Supporting Student Parents in Virginia

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Applied Policy Project
April 2022

Frank Batten School of Leadership and Public Policy

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Acknowledgments

I would like to thank Professor Craig Volden and Professor Kirsten Gelsdorf of the Frank Batten School of Leadership and Public Policy for offering their guidance and support throughout the past year. I am so grateful for your help in both finding a client and navigating the policy evaluation process. I also want to thank Theresa Anderson of the Urban Institute. Thank you for suggesting this topic and providing your wisdom along the way. Learning more about student parents has been an incredibly humbling and rewarding experience, and I am so thankful for your willingness to give your time to this project.

Honor Statement

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

Disclaimers

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

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Key Abbreviations

ASAP: Accelerated Study in Associate Programs

BPS: Beginning Postsecondary Students Longitudinal Study

CCAMPIS: Child Care Access Means Parents in School Program

CCDBG: The Child Care Development Block Grant

CCDF: The Child Care Development Fund

CSAP: The College Scholarship Assistance Program

CUNY: The City University of New York

NPSAS-AC: The National Postsecondary Student Aid Study - Administrative Collection

SCHEV: The State Council of Higher Education for Virginia

TANF: Temporary Assistance for Needy Families

VCCS: The Virginia Community College System

VDH: The Virginia Department of Health

VDSS: The Virginia Department of Social Services

Key Terms

Benefits Navigator: A staff member that helps connect students in need with public benefits and financial aid.

Low-Income: For this brief, I define low-income as anyone living on a salary that is less than 150% of the poverty line.

Student Parents: Students pursuing a college degree while caring for a child.

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Executive Summary

Research suggests that graduating from college benefits both the student and the greater community (Carroll & Erkut, 2009; Cowan & Tefft, 2020). While college completion rates have risen in recent years, not all students are equally likely to graduate. Despite the positive economic returns to a degree, students with children are about twice as likely to drop out of college than students without children (Amour, 2020).

Student parents face a unique set of obstacles to college completion. Caring for a child requires time and resources (Wladis et al., 2018). Student parents struggle to balance their simultaneous roles as caregivers, workers, and students. Student parents are older than the overall undergraduate population and often come from marginalized backgrounds, contributing to feelings of social isolation on campus (Ryberg et al., 2021). About half of student parents qualify as low-income and struggle to fill their basic needs (Spaulding et al., 2016).

The services in Virginia public colleges are inadequate to support the academic success of student parents. This policy analysis reviews the relevant literature, considering the following potential interventions to improve 6-year student parent graduation rates:

1. **Comprehensive Student Parent Support Program:** This program would provide an office, two benefits navigators, tuition waivers, flexible scheduling options, and social supports for student parents on all public college campuses.
2. **Need-Based Grants Through the College Scholarship Assistance Program (CSAP):** This means-tested program would give low-income student parents grant funding. The amount would vary based on income.
3. **Campus Child Care:** This program would establish child care centers on all public college campuses, prioritizing the enrollment of low-income student parents.

To evaluate these alternatives, I consider the cost-effectiveness, feasibility, and equity of each policy. Cost-effectiveness is scored using a quantitative estimate of the additional spending per graduate. Feasibility and equity are qualitatively discussed with reference to political trends and projected beneficiaries under each policy. A successful alternative minimizes additional spending per graduate, maintains high political and administrative acceptability, and benefits historically marginalized groups.

I recommend the implementation of a comprehensive student parent program as the most cost-effective method to improve graduation rates. Implementation should focus on coalition building in the Virginia state legislature. Advocates should emphasize the program as a tool for economic development to gain bipartisan support.

Introduction

Americans have long believed that college provides a path to a better future. This view is well-founded, as research shows there are positive financial, health, and social returns to a college education. A graduate of a 4-year institution earns an average of 84% more than a high school graduate (Porter, 2013). These financial gains can translate to improved health outcomes and longer life expectancy (American Academy of Family Physicians, 2021; Cowan & Tefft, 2020; Sareen et al., 2011). A college degree can reduce unhealthy behaviors while increasing preventative health measures (Cowan & Tefft, 2020). Socially, college graduates are highly involved in their communities. Degree holders are more likely to participate in civic activities and less likely to be arrested (Criminal Justice, n.d.; Perrin & Gillis, 2019). There is even evidence that the children of college graduates have more economic opportunities (T. Anderson, 2020; Konish, 2021). These gains have led thousands of students each year to pursue a postsecondary degree.

In the traditional model of U.S. higher education, young adults ages 18-22 leave high school and go directly into college to become full-time students (Lewis, 2021). The experiences, spaces, and institutions with which they interact occur almost exclusively in a campus setting. Students often rely on their families for financial support, and the majority are white, middle to upper income, single, and without children. Throughout history, students from nontraditional backgrounds have been underrepresented in postsecondary education, with many of these gaps persisting today (Monarrez & Washington, 2020). These disparities have created harmful stereotypes of the "typical" college student, masking the obstacles to graduation for students with more complex backgrounds.

Student parents are people who pursue an undergraduate education while caring for a child. Despite the potential of a college degree to improve quality of life, about 52% of student parents discontinue their enrollment before graduation (Federal Reserve Bank of St. Louis, 2019; Konish, 2021; The Association of Public and Land-Grant Universities, n.d.; Weber, 2021). Parents in college are almost twice as likely to drop out than their childless peers (Amour, 2020). Student parents face a unique set of obstacles to college graduation. Student parents have limited time while attempting to balance caring for a child with schoolwork. Researchers estimate they have only 10 hours per day to eat, sleep, complete coursework, and participate in self-care (Wladis et al., 2018). Students with children are also disproportionately low-income, women, and people of color (Ryberg et al., 2021). This intersectionality of marginalized identities, when coupled with time constraints, makes it difficult for student parents to finance education, secure basic needs, and experience social belonging on campus. *Current services in Virginia public colleges are inadequate to support the academic success of student parents.* Policymakers must pursue methods to boost student parent graduation rates to ensure equitable opportunity and promote the positive externalities of college graduation.

Background

The following section first discusses the relevance of this brief to the Urban Institute. It then outlines both the national and state demographics of student parents. It also provides more detail on the barriers student parents face on the road to graduation, including financial constraints, time

limitations, and social isolation. The causal factors behind low graduation rates determine the formulation of potential solutions. Finally, the consequences of the problem are considered.

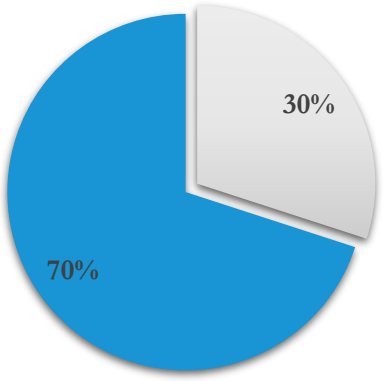
Client Relevance

The Income and Benefits Policy Center at the Urban Institute performs research on the American workforce. Their goal is to provide policymakers with findings and recommendations that will improve the income prospects of employees. In the past, policymakers have used reports from the Urban Institute to inform policy solutions. The Urban Institute can provide background information, efficacy studies, cost analysis, and feasibility projections. Currently, researchers at the Income and Benefits Center are constructing a framework to explain the obstacles facing student parents. They are interested in recommendations that they can take directly to state policymakers. This report identifies strategies that may apply to the state of Virginia, supplementing prior research with a state-specific evaluation of potential interventions.

Demographics of Student Parents

Student parents are one of the largest subgroups of nontraditional students. There are greater than 4 million student parents in the U.S., representing 20% of the total undergraduate population (Nadworny, 2019). Student parents hold identities that diverge from those of students without children. Students with children are older and more likely to come from marginalized groups—70% are women and 51% are people of color (Cruse et al., 2019a). Black students in particular are much more likely to have children than white students. Figure 1 provides a visual representation of gender disparities, and Figure 2 illustrates the racial demographics of student parents.

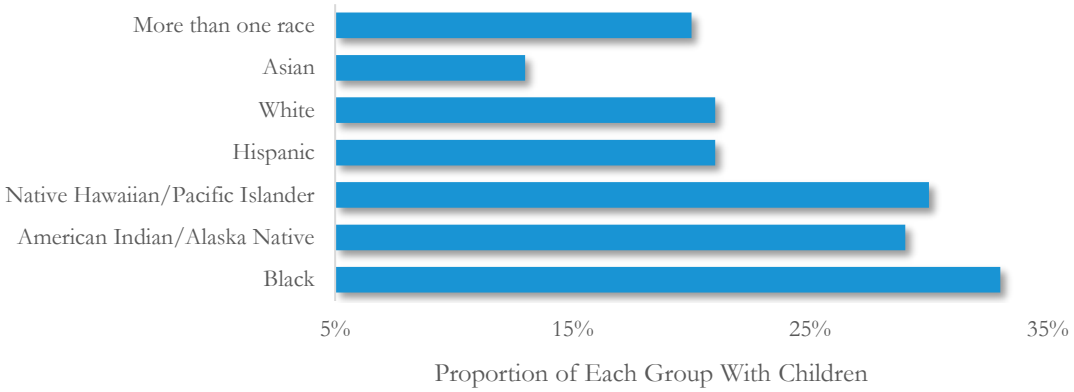
Figure 1: Student Parents Are More Likely to be Women



Notes: Data drawn from Cruse et al. (2019a). Gender breakdown is nationally representative for the year 2016.

