College Affordability for Low-Income Adults:
Improving Returns on Investment for Families and Society

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INSTITUTE FOR WOMEN'S POLICY RESEARCH

About This Report

This report was prepared by the Institute for Women's Policy Research (IWPR) as a part of a series of papers on defining college affordability sponsored by the Lumina Foundation. The report examines how efforts to understand and improve college affordability can be informed by the experiences and circumstances of low-income adults, students of color, and students with dependent children. The paper is a part of IWPR's larger body of work on improving college access and success among low-income communities.

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About the Institute for Women's Policy Research

IWPR conducts rigorous research and disseminates its findings to address the needs of women, promote public dialogue, and strengthen families, communities, and societies. IWPR works with policymakers, scholars, and public interest groups to design, execute, and disseminate research that illuminates economic and social policy issues affecting women and their families, and to build a network of individuals and organizations that conduct and use women-oriented policy research. The Institute's work is supported by foundation grants, government grants and contracts, donations from individuals, and contributions from organizations and corporations. IWPR is a 501(c)(3) tax-exempt organization that also works in affiliation with the women's studies and public policy and public administration programs at The George Washington University.

Disclaimer

This paper is one in a series of reports funded by Lumina Foundation. The series is designed to generate innovative ideas for improving the ways in which postsecondary education is paid for in this country — by students, states, institutions and the federal government — in order to make higher education more affordable and more equitable. The views expressed in

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Introduction: Broadening the Definition of Affordability

When discussing and defining college affordability, whether for purposes of policy formation, communication with students, or weighing the value of individual, private, and public investments, a number of specific considerations apply to low-income students. Low-income students are more likely to be financially independent, to be first generation students, to be students of color, and to be parents. They have greater time constraints, less access to information about enrollment, careers, and financial aid, more unmet need, more health challenges, a higher likelihood of serious material scarcity such as food insecurity and difficulty paying bills, and poorer labor market outcomes following degree attainment. Our conception of affordability must expand beyond a singular focus on cost, to reflect the variety of circumstances that may affect low-income students' decisions to enter college, and their ability to persist and succeed. Affordable college education provides equal access to quality careers, time to care for oneself and one's family, and sufficient resources for material, social, and physical well-being. A broad definition of affordability can help potential students envision an economic path to college and promote a broader array of policy and program interventions to improve educational opportunity.

Our conception of affordability must expand beyond a singular focus on cost, to reflect the variety of circumstances that affect low-income students' decisions to enter college and their ability to persist and succeed.

For individuals and families, college is "affordable" when:

- Students and their families are able to meet living expenses with a reasonable standard of living both during and after school enrollment. A reasonable standard of living would provide:
  - a level of income at a basic standard of self-sufficiency;
  - adequate time for school work, self care, sleep, and care for family members; and
  - the opportunity to function without unhealthy levels of stress.

- Students can anticipate substantial economic and social gain after graduation compared with a future without college. Affordability will be improved if the economic outcomes are comparable across lines of gender, race, and ethnicity.

From a societal perspective, college is "affordable" if:

- Cost is not a significant barrier to individuals' ability to attain postsecondary credentials;

- Public expenditures pay off over the long-term without creating excessive short-term fiscal strain. Likely long-term benefits from college include an array of macroeconomic benefits that arise from a more highly educated population, such as:
  - a greater likelihood that children of graduates will themselves attend college;
  - reductions in economic inequality, intergenerational poverty, social welfare spending, and health care expenditures; and
  - improved health, well-being, and civic engagement.

- Institutions of higher learning provide good value and efficiency.

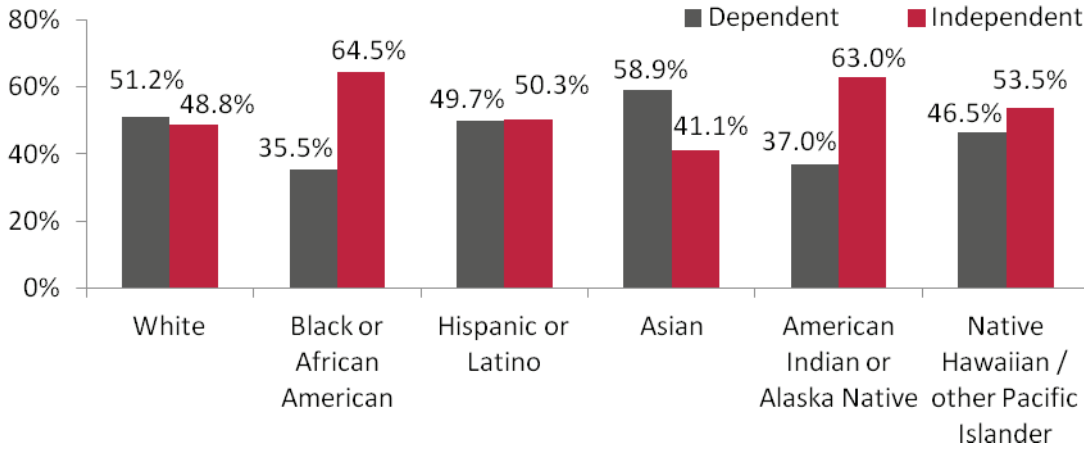
This report discusses how the time and financial demands associated with financial independence, parenthood, and work affect a student's ability to invest in college, and how segregation in college majors diminishes returns on investment for low-income students. It makes recommendations for systemic efforts to improve racial/ethnic and gender equity in college outcomes, to help students see college as an investment worth making, to better attune the financial aid system to low-income students' needs, and to expand supports that acknowledge the multiple responsibilities that low-income students often carry as employees and caregivers.

Financial Need Among Low-Income Students

The share of students experiencing significant financial need while in school has grown in recent years. Analysis by the Institute for Women's Policy Research (IWPR)[1] finds that in just five years between 2008 and 2012, the proportion of college students who had low-incomes rose dramatically, from 40 percent of undergraduate students with incomes under 200 percent of the Federal Poverty Level (FPL), in 2008, to 51 percent in 2012. The proportion of students under 100 percent of the FPL also increased from 20 percent to 30 percent of students during that time. In 2012, 17 percent of college students had incomes below 50 percent of the FPL. The growing share of students in poverty suggests that access to public benefits and supports must be improved to help low-income students afford college and make ends meet.

Low-income students are more likely to be financially independent than their higher-income peers. Two-thirds of low-income students (with incomes between zero and 200 percent of the poverty level), and 41.8 percent of students with incomes between 200 and 500 percent of poverty are financially independent.[2] The likelihood of financial independence also varies by race and ethnicity. Nearly two-thirds of Black and American Indian/Alaska Native students are financially independent, compared with about half of white students, and 41 percent of Asian students (Figure 1).

Figure 1: Dependency Status of Undergraduate Students by Race/Ethnicity, 2011-12



Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

[1] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2007-08 and 2011-2012 National Postsecondary Student Aid Study (NPSAS:08 and NPSAS:12).

[2] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

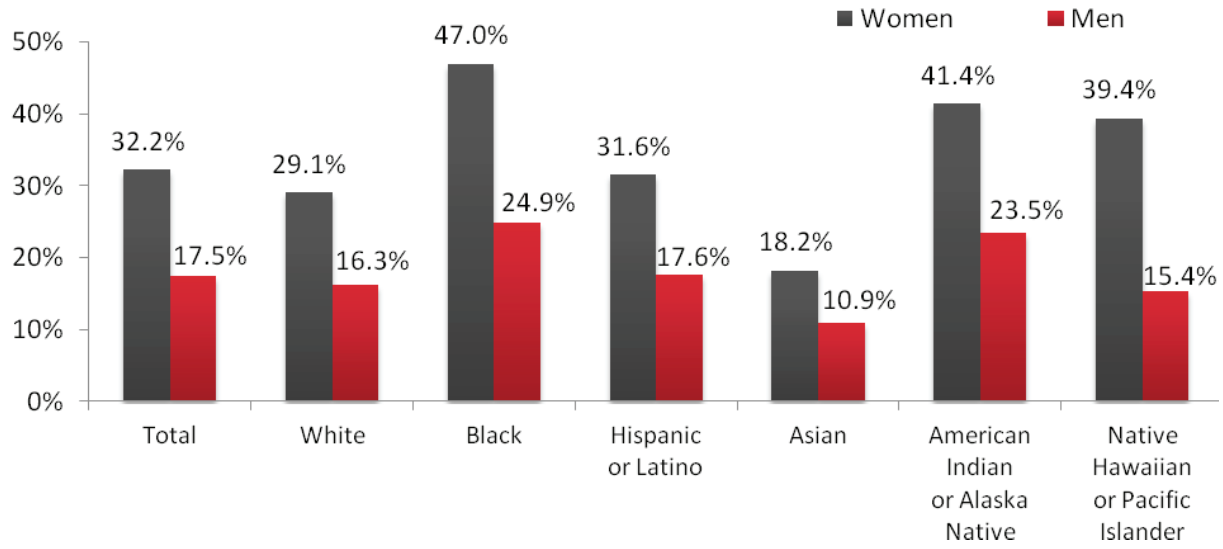
As of 2012, 4.8 million independent college students had their own dependent children, comprising nearly 26 percent of the total college population.[3] Students with children are more likely than other students to have low-incomes and to be first-generation students (Miller, Gault, and Thorman 2011), and a striking 87.8 percent of *single*[4] students with children have incomes at or below 200 percent of poverty.[5] Women are disproportionately likely to be balancing college and parenthood, many without the support of a spouse or partner: women make up 71 percent of all student parents, and are the vast majority (79.4 percent) of single parents. Single mothers are 42.5 percent of the total student parent population, and 60 percent of student mothers are single mothers.[6]

Women of color in postsecondary education are more likely than other college students to have dependent children: 47 percent of African American women students, 39.4 percent of Native American students, and 31.6 percent of Latina college students are mothers (Figure 2). Student parents of color have lower incomes than white student parents: nearly 71 percent of black student parents and 68 percent of Hispanic student parents live at or below 200 percent of the poverty level, compared with 49 percent of white student parents.[7]

Women of color in postsecondary education are more likely than other college students to have dependent children: 47 percent of African American women students, 39.4 percent of Native American students, and 31.6 percent of Latina college students are

[3] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).
[4] Single is defined as all students who are single, married, divorced or separated.
[5] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).
[6] Ibid.
[7] Ibid.

