

July 2023

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### Recommended Citation

Smith, Katie N. (2023) "Undergraduate Participation in Paid and Unpaid Internships by Income Level," *Journal of Student Financial Aid*: Vol. 52 : Iss. 2 , Article 4.

DOI: <https://doi.org/10.55504/0884-9153.1774>

Available at: <https://ir.library.louisville.edu/jsfa/vol52/iss2/4>

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## Undergraduate Participation in Paid and Unpaid Internships by Income Level

By Katie N. Smith, Temple University

*This research brief uses publicly available data from the 2016/2017 Baccalaureate and Beyond survey to examine individual and institutional predictors of participation in paid and unpaid internships, especially family income. When controlling for other factors, results showed that low-income students were more likely to have unpaid internships than high-income students. Attending a highly selective institution was the strongest predictor of participating in a paid internship. Results inspire questions about the accessibility of paid internships, especially for students in non-STEM majors and other students from marginalized groups.*

Keywords: internships, socioeconomic status, equity, gender, race, selectivity

Internship participation among undergraduate college students has increased dramatically in recent decades; in 1994, 30% of new bachelor's graduates reported having participated in an internship compared to 70% in 2017 (Shandra, 2022). Today, internships are widely recognized as a means for college students to try out career interests and learn more about professional work (Dailey, 2016; Detgen et al., 2021; Hora et al., 2020; Lapan & Smith, 2022), while enhancing post-graduate employment opportunity (Guarise & Kostenblatt, 2018; Nunley et al., 2016; Wolniak & Engberg, 2019). However, internships – especially paid internships – may not be equally accessible to all. This brief takes advantage of internship variables in the National Center for Education Statistics' (NCES) Baccalaureate & Beyond 2016/2017 dataset to explore: (1) undergraduate participation in paid and unpaid internships based on individual and institutional characteristics; and (2) differences in internship participation based on student family income.

Despite the benefits internships may provide, internship participation varies by student-level characteristics. Undergraduate students in the top income quartile are more likely to participate in internships than students in lower income quartiles (Shandra, 2022). Similarly, continuing-generation students are more likely to participate in internships than their first-generation peers (Collins, 2020; Shandra, 2022). These patterns may be partially explained by access. In a survey of students at five institutions, Hora et al. (2021) found that 64% of students who did not participate in an internship had wanted to but were unable. Reported barriers to internship participation included work responsibilities, heavy course loads, a lack of internship opportunities, insufficient pay, and transportation and childcare needs. Notably, high-income respondents reported the least difficulty accessing internships (Hora et al., 2021).

Given pay as an access factor, participation may also vary by whether internships are paid or unpaid. There is some evidence that students may perceive paid internships as more serious (Hora et al., 2020), and that paid internships may offer greater structure and post-graduate opportunity than unpaid internships (Gray, 2022; Guarise & Kostenblatt, 2018; Hurst et al., 2023). Importantly, however, paid internships are unevenly distributed across industries and organizations. Students in STEM are the most likely to participate in paid internships (Zilvinskis et al., 2020), whereas unpaid internships are common in non-profit and creative fields (Hora et al., 2021; Shade & Jacobson, 2015). Women are also overrepresented among unpaid interns, even when controlling for field differences (Zilvinskis et al. 2020). Research also suggests racialized patterns of internship participation, although findings are inconsistent. In a descriptive analysis based on National Association of Colleges and Employers data, Collins (2020) found that white, Asian American, and international students were overrepresented among paid interns, and African American and Hispanic students were overrepresented among unpaid interns. Using data from the National Survey of Student Engagement, Zilvinskis et al. (2020) found only one significant result by race/ethnicity and pay: Asian,

Native Hawaiian, and other Pacific Islander students were less likely to have paid internships than other groups.

Institutional characteristics may also influence student access to and participation in internships while in college. Over time, students at private institutions have been more likely to participate in internships than those in public institutions (Shandra, 2022). Patterns also vary by institutional selectivity; over the last 25 years, students at more selective institutions have consistently participated in internships at higher rates than students at less selective institutions (Shandra, 2022). Thus, although institutions can provide critical access to career opportunities and networks, these resources are not equally distributed. Lower-resourced and less selective institutions (which disproportionately serve low-income students) may offer fewer direct connections to high-status professional opportunities and networks, including paid internships (Davis & Binder, 2016; Damaske, 2009; Moss-Pech, 2021; Rivera, 2015; Smith & Green, 2021). Low-income or first-generation students may also be unaware of career-related campus resources (including the opportunity to pursue paid internships), may not think such services are for them, or may be unable to access services (Parks-Yancy, 2012; Silver & Roksa, 2017). Given the potential relationship between internships and post-graduate outcomes, participation in these experiences, or lack thereof, may have long-term implications for college students today.