Students with children attend different schools than other undergraduates; about 42% attend community college, 18% go to private for-profit universities, 17% enroll in public four-year institutions, and 13% attend private nonprofit institutions (Cruse et al., 2019b). The majority of student parents have children under the age of 5, and approximately 80% have multiple children. About 2.2 million qualify as low income, and of this group, around 43% are employed in addition to their studies (Spaulding et al., 2016).

Figure 2: The Proportion of College Students Caring for a Child Within a Given Racial Identity



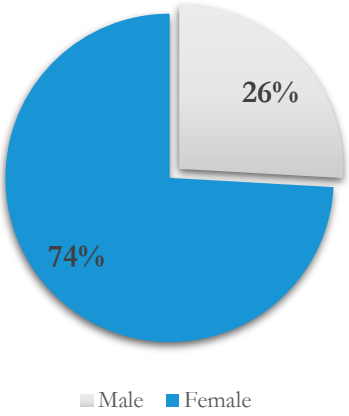
Notes: Data drawn from Cruse et al. (2019a). Each bar represents the likelihood of an individual of a given race having children while in school. Data are nationally representative for the year 2016.

There is a paucity of state-specific data on student parents. The best source comes from the National Postsecondary Student Aid Study-Administrative Collection (NPSAS-AC). The NPSAS-AC is nationally representative and relies solely on administrative data sources. It can generate state-level estimates for Virginia undergraduates in 2-year and 4-year public institutions.[1] In the year 2018, about 16% of Virginia public university students were parents. This rate was slightly below the national average, likely because it did not account for the relatively high rates of student parents in private, for-profit colleges.

The gender disparity between men and women is slightly greater in Virginia. Figure 3 shows that in Virginia, about 3 in 4 student parents are women. Nationally, women represent around 2 in 3 student parents. Figure 4 illustrates the proportion of students within a given race and gender who had dependent children in Virginia public colleges. Similar to nationally representative data, women of all races were more likely to have children than men. More black students reported having children than white students. In particular, about 28% of Black women had dependents while attending college, almost a third higher than the rate for white women. In Virginia, 53.5% of student parents earn an annual income below 150% of the poverty line. All of these trends track closely with national demographic data on student parents.

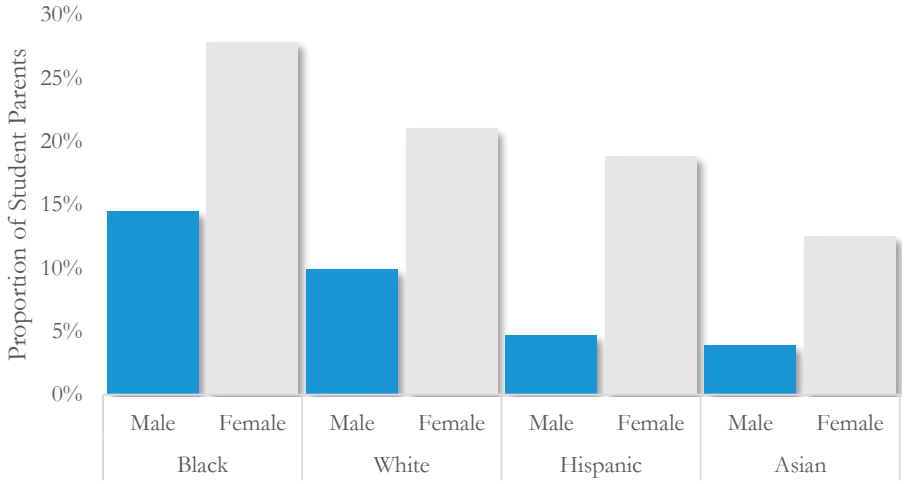
[1] While the study tracks private school students, the sample size is not large enough to restrict at the state level.

Figure 3: Women Are Overrepresented Among Student Parents in Virginia



Notes: Chart created from my own analysis of NPSAS-AC 2018 undergraduate data. Analysis is restricted to Virginia Public Schools.

Figure 4: Percentage of Students With Children by Race and Gender in Virginia



Notes: Chart created from my own analysis of the NPSAS-AC 2018 undergraduate data. I omit estimates for Native Americans, Alaska Natives, Pacific Islanders, and Native Hawaiians because the sample size is not large enough to meet reporting standards.

The Obstacles Student Parents Face in Higher Education

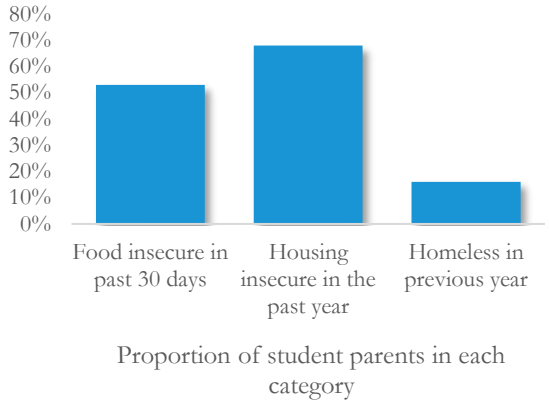
Student parents are about twice as likely to drop out compared to those without children. This gap grows as the demands of the degree type increase. When the outcomes are restricted to bachelor's degrees, student parents are about 10 times less likely to complete their degree than the general student body (Willen, 2020). It may seem straightforward that people with children are more likely to drop out. Less time to study likely means lower grades, making it harder to succeed in class. This line of reasoning points to tutoring and other school readiness interventions as potential solutions. Contrary to this belief, student parents earn higher GPAs than their childless peers (Cruse et al., 2019b). Oftentimes, the desire to support their family increases the parent's motivation to obtain a degree, improving academic performance (Mercado-Lopez, 2021; Roy et al., 2018). Since parenthood is correlated with higher GPAs and more academic drive, there must be other factors that stand in the way of graduation.

Financial Constraints

Student parents are more likely to earn a low income (Spaulding et al., 2016). It costs an average of $233,610 to raise a child through the age of 17 (Lino, 2020). College tuition has continued to increase in recent years (Dickler, 2021). Scholars have shown that financial stressors adversely affect academic performance, student wellbeing, and student outcomes (Joo et al., 2008; Letkiewicz et al., 2014; Mukherjee et al., 2017; Goldrick-Rab, 2018). Goldrick-Rab et al. (2020) surveyed 23,000 parenting students and found that many cannot afford basic needs—53% of parents were food insecure in the last 30 days, 68% were housing insecure in the past year, and 16% were homeless in the previous year (Goldrick-Rab et al., 2020; see Figure 5). In the Virginia Community College System (VCCS) alone, over 50% of students reported experiencing basic needs insecurity (Baker-Smith et al., 2021). Since prior research has found that parenting students are more likely to lack basic needs, that figure likely understates the true extent of the problem (Spaulding et al., 2016).

Qualitative research on student parents shows a lack of monetary support as a chief barrier to graduation. In two separate interviews of student parents in England, researchers found that financial concerns were a reoccurring struggle in higher education (Marandet & Wainwright, 2010; Moreau & Kerner, 2015). These findings were replicated in subsequent studies of student parents in the United States (Sallee & Cox, 2019).

Figure 5: Basic Needs Insecurity Among Student Parents



Notes: Data drawn from Goldrick-Rab et al. (2020). These results come from a survey of approximately 23,000 student parents across the U.S in the year 2020.

Time Constraints

Caring for children is time-consuming. Parents report that they spend an average of 1-2 hours per day caring for their child as a primary activity (U.S. Bureau of Labor Statistics, n.d.). Using regression and KHB decomposition analysis, Wladis et al. (2018) found that after housework, paid work, and child care, parents had only 10 hours per day to sleep, eat, take leisure, commute, study, and engage with the community. In comparison, students with no children had around 21 hours of discretionary time per day. Time spent on child care almost entirely explained this gap (Wladis et al., 2018). These effects were statistically significant, showing student parents often experience time poverty while balancing their roles as parent, student, and employee.[2]

Although child care can alleviate time pressures, it is prohibitively expensive for many student parents (Askarinam, 2016). Virginia has the 6th highest child care costs in the nation, averaging $23,000 per child annually (Devine, 2021; Workman, 2021). The only federal aid program intended for parenting students is the Child Care Access Means Parents in School Act (CCAMPIS). This program provides around $50 million for child care; however, experts estimate the fund only serves around 1% of the parents that qualify (Nadworny, 2019). To earn enough money for child care, parents are forced to work longer hours. In a study that built on the methodology of Wladis et al. (2018), researchers found that having a child younger than 13 years old reduces time spent on schoolwork while increasing the likelihood of enrolling part-time (Conway et al., 2021). This research confirms that without child care, student parents have less time to dedicate to their studies. Even student parents who can afford child care may struggle to find options that align with the

[2] Time poverty is a condition in which a person does not have enough time for daily tasks. Time poverty applies to many groups external to student parents and can harm mental and physical health. Some research suggests that the feeling of not having enough time can have the same adverse health effects as unemployment. For more information, see Giurge & Whillans (2019) & Hyde et al. (2020).

needs of a college schedule. All of these factors push student parents to discontinue their enrollment.