Figure 2: Proportion of Undergraduate Students with Children by Race/Ethnicity and Gender

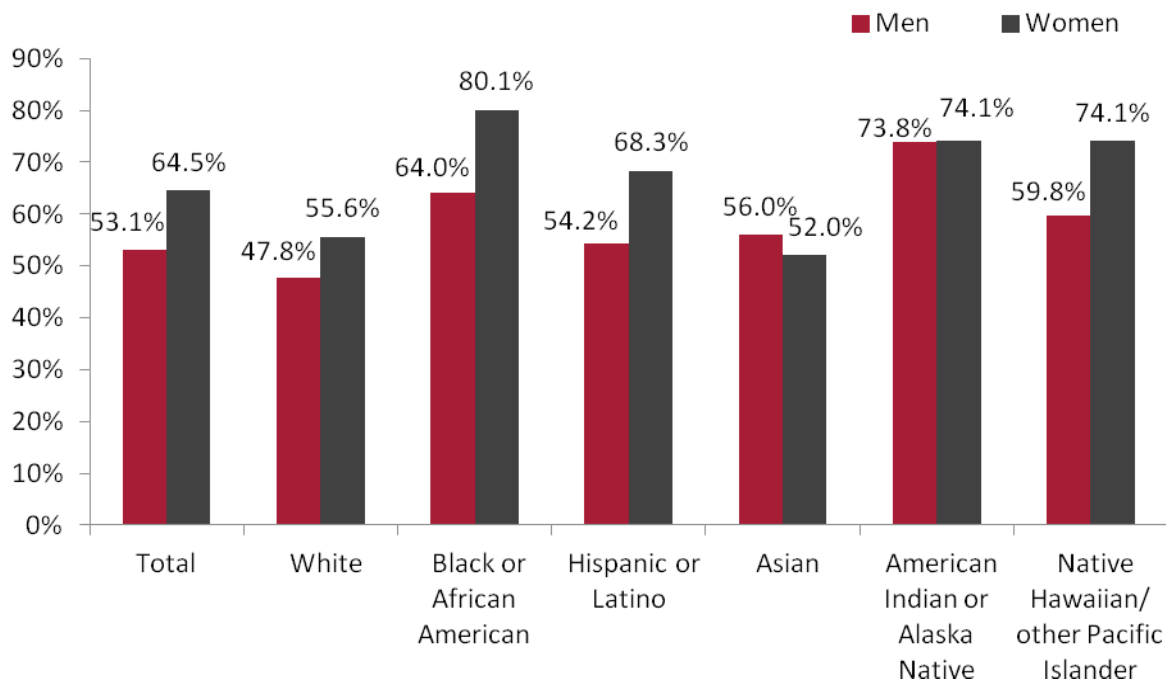


Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

Independent students, low-income students, students of color, women, and student parents are disproportionately likely to have no money to contribute to college expenses (i.e. to have an Expected Family Contribution (EFC) of $0; Figure 3), and to have high levels of unmet need (Huelsman and Engle 2013; Miller 2012).[8] An IWPR analysis finds that 67.3 percent of low-income students have an EFC of $0.[9] Students with children are nearly twice as likely as those without children to have an EFC of $0 (29.6 percent of students with no children, and 61.2 percent of students with children have EFCs of $0).[10] Among student parents, women are far more likely than men to have expected contributions of $0 (Figure 3), and students of color, with or without children, are far more likely than white students to be in this position.[11]

[8] Unmet need is equal to the student budget (tuition and non-tuition academic expenses) minus the EFC and all aid, which includes need-based and non-need based financial aid at the federal, state and institutional level and private grants but not private loans.
[9] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).
[10] Ibid.
[11] Ibid.

Figure 3: Undergraduate Students with Children with an EFC of $0 by Race/Ethnicity and Gender



Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

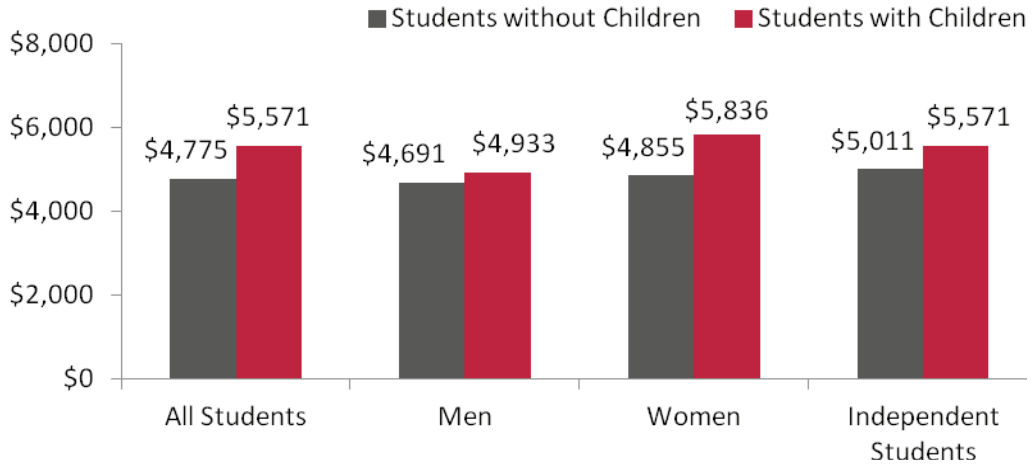
A very small proportion of low-income students with dependent children receive TANF benefits: in 2011-12, among students with children under 50 percent of the FPL, only 7.4 percent received TANF benefits.Huelsman and Engle (2013) point out that the EFC formula, in its calculation of students' Income Protection Allowance, defines a minimum standard of living as 100-150 percent of the federal poverty level, which significantly underestimates what students actually need to make ends meet. Wider Opportunities for Women, using their Basic Economic Security Tables (BEST) Index, calculates detailed estimates of the income required to meet basic needs for more than 400 family types (Wider Opportunities for Women 2010). After accounting for the cost of housing, child care, food, transportation, health care, and taxes, according to geographic location, the BEST Index estimates what a family would need before public or private assistance to maintain a basic standard of living. The BEST Index calculator estimates that, as a national average, a single parent family with two young children would need an estimated $61,044 to make ends meet (Wider Opportunities for Women 2014). In contrast, the Census Bureau's official poverty threshold for a family of the same size is only $18,769 (U.S. Census Bureau 2013).

The maximum Pell grant amount ($5,645 for 2013-14; Federal Student Aid 2013) is low enough to leave many students with significant unmet need. After all sources of student financial aid are taken into account, low-income students have much higher unmet need than their higher-income peers: the average unmet need experienced by low-income students, $6,480, is approximately $1,500 more than the average unmet of all students ($4,985) and approximately

"Going to school and working is the hardest thing I've ever done. I barely get by, and I've been homeless from my lack of ability to make enough money."*

$4,500 more than that of their high-income counterparts (at $1,958).[12] Students with children also experience more unmet need than those without children, and student mothers have more unmet need than student fathers (Figure 4). Student mothers had an average of $5,836 in unmet need in 2011-2012, compared with $4,933 in unmet need among student fathers (Figure 4).

Figure 4: Unmet Need Among Undergraduate Students by Gender, Parent Status, and Dependency Status



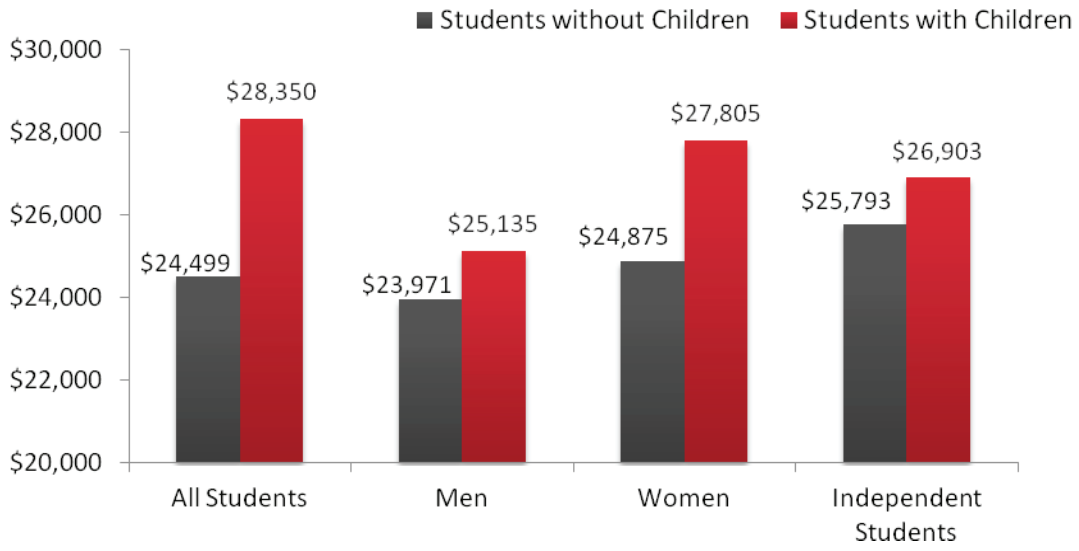
Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

The unmet need experienced by low-income students contributes to high levels of student debt upon graduation. While moderate levels of debt might certainly be a worthwhile investment given expected returns to education, students may hesitate to take on debt if they worry about their own prospects for completion. Among those who graduate college with student debt, women, both with and without children, have higher levels of debt than men without children, and student parents graduate from school with higher levels of debt than students without children (Figure 7). Among students with debt, student parents have an average of $28,350 in undergraduate debt one year after graduation compared with $24,499 of debt among those without children (Figure 5).

* Quotations included in this report come from IWPR's 2013-2014 survey of women community college students in Mississippi (IWPR and Women's Fund of Mississippi, 2014).

[12] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

Figure 5: Average Undergraduate Debt* One Year after Graduation by Gender and Parent Status



*Average debt is for students with some undergraduate debt. Sample does not include students with no undergraduate debt.
Source: IWPR calculations, 2008 Baccalaureate and Beyond Survey data. U.S. Department of Education, National Center of Education Statistics.

Access to Public Assistance Among College Students

Public benefits such as cash assistance and nutrition assistance are important, yet often underutilized, resources that could help make college affordable for many low-income students. Improving access to public benefit programs could help low-income and non-traditional college students meet their financial needs while progressing towards a degree.

A very small proportion of low-income students with dependent children receive TANF benefits: in 2011-12, among students with children under 50 percent of the FPL, only 7.4 percent received TANF benefits.

Temporary Assistance for Needy Families, or TANF, can provide cash assistance to qualifying low-income parents and their families, yet few eligible students receive it. Eligibility requirements for TANF vary significantly by state, with income eligibility requirements ranging from as low as 17 percent of the Federal Poverty Level (FPL) in Alabama in 2011, to 98 percent of FPL in Hawaii, with an average maximum income at 50 percent of the FPL across the states (Kassabian, Whitesell and Huber 2012). A very small proportion of low-income students with dependent children receive TANF benefits: in 2011-12, among students with children under 50

percent of the FPL, only 7.4 percent received TANF benefits.[13] Access to TANF can be difficult, due to onerous application and eligibility determination processes, lack of transportation, and inconvenient appointment times (Waters Boots 2010), and because student parents in many states need to work, to meet TANF work requirements, and few states encourage college attendance as an approved work activity (Center for Postsecondary and Economic Success 2013).