## Methods

The U.S. Department of Education National Center for Education Statistics' Baccalaureate & Beyond 2016/2017 (B&B:16/17) is a survey of 2015-2016 bachelor's graduates. In the 2017 survey, 2016 bachelor's graduates were asked whether they participated in an unpaid internship before completing their bachelor's degree and, separately, whether they participated in a paid internship before completing their bachelor's degree. B&B:16/17 defined internship as "any official or formal program to provide practical experience for beginners in an occupation or profession." Separate questions were asked for other applied experiences such as co-ops, student teaching, and research roles. This is the first iteration of the B&B survey that included variables about internship participation, resulting in newly available nationally representative data regarding internship participation.

Using publicly available B&B:16/17 data (approximately 17,700 respondents), descriptive analysis first examined unpaid and paid internship participation based on individual and institutional characteristics. Next, two logistic regression models were used to investigate how family income predicted participation in unpaid and paid internships (as these questions were asked separately, the outcome is binary for each) while controlling for financial dependency status, gender, race, parent education, major type, institutional control, enrollment size, and selectivity. Family income level was defined in four categories: low (less than \$30,000), low-moderate (\$30,000 to \$59,999) moderate-high (\$60,000 to \$99,999) and high (above \$100,000) (Chan et al., 2019). First-generation students were defined by having no parents who attended college. Institutional selectivity was a four-category B&B composite variable based on whether an institution was open access and, if not, the ratio of applicants to admitted students and ACT and SAT score percentiles. Given the small proportion of respondents who attended open admission (7.1%) or minimally selective institutions (6.7%), these categories were combined into a "low selectivity" category. See notes for Tables 1 and 2 below for more variable information.

## Results

Descriptive results (Table 1) revealed that a slightly higher percentage of bachelor's graduates reported participating in unpaid internships (30.8%) than paid internships (28.7%). High-income graduates had the highest participation rates for both internship types. Financially dependent graduates also reported higher rates of participation in both internship types than financially independent graduates. STEM graduates had the lowest rate of participation in unpaid internships and the highest rate of participation in paid internships.

Graduates from highly selective institutions had the highest rate of participating in both paid and unpaid internships.

**Table 1**

*Percent of Bachelor's Students who Participated in Unpaid and Paid Internships*

|  | Unpaid Internship |      | Paid Internship    |      |
|--|-------------------|------|--------------------|------|
|  | %                 | SE   | %                  | SE   |
| <i>Income</i>                          |                   |      |                    |      |
| Low                                    | 31.12             | 0.90 | 24.97              | 0.90 |
| Low-moderate                           | 27.10             | 1.18 | 23.65              | 1.18 |
| Moderate-high                          | 30.02             | 1.18 | 28.71              | 1.18 |
| High                                   | 32.98             | 0.95 | 36.57              | 0.95 |
| <i>Dependency Status</i>               |                   |      |                    |      |
| Dependent                              | 35.52             | 0.70 | 34.98              | 0.70 |
| Independent                            | 24.44             | 0.74 | 20.30              | 0.74 |
| <i>Gender<sup>a</sup></i>              |                   |      |                    |      |
| Man                                    | 25.07             | 0.79 | 34.20              | 0.79 |
| Woman                                  | 34.87             | 0.69 | 24.62              | 0.69 |
| Other gender identity                  | 39.72             | 4.95 | 29.41              | 4.95 |
| <i>Race/Ethnicity</i>                  |                   |      |                    |      |
| White                                  | 30.03             | 0.54 | 30.25              | 0.54 |
| Black or African American              | 30.42             | 1.49 | 20.82              | 1.49 |
| Hispanic or Latino                     | 32.61             | 1.32 | 24.23              | 1.32 |
| Asian                                  | 32.93             | 1.96 | 32.94              | 1.96 |
| American Indian or Alaska Native       | 31.66             | 7.65 | 24.89              | 7.65 |
| Native Hawaiian/other Pacific Islander | 33.37             | 9.14 | 12.14 <sup>b</sup> | 9.14 |
| More than one race                     | 34.10             | 2.30 | 31.63              | 2.30 |
| <i>Parent Education</i>                |                   |      |                    |      |
| No college                             | 27.48             | 1.18 | 20.54              | 1.18 |
| Some college or higher                 | 31.65             | 0.54 | 30.93              | 0.54 |
| <i>Major Type</i>                      |                   |      |                    |      |
| STEM                                   | 22.91             | 1.08 | 40.55              | 1.08 |
| Social & behavioral sciences           | 34.53             | 1.45 | 22.94              | 1.45 |
| Non-STEM                               | 32.52             | 0.59 | 26.10              | 0.59 |
| <i>Institution Control</i>             |                   |      |                    |      |
| Public                                 | 28.82             | 0.67 | 27.89              | 0.67 |
| Private nonprofit                      | 37.40             | 0.70 | 34.41              | 0.70 |
| Private for-profit                     | 18.48             | 1.35 | 8.83               | 1.35 |
| <i>Enrollment Size</i>                 |                   |      |                    |      |
| 5,000 or below                         | 34.85             | 0.97 | 27.65              | 0.97 |
| 5,001-20,000                           | 30.87             | 0.86 | 27.88              | 0.86 |
| Above 20,000                           | 28.45             | 0.80 | 30.07              | 0.80 |
| <i>Institution Selectivity</i>         |                   |      |                    |      |
| Low selectivity                        | 22.11             | 1.28 | 14.56              | 1.28 |
| Moderate selectivity                   | 30.34             | 0.61 | 27.34              | 0.61 |