Social Isolation

Scholars have found that social exclusion and poor structural support harm student parent wellbeing. In line with stereotypes of the "traditional" college student, campuses are often built for individuals without dependents. Under this assumption, class schedules and extracurricular activities overlap with family obligations (Peterson, 2016). Compounding this issue, many student parents live off-campus where it can be much harder to engage in student life (Mahaffey et al., 2015). In qualitative interviews, student parents frequently express feelings of social isolation from their peers (Mahaffey et al., 2015; Moreau & Kerner, 2015; Rhijn, 2014). Research has shown that increased involvement in campus activities is positively correlated with the likelihood of graduation (Mahaffey et al., 2015). This finding has led many to argue that social exclusion is a major driver of low completion rates.

Consequences of Low Student Parent Graduation Rates

The failure of a student parent to graduate harms both the individual and the greater community. Given the Income and Benefits Center's goal to improve economic equity, the following section focuses on financial and macroeconomic consequences.

Financial

Student parents who drop out are less financially stable than those that do not. A graduate of a four-year institution earns 84% more on average than a high school graduate, and a community college graduate earns about 16% more (Porter, 2013). Researchers have found that over their lifetime, single mothers with bachelor's degrees earn about $600,000 more than those with high school diplomas (Mercado-Lopez, 2021). People who fail to graduate not only forfeit higher salaries; they also leave school with debt. Student parents accrue more debt during their academic careers. On average, single student parents have about 20-30% more debt than other student groups one year after graduation (Institute for Women's Policy Research, 2012). As a result, a student parent that drops out likely owes more than a student without children. Those that take out loans but do not complete college are more likely to be unemployed and default (Whistle, 2019).

Health

Earning a low income is associated with negative health outcomes, mental health disorders, and a lower life expectancy (American Academy of Family Physicians, 2021; Cowan & Tefft, 2020; Sareen et al., 2011). These consequences are not limited to student parents that drop out—the lack of support on college campuses can cause health strains while student parents attend school. About 40% of student parents experience stress that impacts both their mental health and educational attainment (The Aspen Institute, 2021). This strain hurts both the parent and the other members of their household. Parental stress causes behavioral problems in children, marital issues, and ineffective parenting practices (Neece et al., 2012). Tight schedules could further reduce the time that parents spend with their families, exacerbating familial conflict. Mental health pressure and time strain can also decrease workplace productivity, reducing income and exacerbating needs insecurity.

Macroeconomic Consequences

The individual costs of dropping out harm the greater community. Researchers have found that a 27-percentage point increase in graduation rates for one class of students would lift 48,000 people out of poverty (Whistle, 2019). It stands to reason that increases in student parent graduation rates would generate similar effects, albeit on a smaller scale. Higher earnings can spur investment in new technology, resulting in innovation and growth. Dropout rates also impact the strength of political institutions. People who do not graduate from college are less likely to participate in civic activities than those that do even after controlling for baseline differences in college selection (Perrin & Gillis, 2019). Single mothers that do not earn a bachelor's degree contribute $200,000 less in taxes over their lifetime, suggesting the dropout rate reduces government revenue (Mercado-Lopez, 2021).

College can also have a positive impact on social behavior. Individual health outcomes impact the greater community. College graduates are more likely to be healthy, benefiting their local community through lower health costs and hospitalization rates. Low college completion rates could also increase crime. States with greater college enrollment rates experience less crime on average (Criminal Justice, n.d.). While this evidence is correlational, it stands to reason greater earnings would disincentivize criminal activity.

Review of Research and Literature

In response to low student parent graduation rates, a small number of colleges have implemented strategies to expand access to aid and lower the barriers student parents face. Although specific interventions vary, the majority fall into one of the following four categories:

1. Relieving Basic Needs Insecurity
2. Providing Need-Based College Grants
3. Redesigning Campus Life and Infrastructure
4. Making Child Care Affordable

Empirical research on methods to boost student parent graduation rates is sparse; however, there is an extensive body of evidence that examines the effect of relieving basic needs insecurity and increasing access to need-based grants on general student outcomes. Comparable studies of the effect of affordable child care on work participation also provide benchmarks to assess the potential of such programs to improve time availability. Additionally, there is a growing body of qualitative data from both scholars and policymakers on the first-hand experiences of student parents. Using this evidence, the following review of research and literature attempts to understand the applicability of these strategies to Virginia.

Relieving Basic Needs Insecurity

While there is limited data on the accessibility of aid to student parents, prior research has shown that low-income students struggle to receive public benefits. In a survey of 10,671 community college students in Virginia, researchers found wide gaps between those that qualified for aid and those that received it. Of the students that experienced basic needs insecurity, only 54% received public assistance (Baker-Smith et al., 2021). The Temporary Assistance for Needy Families Program (TANF) provides money to low-income families, but it only reaches around 15 of every 100 eligible families in Virginia (Meyer & Floyd, 2020). This average is about 8 percentage points lower than the national average. Some colleges in the VCCS system have campus supports to assist students. Of students that were eligible for these programs, 71% believed that they were ineligible, 46% did not know the program existed, and 46% did not know how to apply (Baker-Smith et al., 2021). While this survey did not focus on student parents, the time constraints of caring for a child, working, and attending school make it even more difficult to navigate the complexities of the aid system (Wladis et al., 2018).

Many schools have focused on interventions that make preexisting benefits more accessible. Saint Catherine's University in Minnesota maintains student parent graduation rates that are comparable to their general student population (Demeules & Hamer, 2013). Scholars attribute much of this difference to Access and Success, a program to support student parents. The Access and Success model connects student parents with preexisting resources, such as students interested in babysitting and the National Diaper Bank Network. Since the student body of Saint Catherine's University is systematically different from other schools, these results may not generalize to other contexts.

In Virginia, there are no targeted interventions for student parents. There have been some efforts to reduce basic needs insecurity among the general student population. In May of 2021, the VCCS implemented Single Stop, a program that provides benefits screening, application assistance, tax preparation services, and counseling (Babb, 2021; Zhu et al., 2018). Prior research using propensity score matching has suggested Single Stop improves semester-to-semester retention (Zhu et al., 2018). In Virginia, this program is primarily virtual and strictly limited to needs-based interventions. While virtual Single Stop modules may help student parents, the size of the graduation gap signals a need for more high-touch, targeted interventions.

> *"College at this point in 2020 is extremely hard…Making sure the kids are fed. Doesn't matter if I eat only one meal a day. Hours being cut at work. Feeling exhausted with high anxiety and stress. Needing money to help with daycare [and] put food on the table. Hoping that you get a grant check from school and then realize that you won't and you've been expecting some kind of money to buy the kids some shoes or a snack." – VCCS Student in Baker-Smith et al. (2021)*

Many colleges have installed benefits navigators to assist students. Benefits navigators are staff trained to connect students with public benefits and financial aid. In Oregon, legislators passed HB2835 during the 2021 regular session (Powell, 2021). This bill requires all public universities to hire a general benefits navigator on their campus. It will take colleges time to fully implement the program, but the evidence from less intensive interventions such as Single Stop suggests it could be highly effective. A benefits navigator program targeted specifically toward student parents has potential for Virginia. These staff would create explicit connections between public administrators and benefits offices, streamlining the assistance process (Gault & Reichlin, 2016). The gap in awareness of services also suggests an opportunity for staff to conduct targeted advertisements to student parents. They could work personally with student parents, serving as a source of information and emotional support during college.

Providing Need-Based College Grants

There is a vast body of evidence that argues need-based aid is highly effective to boost student graduation rates (D. M. Anderson et al., 2019; Bettinger, 2004; Castleman & Long, 2016; Dynarski, 2003; Scott-Clayton, 2011). The rising cost of college imposes a significant barrier on student parents (Dickler, 2021; Hall, 2018; Mahaffey et al., 2015). It translates that direct financial aid could improve college graduation rates. Goldrick-Rab et al. (2016) conducted a randomized control trial in Wisconsin. The researchers exploited a random lottery to observe the effect of grant funding on low-income students, finding it increased on-time graduation rates by about 5 percentage points. These results were statistically different from zero (Goldrick-Rab et al., 2016). Castleman & Long (2016) conducted a regression discontinuity experiment in which they compared students just above the cutoff in eligibility for Florida Student Access Grants (FSAG) to those just below the cutoff.

They found that eligibility for $1,000 in FSAGs led to a 4.6 percentage point increase in the likelihood of graduation in 6 years with a bachelor's degree (Castleman & Long, 2016). In a study directed at state grants, Franke (2014) found that a $1,000 increase in state-aid raised the likelihood of graduating in 6 years with a bachelor's degree by about 2.4% from baseline (Franke, 2014). A key limit to each of these studies is their generalizability to student parents; if students with children respond differently to aid than those without, the effect size could change.