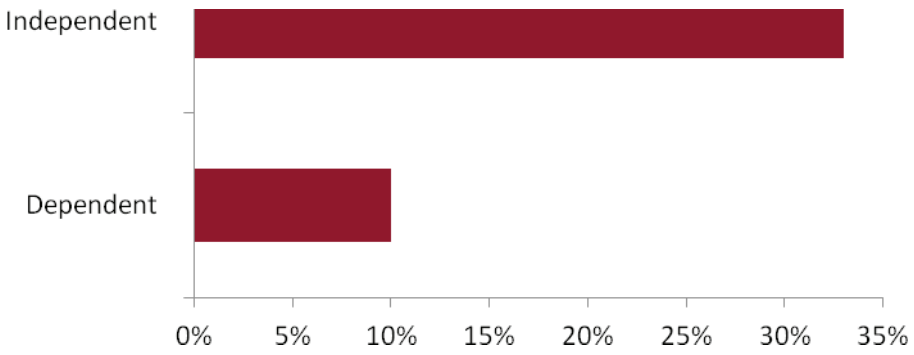
Receipt of Supplemental Nutrition Assistance Program (SNAP), Women, Infants and Children (WIC), and Free and Reduced Price Lunch benefits is more common among low-income students than is TANF receipt. An IWPR analysis showed that approximately one in four students (25.1 percent) below the income maximum for SNAP (130 percent of FPL) receive the benefits, and among student parents at 130 percent of FPL or below, 40.2 percent receive SNAP. Income maximums for Free and Reduced Price Lunch and WIC both fall at 185 percent of FPL.[14] Among student parents at this income level, 17 percent receive Free or Reduced Price Lunch for their children, and 7.2 percent receive WIC, and among those with children under five, 21.7 percent receive WIC benefits.[15] There are no work requirements for WIC or Free and Reduced Price Lunch and the income maximum for each are higher than for TANF qualification (Kassabian, Whitesell and Huber 2012). SNAP has less stringent work requirements than TANF, and students do not have to meet the work requirement for SNAP if they already receive TANF, have children under six years of age, or participate in a work-study program (USDA 2013).

[13] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).
[14] Ibid.
[15] Ibid.

Time and College Affordability Among Low-Income Students

Time must factor into a consideration of college affordability, because if students do not receive sufficient financial aid, they must work, and because both work and family obligations can create time pressure that affects student success. Independent students, a group largely made up of low-income students, students of color and student parents, must often work to bridge the gap between financial aid and the costs of school and daily living expenses. Independent students are roughly three times more likely than dependent students to work full-time in addition to taking classes: 33 percent of independent students worked 40 hours or more a week, compared with only 10 percent of dependent students (Figure 6).

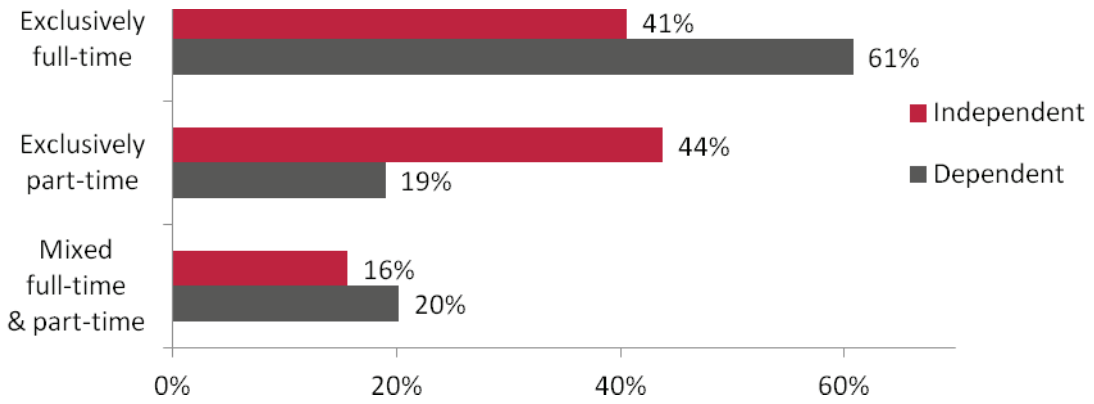
Figure 6: Proportion of Undergraduate Students Who Work 40 or More Hours per Week by Dependency Status, 2011-12



Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

High rates of work among independent students are associated with lower intensity college enrollment. Independent students are twice as likely as dependent students to be enrolled in school part-time (44 percent of independent students attend school part-time, compared with only 19 percent of dependent students (Figure 7).

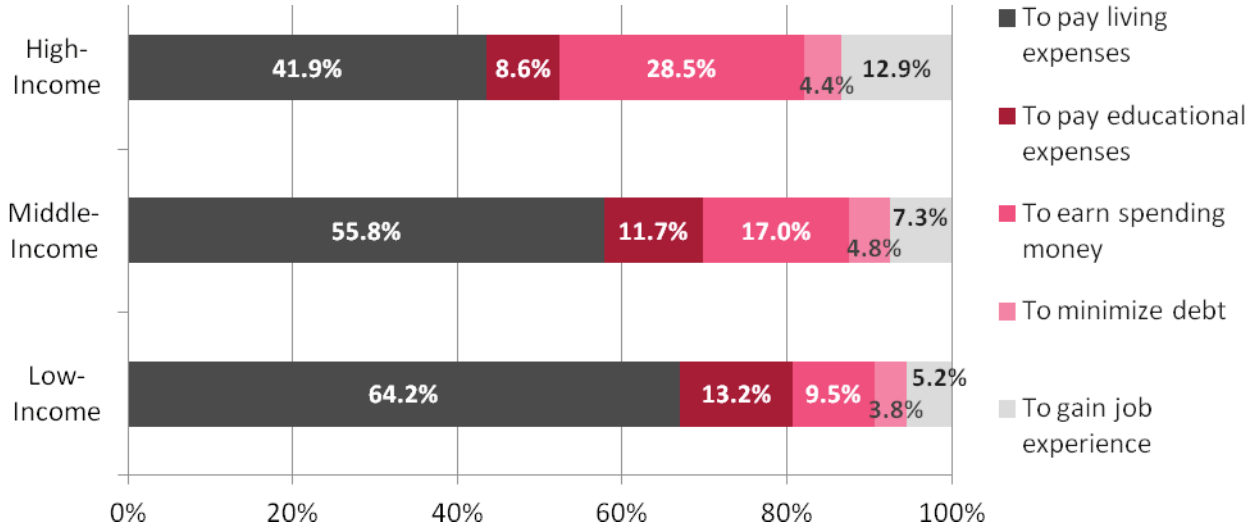
Figure 7: Attendance Intensity Among Undergraduate Students by Dependency Status



Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

While it is not uncommon for college students, across income levels, to work for pay, low-income students are more likely to work out of necessity. According to the 2009 Beginning Postsecondary Longitudinal Study, a large majority of low-income students (64.2 percent) who worked did so to pay for living expenses (Figure 8).

Figure 8: Reason for Work among Undergraduate Students* by Income Level,** 2009



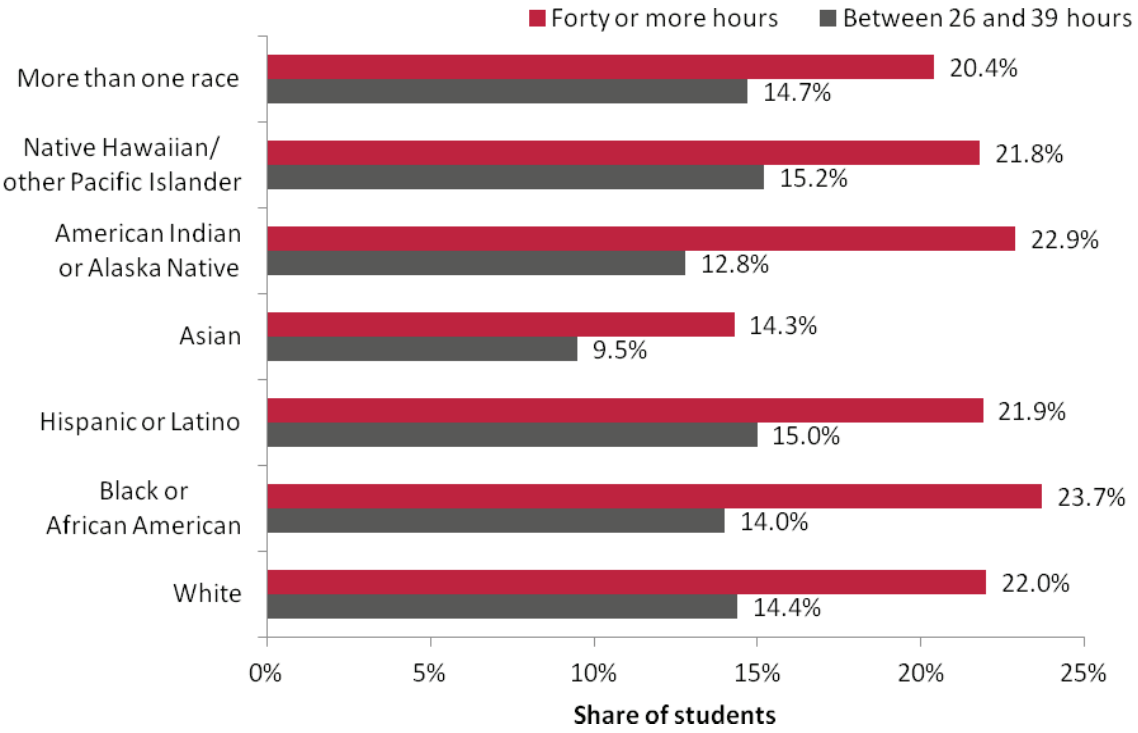
*Population includes individuals who identify as working while studying; not those who identify as studying while working.

** Low-income is at or below 200% of the Federal Poverty Level (FPL), middle-income is defined as between 201 percent and 500 percent of the FPL, and high-income is above 500 percent of the FPL.

Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2003-04 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:04/09).