|                  |       |      |       |      |
|------------------|-------|------|-------|------|
| High selectivity | 37.27 | 1.20 | 39.14 | 1.20 |
| Overall          | 30.79 | 0.49 | 28.72 | 1.28 |

*Note.* SE= Standard errors, using NCES survey weight WTA000.

<sup>a</sup>Although the variable used for this study was a self-reported metric of gender identity, the survey used biological sex terms “male” and “female,” which were updated to “man” and “woman.”

<sup>b</sup>Interpret with caution due to high standard error. Estimates were generated using the NCES PowerStats Tool for B&B:16/17. Additional variable details are available in Table 2 notes.

Table 2 displays estimates from two logistic regression models that predicted the likelihood of completing an (1) unpaid or (2) paid internship, by income group. When controlling for individual and institutional factors, low-income graduates were significantly more likely to have had unpaid internships than other groups. Low-moderate-income and moderate-high-income graduates were both 1.59 times less likely to have had an unpaid internship than low-income graduates. High-income graduates were 1.54 times less likely to have an unpaid internship than low-income graduates. For paid internships, low-moderate-income graduates were 1.28 times less likely to have a paid internship than the low-income group. When considering other student characteristics, financially independent graduates were 2.04 times less likely to have unpaid internships and 1.79 times less likely to have paid internships than financially dependent graduates. Gender was also significant; women were 1.54 times more likely than men to have unpaid internships and 1.49 times less likely to have paid internships. Graduates of a non-binary gender identity were 1.69 times more likely than men to have unpaid internships. Race was significant in two cases; Hispanic or Latino graduates were 1.18 times more likely to have had unpaid internships than white graduates while Black or African American graduates were 1.19 times less likely to participate in paid internships. Graduates whose parents had not attended college were 1.27 times less likely to have had paid internships than graduates whose parents had at least some college. Major type was also associated with internship participation; compared to STEM majors, social and behavioral sciences majors were 1.68 times more likely to have unpaid internships and 2.00 times less likely to have paid internships, while students in non-STEM fields were 1.74 times more likely to have unpaid internships and 1.52 times less likely to have paid internships.

Institutional characteristics also produced significant results. Compared to graduates of public institutions, graduates of private non-profit institutions were 1.29 times more likely to have unpaid internships, and also 1.44 times more likely to have had paid internships. Students at private for-profit institutions were 1.72 times less likely to complete paid internships than graduates at public institutions. Students at large institutions were 1.23 times less likely than students at small institutions to have had unpaid internships. Finally, compared to graduates of non-selective institutions, graduates of moderately selective institutions were 1.31 times more likely to complete unpaid internships and 1.53 times more likely to complete paid internships, and graduates of highly selective institutions were 1.74 times more likely to have had unpaid internships, and 2.14 times more likely to have had paid internships.

## Discussion

The results of this brief provide new insights into internship participation based on student and institutional characteristics, with important implications for students’ financial wellbeing, both in college and beyond. Overall, just under one-third (31%) of 2015-2016 U.S. bachelor’s graduates reported that they completed unpaid internships. A slightly smaller (28%) percentage completed paid internships. While the structure of the publicly available data did not allow investigation into patterns of overlap between these two groups, there may also be graduates who participated in both unpaid and paid internships (Wolfgram & Ahrens, 2022).

