies by a respected organization compiling information from nearly 400 schools (Leierer et al., 2017; National Association of College and Employers Center for Career Development and Talent Acquisition, n.d.), instrumentation for measurement is limited. Other measures of career readiness (e.g., Career Maturity Inventory) may be useful, as well as future outcomes such as salary, perceived job quality, time to job placement, or other measures unrelated to the working competency and effectiveness of new professionals.

Implications for Practice

The Federal Work-Study program represents a small but ubiquitous presence within the U.S. collegiate environment. Despite a long history and widespread operation, this study is one of the first that examines FWS within the context of a developmental program rather than just as financial aid. The significant evidence of skill growth provides both a framework for institutions to evaluate and expand their program, as well as justification for heightened focus on the program as an employment preparation tool.

This paper provides strong evidence for FWS as a social justice program providing financially disadvantaged students the opportunity to develop skills via paid employment they might otherwise be only able to gain through unpaid internship/volunteer work. This allows students from lower-SES backgrounds to gain professional skills, placing them on equal footing with more affluent peers when seeking post-graduation employment. Additionally, by offering subsidized student employment, the FWS program provides a competitive advantage to economically disadvantaged students in seeking in-college employment. Further investment in the program by participating institutions to expand job offerings and program scale can be justified based on this study.

Even so, as the Higher Education Act (and, by extension, FWS program) are overdue for assessment and reauthorization, this study can help to influence the national agenda regarding financial aid by demonstrating that the program contributes to workforce preparation goals. As more than 75% of college students are employed during their time in school (Dundes & Marx, 2006), this study may be significant in helping to expand the program.

Finally, we suggest that institutions consider how to structure work-study experiences to optimize their student development potential and truly reframe federal work-study as a high impact practice. Institutions may consider working with faculty collaborators and campus stakeholders to establish appropriate measures to evaluate the impact of work-study on students' professional and academic growth, further extending our understanding of how federal work experiences benefit students beyond providing financial aid.

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