Black and American Indian or Alaska Native students are more likely than students of other racial/ethnic backgrounds to work full-time (Figure 9). Nearly 23 percent of black and American Indian or Alaska Native students worked 40 hours or more per week while taking classes during the 2011-12 school year. Asian students were least likely to work 40 or more hours (14.3 percent of Asian students worked full time).[16]

Figure 9: Hours Worked per Week Among Undergraduate Students by Race/Ethnicity

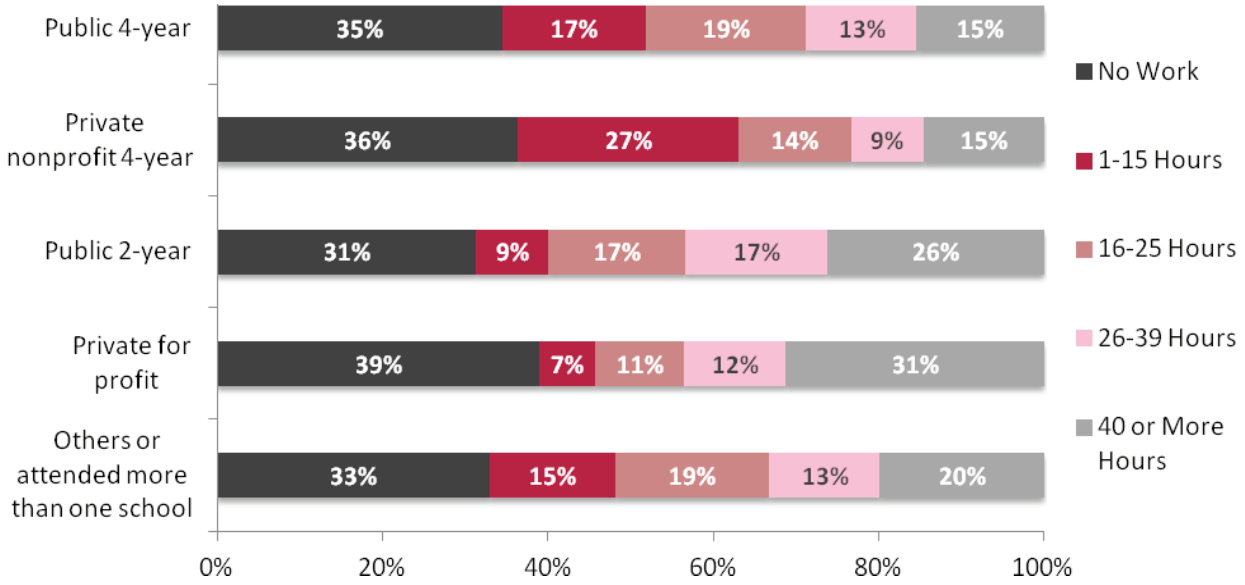


Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

Community college students and for-profit students are more likely to work than students in any other postsecondary education setting. Twenty-six percent of students at public two-year schools and 31 percent of students at for-profit schools worked 40 hours or more during the 2011-12 school year, compared with 15 percent of students in both private and public four-year Baccalaureate programs (Figure 10).

[16] IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

Figure 10: Hours Worked per Week Among Undergraduate Students, by Institution Type



Source: IWPR analysis of U.S. Department of Education, National Center for Education Statistics, 2011-12 National Postsecondary Student Aid Study (NPSAS:12).

More than six in ten student parents work 30 hours a week or more (61.4 percent; Huelsman and Engle 2013) and 29 percent of student parents are enrolled in school less than half-time (i.e. taking fewer than two courses) for at least one month out of the school year. These enrollment patterns endanger student-parents' eligibility for financial aid that is tied to school credit hours, as well as their potential to complete school on time or at (Huelsman and Engle 2013).

In a study using data from the National Longitudinal Survey of the High School Class of 1972 and the National Educational Longitudinal Study (1992 cohort), Bound, Lovenheim, and Turner (2007) examined increasing work hours for students in relation to increasing time to degree and decreasing rates of completion. The authors found a substantial increase in average weekly hours worked by college students from 1972 to 1992 (average work hours rose by 7.8 hours for the full sample), and concluded that these increases contributed to increase in time to degree and reduced completion rates, because students had less time available to them to devote to school. Johnson and Rochkind (2009), in a nationally representative survey of more than 600 adult community college students (aged 22-30) who left school without completing a degree, found that the difficulty of working long hours while attending school was the number one reason cited for non-completion.

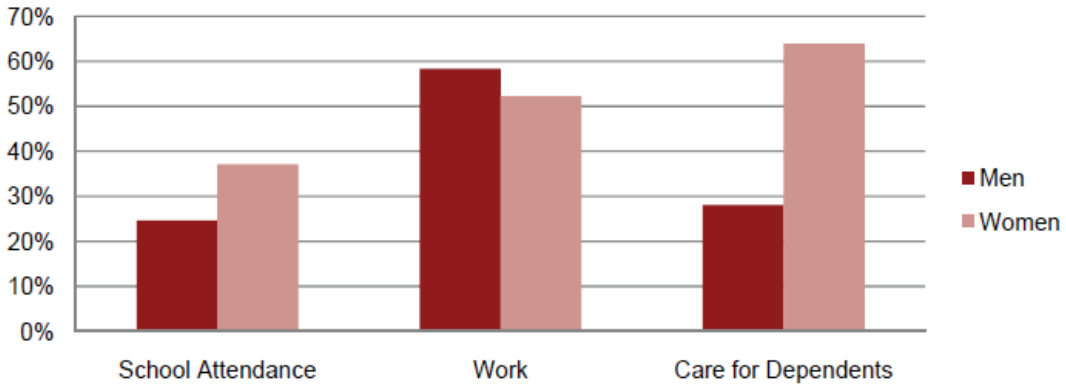
The challenge of working while juggling classes and studying can be exacerbated by unpredictable work schedules. Students often hold low-paid hourly positions (Orozco and Cauthen 2009) characterized by inflexible work schedules, hours that vary considerably depending on business demand, and employers who change work schedules (requiring

students to come in or go home without warning) even after they have been set (Lambert, Halye-Lock, and Henly 2012). The potential for unplanned schedule changes, combined with the general inability to reschedule work hours, can pose problems for students whose days revolve around rigid class schedules and considerable study obligations.

Time Spent on Dependent Care

Students with children have considerable dependent care obligations (Miller, Gault, and Thorman 2011) that stretch both their time and their money. Single student mothers spend large amounts of time caring for children, and are twice as likely as student fathers to spend at least 30 hours per week caring for children (more than 60 percent of student mothers spend 30 hours or more caring for dependents each week (Figure 11).

Figure 11: Full-Time Activities (30 Hours or More per Week) of Single Parents Attending Community College



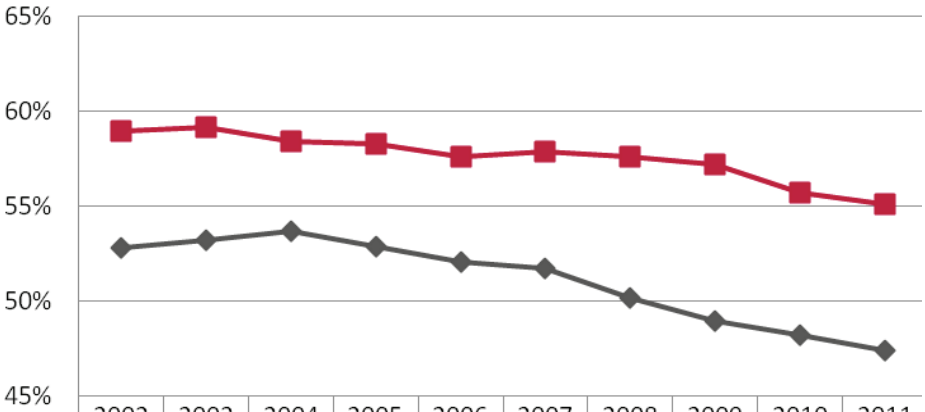
Source: Data on school attendance patterns and work hours derived from IWPR analysis of National Postsecondary Student Aid Study, 2008 undergraduate cohort. Data on time spent caring for dependents was calculated by IWPR from the 2008 Community College Survey of Student Engagement.

Given the large amounts of time that single student parents spend both working and caring for children, it is hardly surprising that they are less likely to complete college within six years than married parents and independent students without children and. Fifty-six percent of single parents who enrolled in postsecondary education in 2003/2004 had left without a degree or certificate after six years. An IWPR survey of current and former student parents who received welfare while in school found that the most common challenge reported by respondents was finding time to study (70.7 percent), followed closely by meeting financial obligations (69.6 percent; Jones-DeWeever and Gault 2006).

> ***"Being a student and a parent are difficult. You have children competing for your attention while you try to concentrate on school… Time is a luxury that most parents do not have."***

Time spent caring for children among student parents might be reduced with greater access to affordable child care. On-campus child care is both scarce and unaffordable for student parents, and the availability of on-campus child care has declined over time (Figure 12), especially at community colleges, where a large number of student parents are enrolled (Miller, Gault, and Thorman 2011). An IWPR analysis found that in 2010, the number of campus child care slots served only five percent of total student parent need for child care in 2010.[17]

Figure 12: Proportion of Public Postsecondary Institutions with On-Campus Child Care



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Community Colleges	52.8%	53.2%	53.6%	52.9%	52.0%	51.7%	50.1%	49.0%	48.2%	47.4%
Public 4-Year Institutions	58.9%	59.1%	58.4%	58.2%	57.6%	57.8%	57.6%	57.2%	55.7%	55.1%

Source: IWPR calculations, Integrated Postsecondary Education Data System. Gunn-Wright and Gault. 2013. *Improving Outcomes for Marginalized Girls in the Secondary Education and Workforce Development Systems.*

Child care is expensive in addition to being difficult to find. In 2013, 19 states had wait lists or had frozen their intake for child care subsidies (Schulman and Blank 2013), with wait times ranging from 90 days to two years (Miller, Gault, and Thorman 2011). The cost of full-time child care ranges from $3,900 to $15,000 a year depending on location, quality, and a child's age (Child Care Aware of America 2012). These costs can make up approximately 25 percent of expenditures for a family of three (Wider Opportunities for Women 2014).

[17] IWPR analysis utilizing data from the National Postsecondary Student Aid Survey, Department of Education enrollment figures, IWPR NCCCC Member Survey, and the 2010 Current Population Survey.