Some policymakers have called into question the ability of financial aid to improve student outcomes (Goldrick-Rab et al., 2016). In a follow-up study of the Wisconsin grant lottery, Anderson et al. (2019) examined the program across multiple cohorts of students. While the researchers confirmed it reduced the time to degree completion for some students, they did not find that the program had a statistically significant effect on graduation rates (D. M. Anderson et al., 2019).

The empirical evidence generally supports need-based grants, but not all are structured to maximize impact per dollar spent. In a meta-analysis of recent experiments, scholars found that explicitly linking grant programs to academic incentives or support services increased gains (Deming & Dynarski, 2009). In a study of the West Virginia PROMISE Program, a need-based grant that requires a minimum GPA, researchers found that academic improvements were most pronounced around scholarship renewal periods (Scott-Clayton, 2011). Clotfelter et al. (2018) studied a grant program in North Carolina both before and after administrators added a variety of non-financial services. They found that the program only had positive impacts on student graduation, credit totals, and average GPAs when paired with non-financial support (Clotfelter et al., 2018).

Grant aid could also increase the number of student parents who enroll in public colleges. Deming and Dynarski (2009) conducted a meta-analysis in which the researchers concluded that eligibility for a $1,000 college subsidy increases college attendance rates by about 4 percentage points, or about one-third from a baseline of 12% (Deming & Dynarski, 2009). Higher enrollment of student parents would increase the number of graduates; however, it could also raise the number of student parents that drop out before completing a degree.

This research suggests that need-based grant programs targeted toward student parents could improve graduation rates. It also shows that these programs can increase enrollment in college. To ensure students that enroll complete their degree, new grants could have attachments to non-financial support programs. Policymakers in Virginia should consider connecting aid programs to take-up rates for existing academic services (e.g., Single Stop). These academic services should not require large time investments so that they do not strain the concurrent issue of time poverty.

Redesigning Campus Life and Infrastructure

There is little causal research to demonstrate the direct impact of social involvement on campus. In qualitative interviews, Moreau & Kerner (2015) found that student parents tend to be concentrated in particular majors (e.g., nursing, education). The researchers found high rates of social isolation across student parents; however, those in majors with higher numbers of parents reported feeling less ostracized on campus (Moreau & Kerner, 2015). This finding provides suggestive evidence that support groups can raise graduation rates. Social isolation is associated with a variety of negative effects that could impact graduation rates (Tulane University, 2020). Since increased time with fellow students decreases these feelings, facilitating campus connections could improve outcomes. More research is needed to establish causality.

> *"I was in this room full of all these young people and I thought, 'What am I doing here?' I felt ridiculous…I felt out of place. I felt silly. I started to question myself" – Faye in Rhijn (2014)*

Multiple benchmark programs provide student parents with communal spaces and peer support. At the University of Alabama, administrators provide an online forum for student parents to discuss shared struggles. The University of Minnesota- Twin Cities hosts student parent lunches. Some colleges have even installed family resource centers that provide child-friendly areas to study, meet other students, and exchange resources (Kruvelis, 2017). Policymakers have also considered reworking class schedules to be more flexible (Gault & Reichlin, 2016). This can include either block scheduling or classes at irregular hours. All of these methods would help student parents feel welcome in the broader campus community.

Affordable Child Care

There is a reasonable body of qualitative evidence that child care can help student parents achieve their goals (Baskerville, 2013). In an early study, Fadale et al. (1991) distributed surveys to 27 State University of New York child care centers. They found a positive relationship between campus-based child care and student parent performance, enrollment, and persistence. Studies have since found students who use campus child care are more likely to return the next year than those who do not (Willen, 2020). Since the parents that use campus child care may be systematically different along observed and unobserved characteristics, this research is not conclusive.

Studies of child care funding levels and female workforce participation provide further evidence that child care may impact graduation rates. Peterson (2016) exploited state-level variation in requirements for Child Care Development Fund (CCDF) benefits—a federal grant that helps low-income parents afford child care. While they had a small sample size and were not able to detect a statistically significant effect, the researchers found that student parents were more likely to graduate in states with fewer restrictions on access to CCDF funding (Peterson, 2016). There has been more research into the effect of child care on mothers' participation in the labor force. Morrissey (2017) conducted a meta-analysis in which she found that on average, a 10% reduction in the price of child

care would result in a 0.5-2.5% increase in female employment (Morrissey, 2017). Child care presents similar obstacles to participation in the labor force as it does to attendance in college. These results are not conclusive, but they suggest that child care could increase the ease of college attendance for student parents.

The Monroe Community College Institutional Research Office has generated the best empirical evidence of the impact of campus child care on student parent outcomes (DeMario, 2019; Monroe Community College, 2013). Researchers found that 41.2% of student parents that used on-campus child care graduated and/or transferred after 3 years. Among students that did not use the service, only 15.2% graduated and/or transferred. The researchers conducted a follow-up study on a different campus that found 27.9% of students that enrolled their child graduated on time. Those who did not had an on-time graduation rate of 7.9%. The differences in graduation rates may be partially due to the unobservable differences between the two groups. However, subsequent studies have further supported the magnitude of the results. Researchers at WorkRise used observational evidence from child care on university campuses in Georgia, along with further work from Barbara Gault and Lindsey Reichlin Cruse, to confirm that child care boosts graduation rates by an average of 20 percentage points from baseline (Adams et al., 2022).

The availability of campus child care has declined nationwide (New, 2016). Public universities cite budget cuts, the complexities of insurance, and a lack of capacity to justify removing these services (Krupnick, 2017). In Virginia, state funding for higher education has declined for years and remains concentrated in universities with greater numbers of high-income students (Kolenich, 2021). Student parents typically qualify for aid from the Child Care Development Fund (CCDF). This program has struggled to keep pace with the rising cost of child care and does not meet the needs of 8 in 9 children under the age of 6 (Gibbs & Falgout, 2022). Child Care Access Means Parents in School (CCAMPIS) remains the only federal aid program targeted toward student parents. Though it was recently expanded, the program is still underfunded nationally (Nadworny, 2019). The Virginia Community College System (VCCS) recently received a CCAMPIS grant for approximately $400,000 over the next four years; however, this is hardly sufficient to support the thousands of students with children they serve (Northern Virginia Community College, 2020).

Cost and feasibility remain key obstacles to the successful implementation of campus child care initiatives. Virginia-specific policy proposals to increase the accessibility and affordability of child care for student parents exist (Long, 2017). These suggestions, coupled with CCAMPIS funding, suggest Virginia is open to increasing child care accessibility. Despite the high cost of child care, successful benchmark programs at institutions outside the state of Virginia are currently in operation (Cleary, n.d.; DeMario, 2019; Fadale et al., 1991). Any attempt to expand child care on campuses in Virginia should reference stakeholders at these institutions for best practices.

Lessons from the Literature

Based on the existing evidence, there are four primary lessons for interventions in the state of Virginia.

1. Benefits Navigators Have the Potential to Reduce Basic Needs Insecurity

Many students in the VCCS that are eligible for benefits do not receive them. While Single Stop has the potential to improve accessibility, new legislation in Oregon suggests that in-person benefits navigators focused on student parents would provide the best support.

2. Grant Programs Boost Enrollment and Graduation Rates; Most Effective When Paired with Supports

Targeted grants to student parents would increase both enrollment and graduation rates. The success of academic need-based aid attached to non-academic support services shows there is potential to modify preexisting grants to improve efficacy. Requiring Single Stop modules for grant eligibility and expanding these modules beyond the VCCS would improve student parent achievement.

3. Support Groups and Resource Centers Reduce Feelings of Isolation

Student parents may benefit from office spaces and social support groups on campus. While there are no empirical studies of social interventions to date, feelings of isolation among student parents—and the relatively high feasibility of these options—suggest they merit consideration from policymakers.

4. Campus Child Care Is the Most Effective Method to Improve Graduation Rates

While many schools have struggled to maintain campus child care due to its high cost, it is one of the best options to improve student parent graduation rates. It would greatly increase the time available to student parents, and it could relieve both the financial and social burden of caring for a child.

Alternatives

Based on the lessons from the literature, this brief generates the following three policy alternatives to improve student parent graduation rates.

1. Implement a comprehensive student parent support program in all Virginia public universities
2. Increase need-based grants to student parents through the College Scholarship Assistance Program (CSAP)
3. Require all Virginia public colleges to provide on-campus child care to low-income student parents

Each alternative is outlined in detail below.