**Table 2***Logistic Regression Models of Participation in Unpaid and Paid Internships*

|  | Model 1: Unpaid Internship |      | Model 2: Paid Internship |      |
|--|----------------------------|------|--------------------------|------|
|  | Odds Ratio                 | SE   | Odds Ratio               | SE   |
| <i>Income</i>                          |                            |      |                          |      |
| Low-moderate                           | 0.63***                    | 0.05 | 0.78**                   | 0.06 |
| Moderate-high                          | 0.63***                    | 0.05 | 0.87                     | 0.08 |
| High                                   | 0.65***                    | 0.05 | .98                      | 0.07 |
| <i>Dependency Status</i>               |                            |      |                          |      |
| Independent                            | 0.49***                    | 0.03 | 0.56***                  | 0.04 |
| <i>Gender</i>                          |                            |      |                          |      |
| Woman                                  | 1.54***                    | 0.09 | 0.67***                  | 0.04 |
| Other gender identity                  | 1.69*                      | 0.38 | 0.73                     | 0.19 |
| <i>Race/Ethnicity</i>                  |                            |      |                          |      |
| Black or African American              | 1.07                       | 0.09 | 0.84*                    | 0.07 |
| Hispanic or Latino                     | 1.18*                      | 0.09 | 0.90                     | 0.07 |
| Asian                                  | 1.12                       | 0.10 | 0.95                     | 0.09 |
| American Indian or Alaska Native       | 1.12                       | 0.55 | 1.23                     | 0.52 |
| Native Hawaiian/other Pacific Islander | 1.89                       | 0.92 | 0.48                     | 1.25 |
| More than one race                     | 1.21                       | 0.15 | 1.05                     | 0.16 |
| <i>Parent Education</i>                |                            |      |                          |      |
| Parents with no college                | 0.93                       | 0.07 | 0.79**                   | 0.06 |
| <i>Major Category</i>                  |                            |      |                          |      |
| Social & behavioral sciences           | 1.68***                    | 0.15 | 0.50***                  | 0.04 |
| Non-STEM                               | 1.74***                    | 0.12 | 0.66***                  | 0.04 |
| <i>Institution Control</i>             |                            |      |                          |      |
| Private nonprofit                      | 1.29***                    | 0.08 | 1.44***                  | 0.07 |
| Private for-profit                     | 0.84                       | 0.10 | 0.58***                  | 0.07 |
| <i>Institution Enrollment Size</i>     |                            |      |                          |      |
| 5,001-20,000                           | 0.90                       | 0.06 | 1.08                     | 0.09 |
| Over 20,000                            | 0.81*                      | 0.06 | 1.18                     | 0.11 |
| <i>Institution Selectivity</i>         |                            |      |                          |      |
| Moderate selectivity                   | 1.31***                    | 0.12 | 1.53***                  | 0.21 |
| High selectivity                       | 1.74***                    | 0.18 | 2.14***                  | 0.15 |

Note. Estimates were generated using the NCES PowerStats Tool for B&B:16/17. Internship variables are B1UGUINTERN and B1UGPINTERN. Variables and reference categories are: DEPEND (dependent students); B1GENDER (man), RACE (white), PAREDUC (parents with some college or higher); STEMMAJ (STEM); CONTROL (public); ENROLSIZ (enrollment 5,000 or under) SELECTV3 (note: this variable is a composite of the ratio of applicants to admitted students and ACT and SAT score percentiles, the reference group is low-selectivity, a combination of minimally selective and open admissions).

SE=Standard errors, using NCES survey weight WTA000.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Both descriptive and inferential analyses revealed systematic differences in internship participation by student and institutional characteristics. In terms of family income as a predictor, low-income graduates were more likely to have had unpaid internships than students of other income groups. This finding is somewhat surprising given evidence that unpaid internships may be less accessible for this group (Hora et al., 2021). At the same time, this finding evokes a question regarding the accessibility of paid internships. Low-income students may enter college determined to make the most of their investment in the experience, including participating in career-oriented experiences to boost post-graduate prospects (Nguyen, 2021). However, low-income students may also experience comparatively limited access to high-status professionals in their field, inherently constraining their access to more prestigious and paid opportunities (Damaske, 2009; Rivera, 2015; Parks-Yancy, 2012). Indeed, results suggest that financially independent graduates, graduates whose parents have not attended college, and graduates of non-selective institutions were also each more likely to report having unpaid internships than counterpart peers, and less likely to have paid internships.