Differential College Outcomes by Gender, Race, and Ethnicity

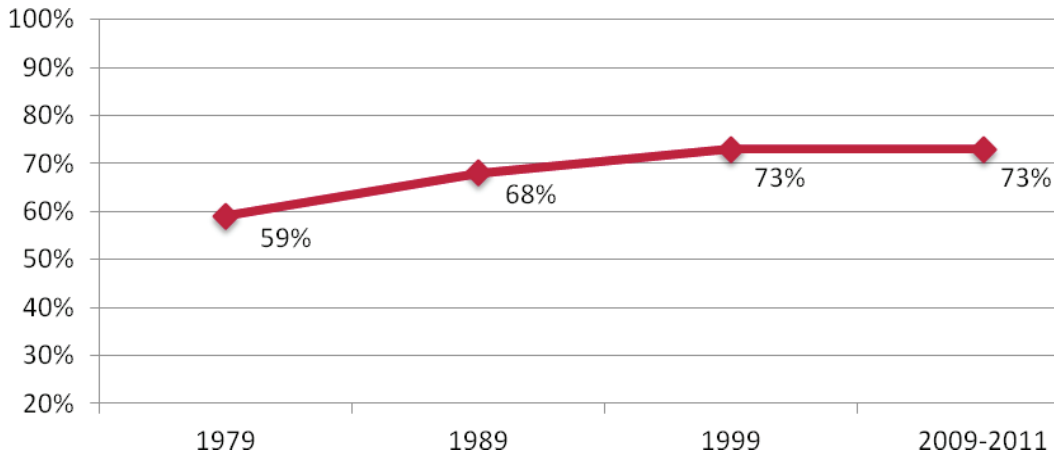
The lifelong economic rewards of higher education are well established (Hartmann and Hayes 2013; Carnevale, Rose, and Cheah 2011), but, the outcomes of college, in terms of completion rates and earnings, vary substantially by gender, race, and ethnicity, and dependent/independent student status. For example, dependent, students are substantially more likely than independent students to receive a degree or certificate within six years. Among students with children who had enrolled in college in 2003/2004, 52.2 percent (and 56 of single student parents) had left school with no degree or certificate by 2008/2009, compared with 50.9 percent of independent students without children, and 29 percent of dependent students.[18]

While women overall are more likely than men to complete postsecondary education, women's racial ethnic background is strongly associated with their rates of completion. White and Asian women, for example, are much more likely than black and Hispanic women to complete a degree or certificate within 6 years of enrolling in college (79.6 percent of Asian women, 68.3 percent of white women, 58.6 percent of Latinas, and 57.2 percent of black women, receive a degree or certificate after six years).[19]

Women and most communities of color also earn less than white and Asian men post-graduation. Women with bachelors' degrees working full-time and full-year earned only 73 percent of what comparable men earned in 2009-2011, and this ratio has remained essentially unchanged since 1999 (Figure 13). A Georgetown University study reports similar trends, finding that female bachelor's degree holders earn over $650,000 less, over the course of their careers, than men with the same degree (Carnevale, Rose, and Cheah 2011).

[18] U.S. Department of Education, National Center for Education Statistics, 2003-04 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:04/09).
[19] Ibid.

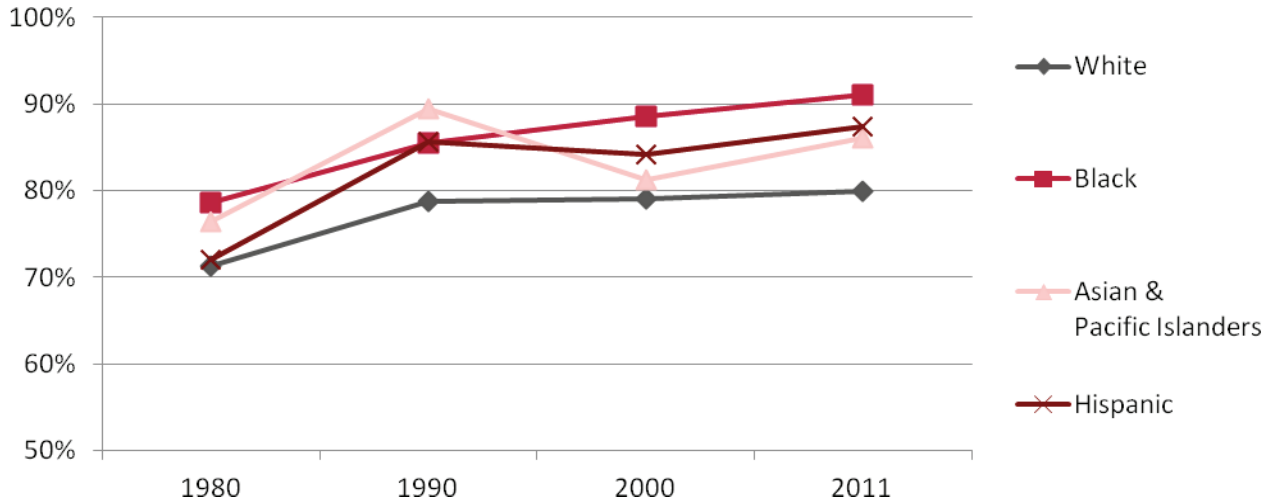
Figure 13: Women's Earnings as a Percentage of Men's for All Full-Time, Full-Year Bachelor's Degree Holders, 1979-2011



Source: IWPR analysis of data from Decennial Censuses (1980, 1990, and 2000) and American Community Surveys (2009-2011), Integrated Public Use Microdata Series (IPUMS, version 5.0).

Even among recent B.A. graduates, men earn more than women who work full-time, full year. In 2011, black women with B.A.s earned 91.1 percent, Hispanic women earned 87.5 percent, and white women earned 80.0 percent of what their male counterparts earned (Figure 16).

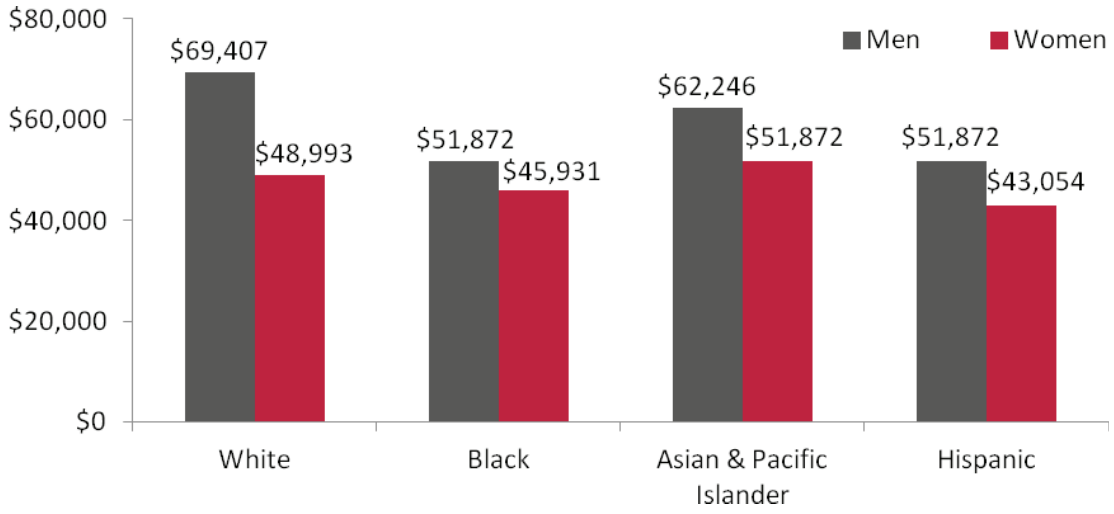
Figure 14: Full-Time, Full-Year Women's Earnings as a Percentage of Comparable Men's Earnings for Bachelor's Degree Holders Ages 25-34, 1980-2011.



Source: IWPR analysis of data from Decennial Censuses (1980, 1990, and 2000) and American Community Surveys (2009-2011), Integrated Public Use Microdata Series (IPUMS, version 5.0).

The gender wage gap persists among all racial/ethnic groups and at all education levels. For full-time, full-year bachelor's degree holders, black men earn almost $6,000 more per year than black women, Asian and Pacific Islander men earn over $10,000 more than their female counterparts, and Hispanic men earn nearly $8,800 more than comparable women (Figure 15). White women with a bachelor's degree have higher median earnings than women of all other racial/ethnic groups except for Asian and Pacific Islander women ($48,993 compared with $51,872, respectively), but still less than comparable white men ($69,407), who unsurprisingly make more than men and women of any other racial/ethnic background (Figure 15).

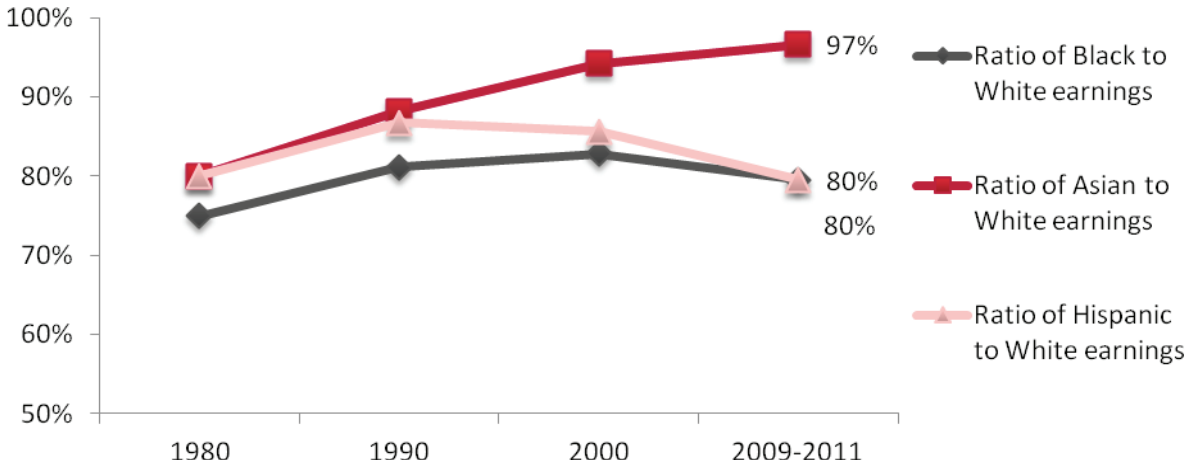
Figure 15: Median Earnings for Full-Time, Full-Year Workers Ages 25 and Older with a Bachelor's Degree by Gender and Race/Ethnicity, 2009-2011



Source: IWPR analysis of data from the American Community Surveys (2009-2011), Integrated Public Use Microdata Series (IPUMS, version 5.0).

Both black and Hispanic full-time, full-year workers with B.A.s earn only 80.0 percent of what comparable white workers earn (Figure 16). Over the course of a lifetime, black workers with a B.A. earn 20 percent less than white workers with equivalent degrees, on average (Carnevale, Rose, and Cheah 2011).