Alternative 1: Implement a Comprehensive Student Parent Support Program in all Virginia Public Colleges

Under the proposed alternative, the state legislature would pass a law directing the Virginia Department of Health (VDH), the Virginia Department of Social Services (VDSS), and SCHEV to create a student parent program on all public college campuses. The program would consist of the following resources:

1. A campus office with child-friendly study spaces
2. Tuition waivers for students with a gap need
3. Two benefits navigators focused on student parents in each office
4. Early registration and flexible scheduling options for student parents
5. Student parent resource groups, including parenting classes and social events

Each component of this alternative has been successful in other contexts. Oregon provides both benefits navigators and family resource centers on public college campuses (Green & Galison, 2021; Powell, 2021). This alternative restricts eligibility for benefits navigators to student parents, and it would open an office at every public college. The City University of New York's (CUNY) Accelerated Study in Associate Programs (ASAP) waives tuition that exceeds the financial aid award of low-income students. Researchers found positive impacts on graduation rates (*CUNY Accelerated Study in Associate Programs (ASAP) Overview*, 2021). This alternative would incorporate the same waiver for low-income student parents. For this brief, I define low-income as anyone earning 150% or less than the federal poverty line. Finally, the alternative builds on Access and Success at Saint Catherine's University in Minnesota through the inclusion of social events and scheduling support services.

Offices and social events would be available to all students with children; however, low-income student parents would receive priority for benefits navigators. Funding would be shared between the state government, the VCCS, and public universities. The majority would originate at the state level. The State Council of Higher Education for Virginia (SCHEV) has a stated goal to cover 67% of the

cost of college attendance by 2030, an 18-percentage point increase from current levels (The State Council of Higher Education for Virginia, 2021). This proposal would have the state legislature dedicate some of this new funding to support student parents. Individual college campuses would administer the program.

Benefits navigators would work with student parents to schedule classes and apply for financial aid. Navigators could help parents find child care, attain public benefits, and complete their FAFSA. They would also administer all resources, such as social connectivity events.

Alternative 2: Increase Need-Based Aid to Student Parents Through the College Scholarship Assistance Program (CSAP)

This alternative increases CSAP grants to student parents to more accurately reflect the cost of raising a child. Alternative 2 targets the high levels of needs-insecurity and college debt among student parents. It also functions as a financial incentive for student parents to attend public colleges as opposed to private, for-profit universities.

Many other countries provide student parents with additional funding to reflect their unique financial obstacles. In Canada, the federal government awards student parents $1,200 per child annually (Miller, 2019). While Virginia does not control federal Pell Grant allocation, the state provides additional need-based aid through the College Scholarship Assistance Program (CSAP). Eligibility for funding is determined by the FAFSA. This alternative would maintain the preexisting CSAP administration framework and eligibility requirements; however, the state legislature would increase CSAP funding for student parents.

Current eligibility standards under CSAP restrict payments to in-state students taking at least 6 credits with an expected family contribution of below one-half the cost of attendance (College Grants, n.d.). Additionally, the program benefits decrease as the income of the recipient increases. Historically, the amount of grant money has been static, with payments varying based on the number and relative needs of individual applicants. Under this alternative, parents under the poverty line would receive $2,000 annually as an entitlement.[3] Benefits would slowly "phase out" as income rises to over 150% of the poverty line. Student parents with an income above 150% of the poverty line would be ineligible.

In line with research that shows grants tied to nonacademic supports are more effective, benefits would come with a requirement for student parents to complete the Single Stop module once per year. To reduce the effect on take-up, this requirement would only apply after receipt of the first payment.[4] The Single Stop module only requires approximately 10-15 minutes to complete, then a

[3] This amount is drawn from the Deming and Dynarski (2009) and Franke (2014) estimate that $1,000 could boost both enrollment and graduation rates. With inflation, $1,000 in 2009 would have the purchasing power of $1,300 dollars today. In order to keep assumptions conservative and ensure that these effect sizes would translate to student parents, I raise the amount to $2,000.

[4] Student parents who fail to fulfill the requirement will not receive follow-up payments until module completion. Administrators should be as flexible as possible when enforcing these requirements.

subsequent 30-minute phone call with a staff member. The benefits of this intervention would likely outweigh the cost of any increased time burden.

Funding would flow through the already established financial systems at each institution. The institution would first apply the money toward the student's tuition balance. Leftover funding would then be awarded to student parents in the form of cash payments.

Alternative 3: Require all Public Colleges in Virginia to Provide Campus Child Care to Low-Income Student Parents

Under this alternative, the state government would create a campus child care system in all Virginia public colleges. Only 13% of Virginia community colleges currently provide child care—the 46th lowest rate of all state community college systems in the country (Freeman, 2015). Funding for the program would be shared between the state government, the VCCS, and 4-year public universities. Each family would contribute an average of $2,000 annually.[5]

In community colleges, all low-income student parents would be eligible for campus child care. The average size of each program would be approximately 120 children. Staff would vary depending on the demand in any particular location; however, schools with early childhood education programs would be encouraged to use students as assistants. The administration of each program would be left to individual community colleges; however, the Virginia legislature would authorize the VCCS Chancellor Glen DuBois to oversee implementation systemwide. Individual 4-year public college presidents would lead their respective offices. These child care centers would adhere to all licensing requirements under the Virginia Department of Education (Virginia Department of Education, 2021).

If spots remain unfilled, the center will open registration to all student parents and all college staff regardless of income and set prices 20% below the local market rate. If there are still openings, the center will open registration to all children in the local area for the normal market rate.

These centers would also feature an area for student parents to study. All student parents, regardless of enrollment, would be able to drop their children off for temporary care. The duration of this care would not exceed 2 hours, and the parent would be required to remain on the premises. This strategy would provide a space for student parents to study without requiring them to enroll their children. It would also lower the administrative and licensing burden on the college.

[5] This strategy increases the affordability of the program. Low-income student parents could likely pay with CCDF funding. The community college system could also use CCAMPIS funds to further subsidize child care for student parents.

Criteria

The following section outlines the criteria used to evaluate each alternative. To maximize the impact per dollar spent, cost-effectiveness is given a 60% weight. Feasibility and equity are each weighted 20%.

Cost-Effectiveness - This criterion measures the dollar amount spent per additional graduate under the given alternative compared to the status quo. This number is derived from the total cost of the intervention divided by the total number of additional graduates under a given alternative.

> *Cost* - Cost measures the total amount of money required to implement the alternative. This criterion will consider costs to the Virginia state budget, the VCCS, and public colleges. SCHEV enrollment data, in addition to my analysis of the BPS longitudinal study, inform projections of the total number of student parents served under each alternative. Local-level data (e.g., salaries, rental rates, etc.) and benchmarks such as the CUNY ASAP program are used to project costs. I also use models from Workman and Brady (2020) to estimate the average price of child care.
>
> *Effectiveness* - Effectiveness measures the increase in the number of student parents graduating under a given alternative compared to the status quo. Existing empirical studies will inform effect size estimates. Impact studies of the CUNY ASAP intervention determine effectiveness estimates of the student parent program (City University of New York, n.d.). I use the effect sizes from Deming & Dynarski (2009) and Franke (2014) to assess the impact of grants. I use Monroe Community College (2013) and DeMario (2019) to project additional graduates under the child care intervention.

Feasibility - This criterion measures the ease with which a given alternative can be both adopted and implemented.

> *Political Feasibility* - Political feasibility assesses the potential of the policy to pass the state legislature. Each alternative requires a state bill. This criterion anticipates the reactions of key political figures in Virginia. It also considers how well each alternative promotes workforce development. Given that Virginia is a moderate state with a Republican governor, feasible alternatives will market themselves as "work" programs that spawn economic growth. This criterion references Kansas' Accelerating Opportunity, a work development program for adults without college degrees that passed in conservative states, to benchmark feasibility (*Accelerating Opportunity: Kansas*, 2022).
>
> *Administrative Feasibility* - Administrative feasibility considers the ease of implementation. This criterion evaluates staffing needs, required office space, and the level of coordination necessary between state agencies. It will also examine the level of internal support within the VDH, VDSS, SCHEV, and the VCCS governance team. Priority will be given to alternatives that minimize the changes necessary to current operational structures.

Equity - Supporting student parents presents a unique opportunity to advance equity. This alternative will measure the level to which aid flows to student parents from historically marginalized groups. It will also assess whether the beneficiaries of a given program will be predominantly low-income.

Policy Evaluation

The following section evaluates interventions to improve student parent graduation rates in Virginia public colleges.

Trends Under the Status Quo

According to data from the NPSAS-AC, in the fall of 2018, undergraduate parents with children made up around 15% of the student population in Virginia's 2-year and 4-year public institutions.[6] The State Council of Higher Education for Virginia (SCHEV) does not track the enrollment of student parents; however, they have estimates of total student enrollment in public institutions (see Figure 6). These trends suggest that enrollment has been slowly decreasing since 2011.[7]

Figure 6: Enrollment in Virginia Public Institutions Since 2008

Year	4-Year Public	2-Year Public	Total
2008	154,808	177,121	331,929
2009	158,498	190,852	349,350
2010	161,057	197,004	358,061
2011	164,135	198,850	362,985
2012	166,379	194,435	360,814
2013	167,913	190,528	358,441
2014	168,814	184,971	353,785
2015	170,295	179,064	349,359
2016	170,668	173,072	343,740
2017	173,763	169,034	342,797
2018	174,574	163,945	338,519
2019	175,334	160,426	335,760
2020	174,839	153,075	327,914
2021	171,803	146,820	318,623

Notes: Numbers in the chart reflect SCHEV enrollment tracking data.