In many ways, this extrapolation is consistent with existing research. Hamilton et al. (2018) showed how high-income families “hoard” resources to facilitate their students’ access to coveted internships. Other studies suggest that large and selective institutions have robust employer networks, including connections to large and well-resourced companies more likely to offer paid internships (Davis & Binder, 2016; Moss-Pech, 2021; Smith & Green, 2021). In contrast, less selective institutions may have difficulty attracting high-status employer partners, with implications for low-income students’ exposure to well-paying internship and job opportunities (Damaske, 2009). Rivera (2015) also found that elite companies limit their candidate pools to students from highly selective institutions and, when reviewing application materials, search for indicators of socioeconomic status to screen for “fit.” Indeed, of all variables in the second model, attending a highly selective institution was the strongest predictor of participating in a paid internship. Consistent with Shandra (2022), attending a moderately selective or a highly selective institution was also associated with overall internship participation, with these results showing even stronger relationships for paid experiences. Other results reveal participation patterns based on gender and race. Consistent with prior research, results showed that women were more likely to have unpaid internships and less likely to have paid internships than men (Collins, 2020; Zilvinskis et al., 2020). Results also indicated that students of non-binary gender identities, a group whose experiences have been largely overlooked in quantitative research (Garvey et al., 2019), were more likely to have unpaid internships than men. Notably, internships and other “high-impact practices” may be less accessible, or even inaccessible to marginalized groups, including students who identify outside of a gender binary (Stewart & Nicolazzo, 2018). In terms of race, results aligned more closely with Collins (2020) than Zilvinskis et al. (2020); Hispanic students were more likely to have unpaid internships than white students, and Black students were less likely than white students to have paid internships. These findings support the narrative as above; students with marginalized identities are participating in paid internships at lower rates and may have less access to these opportunities. Results related to major category further support this dynamic, STEM graduates (predominantly white and men) have far greater access to paid internships, while graduates of other disciplines are more likely to have had unpaid internships.

Given the potential relationship between internships, career knowledge and informed decision-making, and post-graduate employment opportunities (Nunley et al., 2016; Wolniak & Engberg, 2019), students who do not complete internships—or who are unable to do so—may be at a disadvantage in the labor market. Still, additional research on this topic is required. The internship variables added to NCEs’s B&B datasets open new opportunities for inquiry, and researchers can use these data to glean a more nuanced understanding of internship participation. In particular, analysis using restricted-use B&B data can be leveraged to explore how intersecting characteristics predict internship participation for student subgroups, including differences by majors and institutional types (e.g., women in STEM). Causal inference techniques can also be applied to explore whether paid and unpaid internships differentially predict post-graduate outcomes, while better accounting for selection biases. Research using restricted data may also

examine the characteristics and patterns of students who participate in multiple internships, including both unpaid and paid roles (Wolfgram & Ahrens, 2022).

Study results also provide insight to inform practice. Paid internships are not equally available to all students, and institutions and corporations are well-positioned to reduce these disparities. Institutional agents can serve as an important voice with corporate partners, sharing statistics about the diversity of their students and advocating for paid internships. Institutional agents can also help corporate contacts broaden internship qualification requirements to focus on requisite skills rather than structural criteria such as academic major or class year. Broadening recruitment criteria will diversify candidate pools and reach more qualified students who have historically had fewer opportunities to participate in paid internships. Additionally, as “elite” corporations often focus recruitment efforts on large and highly selective institutions (Davis & Binder, 2016; Rivera, 2015), including less selective institutions is an important strategy for reducing disparities. Institutions can also partner to pool employer networks and promote exposure and equity to students across institutional types, a strategy that has the added benefit of making hiring processes more efficient for employers.

Financial aid offices are also well-positioned to identify students who may benefit from more information about career-related services, including the availability of paid internships. Results indicated that low-income, financially independent, and first-generation students are less likely to participate in paid internships than counterpart peers, and research shows that these same groups may be unaware of, or unable to access career-related campus resources available to them (Eismann, 2016; Parks-Yancy, 2012; Silver & Roksa, 2017). Financial aid offices can identify these students to share resources and opportunities, or partner with other departments to develop tailored marketing strategies to reduce information disparities. Financial aid staff can also partner with career services, corporate relations, alumni affairs, and advancement offices to create scholarship or grant programs for low-income students in unpaid internships and promote these opportunities to eligible students. While there has been more attention to the legality of unpaid internships in recent years (Lieber, 2022), U.S. colleges and universities should be at the forefront of advocacy.

## Conclusion

Unfortunately, results suggest systemic differences in internship participation among undergraduate students, including by whether internships are paid or unpaid. Graduates with privileged social identities and those who attend more selective institutions are most likely to participate in paid internships, while students with less privileged social identities seemingly have less access to these paid positions. The comparative inaccessibility of paid internships for low-income and other marginalized groups perpetuates a cycle of inequity, both in college and beyond. Paying students for all internships is an important step towards equity, but colleges and employers must also help facilitate equitable access to these experiences.



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