Figure 16: Median Earnings of Bachelor's Degree Holders Ages 25 and Older as Proportion of Comparable White Workers' Earnings, 1980-2011

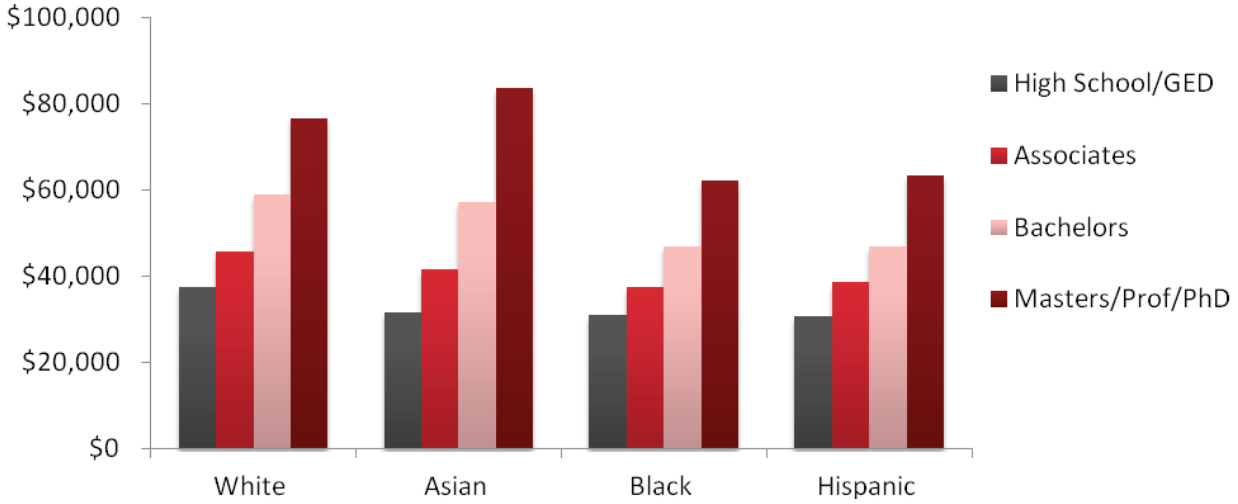


Source: IWPR analysis of data from Decennial Censuses (1980, 1990, and 2000) and American Community Surveys (2009-2011), Integrated Public Use Microdata Series (IPUMS, version 5.0).

Workers of color need more education to reach earnings levels comparable to those received by white workers. Black workers must have a bachelor's degree for their median earnings to equal those of a white worker with an associate's degree, and a master's degree to equal those of white and Asian bachelor's degree holders (Figure 17).

Black workers must have a bachelor's degree for their median earnings to equal those of a white worker with an associate's degree, and a master's degree to equal those of white and Asian bachelor's degree

Figure 17: Median Earnings by Degree and Race/Ethnicity for Full-Time, Full-Year Workers Ages 25 and Older, 2011



Source: IWPR analysis of data from Decennial Censuses (1980, 1990, and 2000) and American Community Surveys (2009-2011), Integrated Public Use Microdata Series (IPUMS, version 5.0).

Differences in major and occupation play a strong role (but certainly not the only role) in racial/ethnic and gender differences in earnings after college in addition to discrimination in hiring and pay. Women and students of color are often concentrated in fields with relatively low wages, whereas men and white students are more concentrated in higher paying fields such as those in Science Technology, Engineering, and Math (STEM). BA degrees in STEM fields, for example, typically lead to relatively high earnings, (such as in chemical engineering, which has median earnings of $86,000 per year) compared with BA's in education ($42,000 per year) or social work ($39,000) (see Figure 18; Carnevale, Strohl, and Melton 2011).

Figure 18: Median Earnings by Major for Full-Time, Full-Year Workers with a Bachelor's Degree

Majors that Earn the Most	Median Earnings	Majors that Earn the Least	Median Earnings
Petroleum Engineering	$120,000	Counseling Psychology	$29,000
Pharmaceutical Sciences and Administration	$105,000	Early Childhood Education	$36,000
Mathematics and Computer Science	$98,000	Theology and Religious Vocations	$38,000
Aerospace Engineering	$87,000	Human Services and Community Organizations	$38,000
Chemical Engineering	$86,000	Social Work	$39,000

Source: Carnevale, Strohl and Melton. 2011. *What's It Worth? The Economic Value of College Majors*. Georgetown University Center on Education and the Workforce.

Women are less likely than men to major in STEM fields, regardless of racial/ethnic background (Figure 19). Men at the associate's degree level, for example, have two STEM fields among their top five most common majors ("computer and information sciences and support services" and "engineering technologies and technicians"). These two STEM majors appear in the top five most common degrees for men of every major racial/ethnic group, whereas no STEM fields are among the top five majors for women of any major racial/ethnic group (U.S. Department of Education, National Center for Education Statistics 2009).

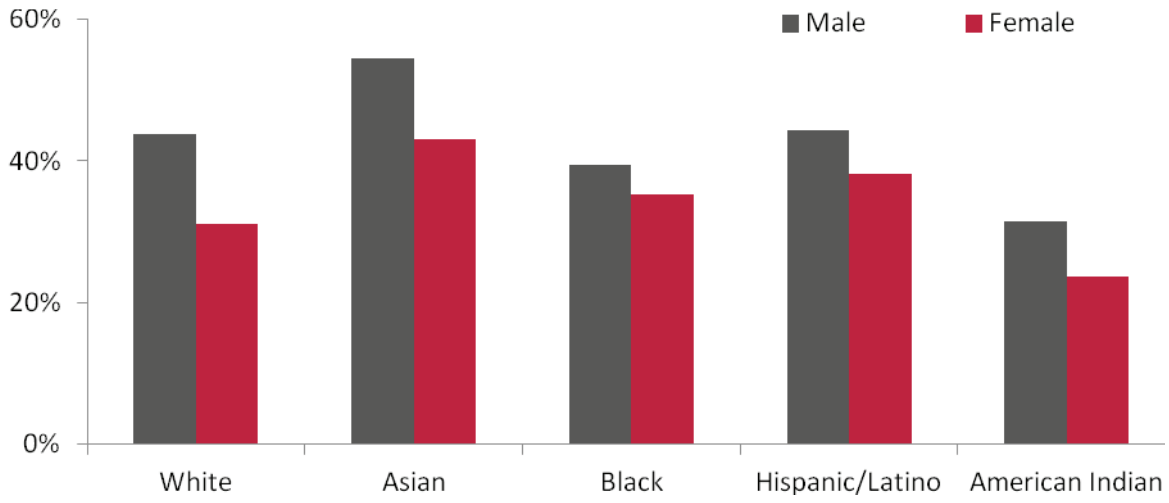
Figure 19: Five Most Common Associate's Degrees for Women and Men by Race/Ethnicity and Gender, 2008-2009

		STEM		Non-STEM						
ASSOCIATE'S DEGREES AWARDED IN:		Engineering Technologies/ Technicians	Computer & Information Sciences & Support Services	Liberal Arts & Sciences, General Studies, Humanities	Business, Management, Marketing, Related Support Services	Health Professions & Related Clinical Sciences	Security & Protective Services	Education	Multi/ Interdisciplinary Studies	Visual & Performing Arts
MEN	**White**	✓	✓	✓	✓	✓				
	Asian	✓	✓	✓	✓	✓				
	Black	✓	✓	✓	✓	✓				
	Latino	✓	✓	✓	✓	✓				
WOMEN	**White**			✓	✓	✓	✓	✓		
	Asian			✓	✓	✓			✓	✓
	Black			✓	✓	✓	✓	✓		
	Latina			✓	✓	✓	✓		✓	

Note: Checkmark indicates that degree is among the top five for that sex and racial/ethnic group.
Source: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2009, Completions component.

In 2010, 56.7 percent of all students enrolled in two-year and four-year institutions were women (National Science Foundation 2013), but only 33.3 percent of female students entering college that year intended to major in science and engineering majors, compared with 44.1 percent of male students (National Science Foundation 2013). Among all racial/ethnic groups, American Indians were least likely to say that they intended to major in a science or engineering field (23.6 percent; Figure 20).

Figure 20: Intentions of Freshmen at All Institutions to Major in Science and Engineering Fields by Race/Ethnicity and Gender, 2010

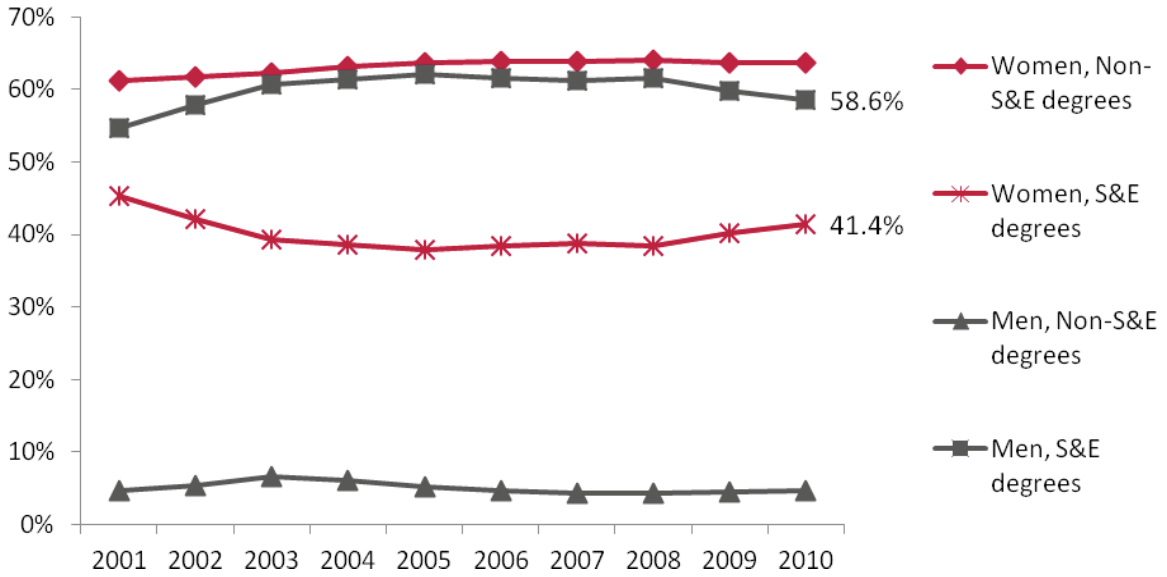


Source: IWPR analysis of Higher Education Research Institute, University of California at Los Angeles, special tabulations (2011) of the Survey of the American Freshman.