Research suggests that student parent enrollment has declined at a much higher rate than the overall student population. Between the 2011-12 to 2015-16 academic years, student parent enrollment dropped by approximately 20% nationally. In the same timeframe, enrollment among all

[6] Estimate generated from my analysis of the 2018 NPSAS-AC undergraduate data.
[7] COVID-19 introduced shocks that accelerated the decline in college enrollment. When predicting the future rate of enrollment decline, I exclude the years 2020-2021.

undergraduates only decreased by about 6% nationally (Cruse et al., 2019b). These numbers yield a ratio of 3:10; for every 3% decrease in overall student enrollment, there was a 10% decrease in the student parent population. To incorporate this reduction into my population estimates, I assume that the ratio of decline between the national undergraduate population and national student parent population has remained constant for the past 11 years and that this ratio applies to Virginia. In years where there is an increase in enrollment, I invert the ratio under the assumption that student parent enrollment gains are lower than the overall population.[8] I generate estimates for the total student parent population across the state (see Figure 7). The composition of student parents in the year 2018 serves as a base estimate.

[8] This claim assumes that due to the obstacles to a college degree, student parents are less likely to enroll and more likely to drop out. This methodology yields a relatively high rate of decline in student parents. It is a distinct possibility that the student parent population will drop less dramatically in the future. Since there is no research to date on the change in these enrollment numbers, this brief assumes the sizable decline will continue.

Figure 7: Projected Student Parent Enrollment by Year in Virginia Public Institutions

Year	Total Student Enrollment	Annual Change in Enrollment Among All Undergraduates	Projected Annual Change in Student Parent Enrollment	Projected Total Number of Student Parents	Project Number of Student Parents in First Year of Study
2008	331,929	-	-	-	-
2009	349,350	5.25%	1.57%	65,483	16,371
2010	358,061	2.49%	0.75%	65,977	16,494
2011	362,985	1.38%	0.41%	66,250	16,562
2012	360,814	-0.60%	-1.99%	64,955	16,239
2013	358,441	-0.66%	-2.19%	63,562	15,890
2014	353,785	-1.30%	-4.33%	60,924	15,231
2015	349,359	-1.25%	-4.17%	58,485	14,621
2016	343,740	-1.61%	-5.36%	55,509	13,877
2017	342,797	-0.27%	-0.91%	55,006	13,751
2018	338,519	-1.25%	-4.16%	52,809	13,202
2019	335,760	-0.82%	-2.72%	51,374	12,844
2020	327,914	-2.34%	-7.79%	47,373	11,843
2021	318,623	-2.83%	-9.44%	42,898	10,725
Averages (excluding years 2020-2021)		0.12%	-2.10%	60,030	14,596

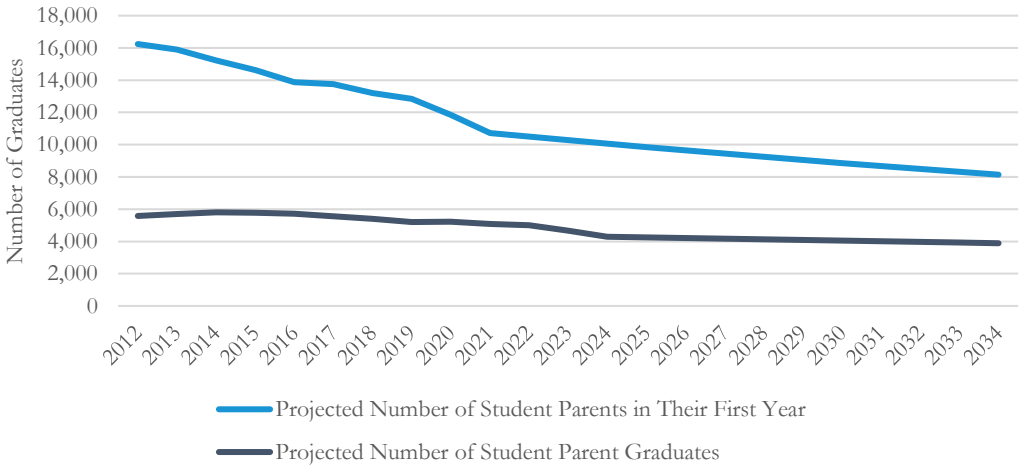
Notes: Estimate for the year 2018 based on my analysis of NPSAS-AC data combined with SCHEV enrollment numbers. Projections of other years based on the average annual rate of decline data from the Institute of Women's Policy Research and SCHEV enrollment data. I invert the ratio for years where the enrollment of the overall student population increased. The final column illustrates the number of student parents in their first year of study (the total number of student parents multiplied by 1/4th). All estimates are restricted to student parents in Virginia public institutions.

In 2011, the 6-year graduation rate for all student parents was approximately 33% (U. S. Government Accountability Office, 2019). This statistic captures the proportion of student parents that received any type of degree (i.e., a certificate, an associate's degree, or a bachelor's degree) after 6-years of study. According to my analysis of the BPS survey, that number had increased about 4 percentage points to 37% by 2017.[9] This increase is consistent with the overall uptick in graduation rates among all undergraduates. Researchers dispute why these rates have risen in recent years. Denning et al. (2021) examined trends across nine public universities, concluding that grade inflation makes it easier for students to complete their degrees (Denning et al., 2021). Given that graduation

[9] I use publicly available data through the Beginning Postsecondary Students (BPS) longitudinal study.

rates have generally risen since the 1990s, I assume the average annual increase in graduation rates among student parents has remained constant and translates to Virginia. Using these estimates, I calculate the historical number of student parent graduates, as well as project this number into the future (see Figure 8; Appendix A). All efficacy evaluations will use this trend as a baseline. I find the number of graduates by multiplying the predicted graduation rate in a given year by the number of student parents enrolled three years prior. It is important to note that I exclude 2020 and 2021 from estimates of the average decline to avoid factoring in the impact of the pandemic. I do, however, include the decrease in the overall number of students enrolled. This method assumes that while the absolute decreases due to the pandemic will remain, the rate of enrollment decline will revert to pre-pandemic trends in the post period.

Figure 8: Projected Number of Student Parents Enrolled and Graduated Under the State Quo



Alternative 1: Establish a Comprehensive Student Parent Support Program

This alternative would place an office and two benefits navigators on each public college campus. It also includes a tuition waiver, flexible scheduling options, and student parent social groups.

Cost-Effectiveness

To estimate the impact of this program on student parent graduation rates, I utilize the effect sizes from the Scrivener et al. (2015) and Sommo et al. (2018) studies of the CUNY ASAP program in New York and Ohio respectively. The ASAP program resembles Alternative 1 in three ways. It includes a tuition waiver for students with a gap need, provides students with guidance through

college advising, and allows for block scheduling of classes.[10] It also restricts eligibility to low-income students.[11] Both studies randomized the receipt of the program, mitigating potential forms of bias.

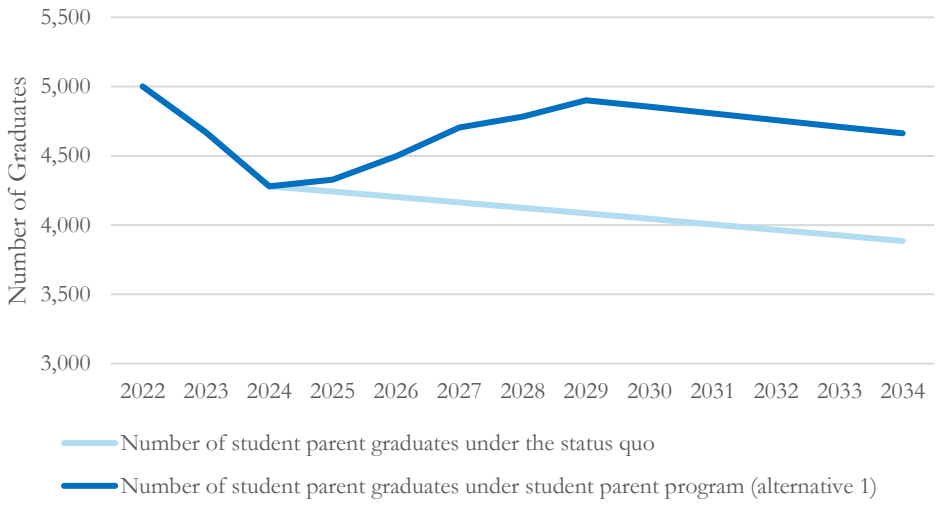
Scrivener et al. (2015) found that after 3 years, 40% of students in the treatment group had received a degree, compared to just 22% of students in the control group. Sommo et al. (2018) found that these results translated to Ohio, with 19% of the treatment group receiving a degree after 2 years compared to just 8% of the control group. Both of these studies suggest the program doubles graduation rates from baseline. Over the long term, these impacts appear to diminish slightly. In a study of 6-year associate's degree attainment rates, researchers found that ASAP increased graduation rates from 37.3% to 60.9% (Strumbos & Kolenovic, 2017).

There are some notable differences between ASAP and a student parent program. First, the ASAP program was targeted toward low-income students, not necessarily student parents. Student parents are older than the general student population and have different needs. It is unclear how this difference would impact the validity of ASAP in a student parent context. The student parent program includes the addition of child-friendly study spaces and student parent resource groups in an attempt to scope to the needs of the student parent population. Second, the ASAP program required students to attend college full-time, whereas this program would allow student parents to attend school part-time. If the acceleration of the school timeline was the mechanism through which the ASAP program increased completion rates, the impact of the student parent program might be smaller. Finally, the advisors for students in the CUNY program were focused on academics, not benefits. However, student parents' higher average grades than the general population suggest that benefits navigators would better serve their needs.

To account for reduced effectiveness over a 6-year time frame and the relatively high needs of student parents, I reduce the effect size estimates from double the baseline graduation rate to a 20% increase after 6 years.[12] Figure 9 illustrates the change from the baseline graduation rate given two years for implementation and a gradual "fade in" of the effect. This results in approximately 6,360 more graduates by 2034 compared to the baseline trend (see Appendix B).

[10] The CUNY program used block scheduling to help younger students to complete requirements. This alternative would allow for block scheduling while also accounting for the possibility that student parents may need other options.
[11] They define low-income students as anyone eligible to receive the Pell Grant. While this program would be accessible to all student parents, only low-income individuals would likely utilize the benefits navigator. I account for this in the effect size estimates by restricting beneficiaries to low-income student parents (below 150% of the poverty line).
[12] Studies of the 6-year time frame yield a 60% increase from the baseline. 40% represents a relatively conservative estimate based on the assumption that the student parent population may have higher levels of difficulty finishing a degree; thus, the intervention may not be as impactful. I also assume that primarily low-income student parents would benefit from this program. I define low-income as individuals whose income is below 150% of the poverty line. According to my analysis of NPSAS-AC data, this accounts for 53.5% of student parents in Virginia. As a result, I halve the effect size again, estimating the increase in graduation rates at approximately 20% from baseline.

Figure 9: Projected Number of Student Parent Graduates Under Alternative 1



To find the cost of the intervention, I consider the price of office space, the salary of a benefits navigator, the cost of tuition waivers, and administration expenses (see Appendix C). Assuming the program would begin in the year 2024, the net present value of the intervention would be around $78,000,000. See Appendix C for the cost equation and major assumptions.

Dividing the total cost of the intervention through 2034 by the number of additional graduates yields a cost-effectiveness estimate of about $12,300 per graduate.[13]

Feasibility

A student parent program would politically align with current efforts in Virginia. According to the SCHEV strategic plan, Virginia's goal is to become the "best state for education" by 2030 (The State Council of Higher Education for Virginia, 2021). Policymakers hope to close education attainment gaps, make college more affordable, and achieve 70% educational attainment among all 25 to 64-year-old Virginians. While SCHEV does not focus on parenting students specifically, the intersectionality of this group with other marginalized identities aligns with their current equity goals.

There is also a strong political precedent for benefits navigator services. Oregon House Bill 2835 is an example of a state legislature requiring benefits navigators at public universities (Powell, 2021). However, this bill passed with only Democrats as sponsors (Oregon Legislature, 2021). Virginia has a Republican governor and a divided legislature, posing roadblocks to passage. There is some evidence that Republicans could be in support. Governor Glenn Youngkin has expressed interest in lowering college tuition for public universities to improve accessibility to low-income students

[13] $78,038,297.78 / 6,362 additional graduates

(Jarvis, 2022). Despite this position, the governor supports tax cuts, reducing the likelihood he would support additional public spending.

The administrative feasibility of this alternative is relatively low. Creating 40 offices and hiring 80 benefit navigators would require significant operational change. Informal conversations with VCCS stakeholders suggest take up for past student parent programs has been low. This program would require the state legislature and VCCS system to allocate over $3 million a year. The VCCS experienced a $50 million decline in revenue in the fiscal year 2019, making it difficult to justify increased funding (Sullenberger et al., 2019). Despite these limitations, VCCS President Glenn DuBois is a highly competent, equity-minded leader who personally went to community college (Virginia's Community Colleges, n.d.). He could be a valuable advocate for the program.

These considerations lead me to rank this program medium in feasibility.

Equity

Alternative 1 would provide the most comprehensive support for student parents. A dedicated physical space with a staff member would show commitment to student parents. These structures would facilitate relationships with staff and peers, increasing student parents' feelings of belonging on campus.

The aid from this intervention would be targeted toward low-income students. While the office would be accessible to all groups, benefits navigators would primarily serve low-income families. Tuition waivers would be exclusively for those who are low-income. Student parents from marginalized communities make up a large portion of low-income individuals, suggesting benefits would flow to people of color.

There is no aspect of this alternative that specifically targets student parents of color. This alternative could also place a small burden on student parents to make time to go to the office.

Overall, I rank this alternative as medium/high in equity.

Alternative 2: Increase Need-Based Grants Through CSAP

This alternative would give student parents attending public colleges grant funding. Student parents below the poverty line would receive $2,000. Benefits would then slowly phase out until reaching 0 at income levels greater than 150% of the poverty line.

Cost-Effectiveness

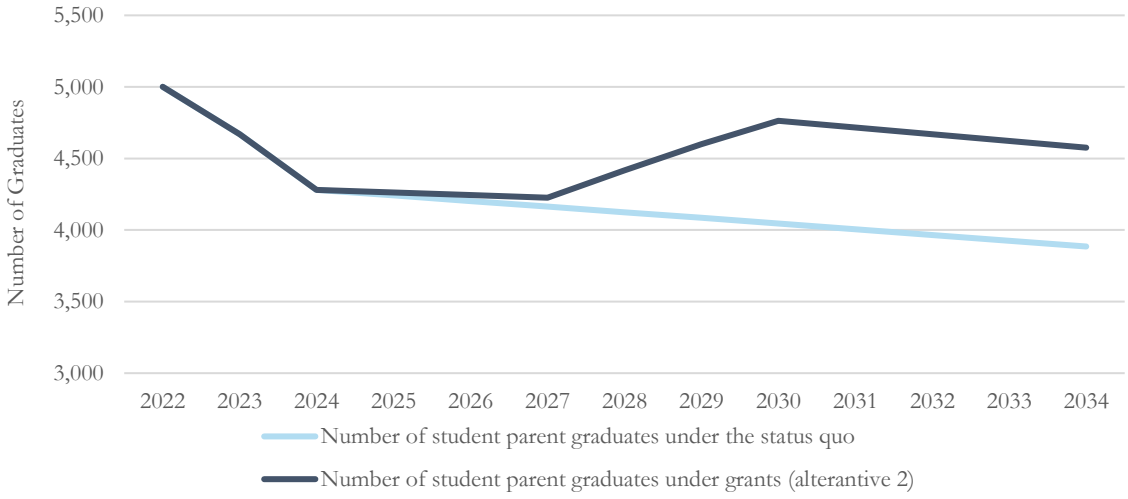
There are two primary ways need-based aid could increase the number of graduates. It could incentivize higher enrollment, or it could remove financial burdens, making graduation easier. To estimate the impact of increased grant funding on enrollment, I utilize the Deming & Dynarski (2009) estimate that eligibility for a $1,000 college subsidy increases college attendance about one third from a baseline of 12% (Deming & Dynarski, 2009) (see *Providing Need-Based College Grants*). Under the assumption that there are diminishing marginal returns to additional investment and that student parents face intense obstacles to enrollment, I hold the impact of $2,000 constant at one-

third.[14] To estimate the effect on graduation rates, I use Franke (2014). The researcher found that a $1,000 increase in state-aid increases the likelihood of graduating in 6 years with a bachelor's degree by about 2.4% from baseline (Franke, 2014). Since I include 6-year associate's degrees and certificates in my outcome, my estimates double the effect from baseline.[15] I then halve both estimates to account for only low-income student parents qualifying to receive funds. This results in a 15% increase in enrollment and a 2.4% increase in graduation rates.

Most of these studies focused on first-time, low-income students. While student parents often have similar struggles to these groups, the individuals targeted in this intervention would likely be both low-income and raising a child. In an attempt to attain a similar effect size, I include completion of the Single Stop module as a requirement for the receipt of the grant. This program adds additional support, making it more likely that the effect sizes in these studies would translate to student parents.[16]

Figure 10 shows the impact of the intervention on both enrollment and graduation rates. I set full implementation in the year 2024. I also assume that the effect will slowly phase in over time, eventually forming a plateau after 6 years. This alternative would generate 4,450 additional graduates by the year 2034 (see Figure 10; Appendix B).

Figure 10: Projected Number of Student Parent Graduates Under Alternative 2



[14] This estimate assumes that the marginal returns from an additional $1,000 investment are exceedingly low. It also makes a relatively conservative assumption that student parents would be much less influenced by grant aid than low-income students. This assumption feels reasonable, as the decision for someone older to return to college requires a more significant life change.
[15] Associates degrees and certificates typically take about half the time to complete compared to a bachelor's degree.
[16] There is a small chance that a module requirement would decrease the take-up rate of the program. The Single Stop module takes 5-10 minutes to fill out. Afterward, there is a phone call with a benefits screener. Since this process requires relatively low amounts of time, I assume that this requirement would not significantly affect the take-up rate.