Women's underrepresentation in STEM programs at community colleges, is a significant concern since a large proportion of women pursue postsecondary degrees at community colleges, and more women than men in four-year colleges or graduate programs began their scientific careers at the community college level (Starobin and Laanan 2008). While the number of women graduating with associate's degrees grew rapidly between 2001 and 2010, the proportion of associate's degrees in STEM fields (including social sciences) received by women declined from 45.3 percent to 41.4 percent (Figure 21).[20] Only 15 percent of employed women with bachelor's degrees, compared with 32 percent of men, worked in science and engineering occupations.[21]

[20] IWPR analysis of the Integrated Postsecondary Education Data System, Completions Survey, 2001–10.
[21] IWPR analysis of Scientists and Engineers Statistical Data System (SESTAT), 2010.

Figure 21: Proportion of Associates Degrees Awarded to Men and Women by Field,* 2001-2010



*Science and engineering fields include the social sciences.
Source: National Science Foundation, National Center for Science and Engineering Statistics, special tabulations of U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, 2001–10.

Even when women and students of color pursue majors that pay relatively well, they tend to earn less than their white and male counterparts. Among students who earn bachelor's degrees in "business" (a group of majors that includes, for example, accounting, business economics, finance, and marketing) and work full-time, full-year, white workers earn a median of $63,000 per year, Asian workers earn $51,000, Hispanic workers earn $48,000, and black workers earn only $47,000 per year (Carenvale, Strohl and Melton 2011).). Men with degrees in "pharmaceutical sciences and administration" and "computer science" earn roughly $10,000 more than women with the same degrees; with "chemical engineering" degrees, women's median earnings are $20,000 less than men's (Carnevale, Strohl and Melton 2011).

Colleges and universities can play a much stronger role in diversifying access to high quality careers through more widespread implementation of promising evidence-based strategies. Such approaches include sectoral training initiatives and an array of interventions to diversify STEM education, many of which have been funded and evaluated by the National

Colleges and universities can play a much stronger role in diversifying access to high quality careers through more widespread implementation of promising evidence-based strategies.

Science Foundation (NSF). IWPR, for example, reviewed a set of promising programs and strategies that have been implemented at the community college level to improve women's access to STEM careers (Costello 2012). These strategies include provision of child care and other financial supports, recruitment strategies, counseling, advising and academic supports that take women's specific needs and concerns into account, and instructional practices that help to foster women's success. Similarly, NSF has funded numerous tools and evaluated interventions to increase participation in STEM among communities of color at all levels of higher education.

Considerations for Measuring Return on Investment to College for Low-Income Students

The Economic Benefits and Opportunity Costs of Higher Education

Regardless of their economic backgrounds, adults who complete college enjoy strong returns on their investments, despite the high and rising costs of college.[22] Both quantitative and qualitative research unequivocally demonstrates the high value of postsecondary degrees and credentials. A woman with a bachelor's degree, for example, will earn roughly $800,000 more over the course of her lifetime compared with a woman with only a high school diploma (Carnevale, Rose, and Cheah 2011).

Michael Greenstone and Adam Looney (2011) find that returns to college are very high compared with average return rates for other investments, like stocks (6.8 percent), bonds (2.9 percent), gold (2.3 percent), and housing (.4 percent; Greenstone and Looney 2011). The authors estimate that the average return on investment for a four-year degree is 15.2 percent per year. They report that college graduates earn an average of $570,000 more, over a lifetime, than those with only high school diplomas (Greenstone and Looney 2011). They estimate opportunity costs of attending college at approximately $102,000 for a four-year degree, and $28,000 for a two-year degree. Pursuing a college degree instead of focusing exclusively on paid work means that students must delay or reduce their earnings from work, and often must take on debt, which can be especially burdensome for low-income students. For students with children, these factors are compounded by sacrifices in time available to spend with children, high child care expenses, and often by concerns about food or housing security. Intense financial hardship can compromise potential student's ability to see college as a realistic or manageable investment.

> ***"Sometimes I feel like giving up but I know that college is going to provide me with a brighter future. I'm just waiting on my destination."***

College graduates have higher rates of employment, with all the concomitant benefits that it brings, throughout the lifespan. Today, the average American is working longer than in the past, and staying in the labor market past retirement age. Older workers with postsecondary education have higher rates of employment than those with a high school diploma or less (Hartmann and Hayes 2013). The greater likelihood of being employed and working longer among college graduates means that they will enjoy higher lifetime earnings, bringing substantial returns on education into old age (Hartmann and Hayes 2013). These returns are

[22] A 2011 study by the Pew Research Center found that tuition and fees for both public and private universities have roughly tripled since 1980 (Taylor et al. 2011). The median published price for attending a nonprofit four-year institution was $11,093 for the 2013-1014 school year (Baum and Ma 2013).

enhanced by employment benefits experienced more often by workers with a postsecondary education. For example, college-educated workers are more likely to work for an employer who provides a pension plan: 65 percent of bachelor's degree holders and 73 percent of master's degree holders were offered pension plans in 2011 compared with only 52 percent of workers with only a high school diploma (Baum, Ma, and Payea 2013). Prolonged earnings and access to pensions strengthen individuals' abilities to build wealth for their own and their children's futures. A college degree can make it more likely for an individual to improve their overall socioeconomic standing: between 2000 and 2008, 31 percent of middle-class college graduates who attended a four-year institution moved to the top income quintile, compared with only 12 percent of those without an equivalent degree (Baum, Ma, and Payea 2013).

"I want to be able to support myself with a better paying job and become my own person, and college is the first step for me."

Those who have completed college tend to recognize the value of their investments: 86 percent of college graduates surveyed said that college had been a good investment for them, and 84 percent of enrolled students reported that they expected it to be a good investment (Taylor et al. 2011). Enrollees also expected that a higher degree would yield an earnings premium down the road, with respondents estimating increased earnings of $20,000 a year from a bachelor's degree (Taylor et al. 2011). An IWPR study found that student parents in California, despite facing significant challenges, including sacrificing time with children (72.8 percent) and paid employment and earnings (65.2 percent), overwhelmingly reported that postsecondary education had improved their lives. Degree holders also reported that, because of their educational attainment, their children were more likely to express a desire to go to college, make better grades, and improve their study habits, and they, as parents, were more likely to be involved with their children's educational development (Jones-DeWeever and Gault 2006).

Despite strong evidence for the positive returns to education, potential college students often question whether college is a realistic and worthwhile investment. A 2011 study by the Pew Research Center found that 75 percent of Americans think that college is not affordable, and 57 percent think that college provides only a fair or poor value for the money students spend (Taylor et al. 2011).

Factors Affecting Return on Investment

Choice of college and major both have important implications for earnings and return on investment (Gemici and Wiswall 2011). School competitiveness, whether an institution is public or private, nonprofit or for-profit, and the availability of financial aid can all play an important role in students' college outcomes and ultimate return on investment. The likelihood of completion increases with a school's selectivity, even when controlling for differences in student characteristics across schools with varying levels of selectivity (Pender et al. 2012). Less selective schools, while often displaying a lower sticker price than those on the opposite end of the spectrum, have fewer supports, monetary or otherwise, to help their students through their

college careers (Hoxby 2009). More selective schools tend to bring stronger returns on investment for students over the long-term (Hess et al. 2009; Sawhill and Owen 2013).

Hoxby and Avery (2013) have demonstrated that, despite greater potential for financial aid and support, high-achieving, low-income students do not apply to selective postsecondary institutions at the same rate as their high-achieving, high-income peers, choosing instead to attend less selective schools that they feel are more feasible financially (Hoxby and Avery 2013). Similarly, authors Carnevale and Strohl (2013) found that, of students with a high school grade point average higher than 3.5, more than 30 percent of black and Hispanic students attend community colleges, compared with 22 percent of white students. Research has also demonstrated that low-income students "undermatch," or choose a postsecondary institution for which they are overqualified academically, almost half the time, compared with their higher-income peers who do so only about one-third of the time (Smith, Pender, and Howell 2011).

As mentioned earlier, choice of major can have an enormous influence on annual and lifetime earnings, with careers in STEM fields among those bringing stronger returns to college (Carnevale, Strohl, and Melton 2011). On average, a computer scientist with a two-year degree will earn $3 million in his or her lifetime (Carnevale, Rose, and Cheah 2011). Moving toward equality in the distribution of women and students of color in college majors will go a long way toward improving the return on investment for low-income students.

Challenges to Students in Taking an Investment Approach to Education

The difficulty of assessing the potential return on investment of college, and of specific colleges in particular, often in the absence of adequate information, can make the selection process daunting for potential students and their families. As Long (2010) observes, potential consumers of postsecondary education are generally uninformed about the quality and ultimate cost of the college options that they are considering. Long (2010) suggests an expansion of institutional-level data collection based on more holistic measures of college value and affordability, including, for example, data on average aid given to low-income students, the amount of debt incurred by past students, and employment outcomes for both median income families and Pell grant recipients (Long 2010). Indicators of college experience and student success, like data on graduation rates and time to completion, disaggregated by student profiles (e.g. part-time versus full-time, independent versus dependent) and institutional characteristics (allowing comparisons among peer institutions), would also be valuable for evaluating school quality (Long 2010).

Economic insecurity may preclude adults' ability to invest in postsecondary education. For parents, attempting to balance work, school, studying, and family demands, without adequate financial or child care support, can lead to food insecurity, significant sleep deprivation, and sometimes crushing stress (Green 2013). College can become unaffordable if the financial and

time strain takes too great a toll on the health and well-being of a student and her or his family. Faced with the prospect or experience of this kind of strain, students may quite rationally choose to forego postsecondary education or to quit school mid-stream. While students at all income levels can experience stress, pressure, and competing demands with the college experience, for the lowest-income students, these pressures can create a level of toxicity that can make a return on investment calculation unfeasible. Rather than representing an expression of the well-documented human tendency to value smaller short-term gains over larger, longer-term rewards (see Ainslie 2001), dropping out of school, or failing to consider college, becomes a matter of mere survival. Significant public investments can help to eliminate sources of financial, socio-emotional, time, and physical pressures that create short-term, but undeniable, impediments to long-term educational, financial, and social rewards.

Sawady and Tescher (2008), through interviews with 27 residents of a low-to-moderate income neighborhoods, conclude that the limited and unstable nature of resources available to low-income individuals causes them to prioritize short-term needs over long-term investments. Long-term financial planning can be superseded by the urgent need to address immediate financial priorities (such as securing stable employment or housing; Sawady and Tescher 2008). Real-time financial strain can lead low-income students to enroll in institutions with relative low sticker price, but that also yield lower long-term benefits (Hoxby and Turner 2013; Hoxby and Avery 2013). Through this process, students from low-income families are at a greater risk of not capitalizing on college as a means of social mobility and economic security.

Low-income students are often less willing than higher income students to utilize loans and are less likely than higher income students to have access to loan counseling (Burdman 2005). Hispanic and Asian students are less likely than other students to borrow for college, and some research has shown that this can negatively impact completion rates (Cunningham and Santiago 2008). A study using data from the 2003-04 National Postsecondary Aid Survey and the 2004 and 2006 Beginning Postsecondary Students Survey found that for black and Hispanic students in particular, and to a lesser extent, white students, borrowing is associated with improved student persistence and completion (for Asian students, borrowing does not affect degree attainment; Cunningham and Santiago 2008). Some scholars have suggested a need to contextualize the term “debt averse,” to acknowledge that students and families from low-income communities may interpret information on financial aid differently than their higher-income peers, as they often have had different financial experiences that affect their interpretation of spending, saving, consumption, and investment (McDonough and Calderone 2006). In light of the fact that completion rates can be so low among the most financially challenged college students, and specifically single mothers, advice surrounding borrowing for college must be delivered with a solid understanding of how economic and family circumstances affect college completion. It can be argued that interventions like reinstating the summer Pell, or better targeting Pell grants to the neediest students, would do more for low-income students than alleviating their discomfort with student loan debt.

Better access to information about quality college choices, and the financial resources that do exist, could make college a more manageable investment for more low-income students.

Although the Pell is not always adequate to make college comfortably accessible to all low-income students, many eligible students are forgoing the opportunity to benefit from the substantial support that it can bring. For example, in 2007/ 2008, 42 percent of Pell grant eligible community college students did not file the FAFSA (McKinney and Novak 2013). Research finds that high-achieving low-income students often go into the college application process with little awareness of common application practices, such as applying to a mix of "peer," "reach," and “safety” schools, or of the institutional variations that can affect their success in college over time, like instructional resources or graduation rates (Hoxby and Turner 2013).

The limited information available to low-income students stems, in part, from their relative lack of contacts and networks with information to share about college choice, financing, and the application process (Grodsky and Jones 2007; Hoxby and Avery 2013; Gonzalez, Stoner, and Jovel 2003; Plank and Jordan 2001). Scholars have documented a knowledge divide across racial/ethnic and class lines, that restricts socioeconomically disadvantaged families’ access to information on college and financial aid (Grodsky and Jones 2007; Horn, Chen, and Chapman 2003; Immerwahr 2003; Tomás Rivera Policy Institute 2004; Tornatzky, Cutler, and Lee 2002). High student-to-counselor ratios also limit low-income students’ access to information (Parsad et al. 2003). Lack of access to economically and culturally valuable social ties are often described as a lack of social capital. Lin’s network theory of social capital (2001) emphasizes the benefits associated with an individual’s strong and weak social ties that serve as bridges to rich and heterogeneous networks of established connections and relationships (Flap 1991; Lin 2001). In an analysis of Lin’s network theory of social capital, Martin, Simmons, and Yu (2013) explain how this is an effective way of accessing and mobilizing resources: social capital facilitates access to information, can affect decision-makers, offers desirable social credentials, and can legitimize an individual’s identity and social recognition (Martin, Simmons, and Yu 2013).

Bridging the Information Gap for Low-Income Students

A number of interventions can help prepare low-income students and their families to make strong decisions about college. Increasing access to counseling at the high school and college level should be a top priority. Technological tools can help to raise consciousness about the long-term payoffs of college; the possibilities for financing help; “out-of-the-box,” high value career choices; as well as the success and outcomes for students at different colleges. Existing technological tools would be especially valuable if those offering salary information for different jobs were refined to allow students to estimate the costs of their investments in education opportunity costs, and potential long-term gains. To ensure success, however, such tools should be accompanied with real-time counseling. They should be sensitive to, rather than avoid, gender and race/ethnicity considerations; the failure to take such considerations into account results in a misreading of the data. For example, a recent news article, reporting on wage data among students from different colleges across the United States, reported that graduates of women’s colleges have worse employment outcomes, without acknowledging that

women across the labor market as a whole have worse employment outcomes, and without disaggregating data from mixed-sex schools (Stewart 2013).

Expanding access to help with the financial aid application process will also bring significant benefits for low-income students and their families. Bettinger, Long, and Oreopoulos (2009) found that offering free assistance in filing the FAFSA to families making less than $45,000 a year and with family members between the ages of 15 and 30 who did not have bachelor's degree could make a significant impact on college enrollment. The study found that college enrollment increased by 8 percentage points (from 34 percent to 42 percent) for current or recently graduated high school seniors, and increased the likelihood of receiving federal grant aid by 10.6 percentage points for dependent students (Bettinger, Long, and Oreopoulos 2009). Among those who benefitted most from the intervention were independent low-income students who had never been to college: participating in the program nearly tripled FAFSA submissions for these students, from 16.1 percent to 42.8 percent (Bettinger, Long, and Oreopoulos 2009). In addition, Oreoupolous and Pretronijevic (2013) found that students who received help with the FAFSA were 25 percent more likely to enroll and stay enrolled in college.

The Affordability of Higher Education for Society: Benefits for Two Generations and Beyond

For society as a whole, investing in postsecondary education is affordable if the aggregate benefits outweigh the costs, such that public investments in college pay off in the long run. This payoff stems from the economic and social gains associated with successful college graduates, which benefit society at large by increasing earning potential, reducing the need for public assistance, increasing the tax base, and reducing inequality.

Only two percent of bachelor's degree holders ages 25 and older received Supplemental Nutritional Assistance (SNAP) in 2011 compared with 12 percent of high school graduates (Baum, Ma, and Payea 2013). College graduates also contribute to the tax base: workers with a bachelor's degree (comprising 25 percent of all full-time, full-year workers) pay $5,000 more in taxes each year than those with high school diplomas only (comprising 27 percent of full-time, full-year workers; Baum, Ma, and Payea 2013). A more highly educated population also has the potential to reduce health care costs, as college graduates are more likely to have employer-based health insurance and see better health outcomes in their children (e.g. obesity) and practice healthier habits (e.g. regular exercise) over time, compared with less-educated adults (Baum, Ma, and Payea 2013).

College degrees bring important multigenerational benefits that can improve children's economic, educational, and social outcomes, and enhance a family's long-term prospects for socioeconomic mobility (Attewell and Lavin 2007; Magnusen 2007). A mother's educational attainment, for example, significantly predicts of whether her child goes to college. In Attewell and Lavin's (2007) analysis of the City University of New York Longitudinal Study, which surveyed female college entrants in the early 1970s and conducted follow-up surveys with them and their children in 2000, the children of mothers who were in the top quartile of their high school class were 12 percent more likely to go to college than children whose mothers who were less academically successful in high school (Attewell and Lavin 2007). The same analysis showed that the socioeconomic and educational background of multiple generations can affect a child's educational success. After adjusting for the overlapping effects of race, grandparents' income and educational attainment, and mothers' high school success, 36.9 percent of children with high-income grandparents and 33.1 percent of those with grandparents who have a college degree performed well in high school compared with 22.5 and 30.4 percent of their counterparts (Attewell and Lavin 2007).

"The choice to attend college is my way of showing my son how important education is and what one can accomplish when they put their mind to it. Actions speak louder than words. I choose to lead by example."

Another analysis by the same authors of the National Longitudinal Survey of Youth (1979-2000) Mother-Child Sample showed that having a bachelor's degree influences the likelihood of children going to college, and has significant positive effects on five of seven children's educational outcomes after controlling for the mother's characteristics that could influence these outcomes simultaneously (e.g. mother's socioeconomic status, IQ, and high school preparation; Attwell and Lavin 2007). Supporting low-income students' educational attainment can help ensure children's success and promote social mobility across generations (Attwell and Lavin 2007).

Recommendations: Steps Toward Improving Affordability and Returns on Investment

- Create systems and tools to help women and students of color select majors that prepare them for high paying careers.
  - Implement evidence-based, campus-wide initiatives to increase gender and racial/ethnic diversity in STEM careers, including targeted recruitment, curriculum review, employer engagement, and provision of support services for parents. The Federal government can develop incentives to pursue such efforts through existing, expanded, or new funding streams.
  - Encourage or require campuses to track progress in diminishing racial/ethnic and sex segregation in the attainment of high quality degrees as a part of growing efforts to track institutional effectiveness. Equity in outcomes must become a more central component of discussions of institutional effectiveness.
  - Train career counselors and educators in techniques to help students think more broadly about potential careers and to consider high-paying, but potentially unfamiliar, careers.
  - As a part of efforts to develop return on investment calculators, build in features that encourage women students, and students of color to "try on" high-paying, high-demand careers that may be unfamiliar or incongruent with stereotyped gender roles.

- Shift federal and state systems of financial aid to more accurately and completely account for student financial need, to help apportion more aid to students who need it the most.
  - Shift the formula for calculating the Expected Family Contribution (EFC) to allow for a negative EFC with no lower boundary.
  - Modify estimated costs of living in the EFC calculation so that they are based on a self-sufficiency standard rather than a percentage of the official poverty level.
  - Consider increases to Pell for students with the least available resources to pay for college (while maintaining existing levels of support).

- Develop more student and campus supports that acknowledge the multiple demands in students' lives, which often include substantial work and care-giving obligations. Move toward the development of family friendly campus support and financial aid policies. This would include:
  - Building commitment among postsecondary education policy and institutional leaders to improve access to child care for student parents as a national priority.
    - Federal agencies can continue to take an integrated approach toward greater coordination of postsecondary education and early childhood policy.

        - Increased funding for the Federal Child Care Access Means Parents in School program is long overdue (Miller, Thorman, and Gault 2012). Colleges and universities can draw on successful child care program and support models in operation around the country (Boressoff 2013, 2012).

    - Expand efforts to help students access publically provided benefits, such as the Earned Income Tax Credit (EITC), TANF, WIC, and child care subsidies.

        - Examples of existing programs that help low-income students access public benefits include Centers for Working Families, Benefits Access for College Completion, and Single Stop.
    - Develop more targeted scholarships and campus supports for the many students with dependent care obligations, such as inclusive campus policies, programs to increase social connectedness and reduce isolation, health supports, and single-parent housing, in addition to child care support. Performance-based scholarships have been successfully implemented with low-income student parents (Patel et al. 2013).

Approaching affordability interventions with an awareness of the role of gender and race in students' ability to afford college, the decisions they make, and the value they gain from higher education, will help individuals, families, and policy makers make wiser investments in education. Ideally, any interventions to shift institutional and consumer knowledge and incentives should be examined from the perspectives of how they will affect women and communities of color, populations that have disproportionate time constraints, dependent care obligations, and poorer labor market outcomes at all educational levels.

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