To calculate cost, I assume that all student parents under the poverty line would receive $2,000 and that those between 100% and 150% of the poverty line would receive an average of $1,000. The net present cost of this intervention is approximately $345,900,000 (see Appendix D). This number yields a cost-effectiveness estimate of approximately $77,600 per additional graduate.[17]

Feasibility

In terms of political feasibility, the distribution of grants aligns best with the SCHEV 2030 strategic plan. SCHEV aims to cover 67% of tuition costs by the year 2030. This alternative would be a direct way to reduce costs for students. The issue of high college tuition is also a politically salient problem (Vakil, 2019). In Virginia, grants could be popular with both parties. Democrats support reduced tuition costs at community colleges, arguing that the high price of attendance is a barrier for low-income students (Ngo, 2021). Republicans are more skeptical of grant increases, arguing that a majority of the funding would likely go to colleges in the form of tuition increases (Gravely, 2021). Governor Glenn Youngkin has expressed interest in financial support for low-income students; however, he has also ended all equity initiatives at the Virginia Department of Education (Masters, 2022). His support for grant funding would be uncertain. Marketing the program as a jobs training grant could boost political viability (See *Implementation*).

A grant program ranks highly in administrative feasibility. It would operate using preexisting financial structures in the state. There would be almost no operational changes required for colleges to carry out this program. Furthermore, the state government and college financial aid offices have expertise in this area.

While political support is somewhat uncertain, the administrative ease of this alternative leads me to rank it high in feasibility.

Equity

This alternative would not impose a burden on student parents. The FAFSA is already required, and all aid transactions would occur between the state government and colleges. Grant money gives student parents a significant level of autonomy. If there is funding left after college tuition, parents could use the money to pay for child care, food, books, or other needs.

There is an ethical question as to how this alternative boosts graduation rates. About 81% of the increase in graduation rates is due to more student parents enrolling in college.[18] Since grants do not have a large impact on graduation rates, the increase in enrollment would result in more student parents dropping out. Many would likely leave college with high levels of debt, further exacerbating existing inequities. It is possible that the majority of student parents who choose to enroll in public colleges when offered grants would have gone to private, for-profit universities under the status quo. Students are more likely to graduate from public universities, and they typically exit public schools

[17] $345,877,057.07 / 4,456 additional graduates

[18] The number of additional graduates solely due to the enrollment effect is around 3,300 people. This number represents about 81% of the new graduates under alternative 2.

with lower levels of debt (J. Anderson et al., 2017). Under this scenario, it would be less of a concern if student parents increased their enrollment in public schools.

Due to the uncertain implications of this alternative, I rate it as medium/low in equity.

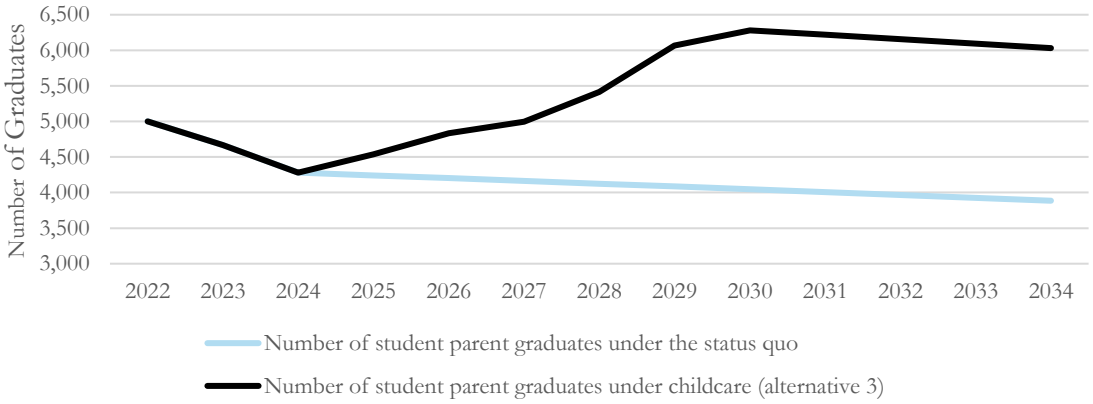
Alternative 3: Campus Child Care

This alternative would establish child care facilities on all public college campuses.

Cost-Effectiveness

To estimate the additional graduates under this alternative, I use the effect sizes from the Monroe Community College Institutional Research Office studies (DeMario, 2019; Monroe Community College, 2013). In these experiments, the researchers found that campus child care increased the baseline graduation rate of those who used the program by an average of 212%.[19] According to a study of parents in New York City's Workforce Innovation and Opportunity (WIOA) youth program, only about 1/3rd took up subsidized child care (T. Anderson et al., 2021). Assuming only half of student parents would be eligible, and that only about 1/3rd of eligible student parents would take up the service, I cut the effect size to a 35% increase in the baseline graduation rate.[20] Given a 2-year implementation period and a gradual "fade in" effect over 6 years, I estimate that providing

Figure 11: Projected Number of Student Parent Graduates Under Alternative 3



campus child care would lead to approximately 15,980 additional graduates by the year 2034 (see Figure 11; Appendix B).

Under this alternative, each family would contribute $2,000 annually per child.[21] I use child care expense estimates from Workman & Brady (2020) to estimate the total cost. The authors factored in

[19] The Monroe Community College IR estimates represent a 171% and 250% increase from the baseline graduation rate respectively. The average of these two numbers is around 212%.
[20] Eligibility would be restricted to low-income student parents
[21] The average cost of childcare in Virginia is approximately $14,063 annually per child. This price represents a dramatically subsidized rate compared to the private market (The World Population Review, 2022). There would be additional opportunities for scholarships and aid (see *Alternatives*)

the price of staffing, rooms, supplies, insurance, and benefits. These costs reflect basic care that adheres to Virginia standards. Using these estimates, I find that the net present value of the costs would be around $600,000,000 (see Appendix E). This proposal has a cost-effectiveness estimate of $38,000 per additional graduate.[22]

Feasibility

There is a political precedent for the scope of this policy. Colorado, Washington D.C., Tennessee, and Florida have implemented universal preschool at a similar scale (Burness, 2021; Lipsey et al., 2018; Williams, 2019). These policy proposals were politically popular, with the Colorado reform passed by direct referendum (Burness, 2021). Both Republican and Democratic states have passed child care reform. While campus child care has declined nationwide, Virginia stands out as being particularly lacking in the service. Conservative and liberal states such as California, Wyoming, Maryland, Indiana, and New York all have on-campus child care rates above 60%. In Virginia, the rate is less than 20%, suggesting there is room for growth (Eckerson et al., 2016).

There are focused stakeholder groups that may oppose campus child care. Public universities would be required to establish child care facilities. University presidents may argue against this change on the basis that it will cost public institutions too much money and resources. There may be pressure from staff to maintain reserved spots in existing child care facilities for faculty use.

This proposal would not be administratively feasible. Virginia colleges have very few built-in structures for child care on college campuses. Implementation would require a massive effort to hire staff, purchase classroom spaces, advertise care, secure insurance, and more.

While there is some political support for this proposal, the administrative roadblocks lead me to rank it as medium/low in feasibility.

Equity

There is a strong demand for child care on college campuses, and many student parents report lack of access as one of their chief difficulties in school. Providing child care would reduce a significant burden for all student parents.

This alternative would also predominantly aid women of color. Typically, a spouse is a helpful source of child care. However, women of color are much more likely to be single while raising a child in college. Of those who attend college, 37% of black women, 27% of Native American/Alaskan Native women, and 19% of Hispanic women are single parents (Kruvelis et al., 2017). This compares to just 14% of white women. As a result, the benefits of child care facilities on campuses would fall predominately to historically marginalized groups.

I rank this alternative as high in equity.

[22] $606,925,150.44 / 15,983 graduates

Recommendation & Implementation

I rank each of the alternatives in an outcomes matrix (see Figure 12). See Appendix G for a visualization of the number of additional graduates under each alternative.

Figure 12: Outcomes Matrix

	Cost-effectiveness (60%)	Feasibility (20%)	Equity (20%)
Alternative 1: Student Parent Support Program	$12,300	Medium	Medium/High
Alternative 2: Student Parent Grant Funding	$77,600	High	Medium/Low
Alternative 3: On-Campus Child care	$38,000	Medium/Low	High

Notes: Cost-effectiveness estimates represent 2022 per additional graduate. The other alternatives are ranked on a scale of high/medium/low.

The creation of a grant program ranks the highest of the alternatives in feasibility; however, the costs and risks to equity are too high.[23] The grant program costs more than 6 times the amount per graduate compared to the student parent support program. In terms of equity, the financial incentive to enroll would be the primary driver of 4 in 5 of the additional graduates. It is incredibly risky to raise enrollment without significantly changing the graduation rate. Although higher enrollment leads to more graduates, greater numbers of student parents would discontinue their enrollment before attaining a degree.

The creation of a child care program is more cost-effective than a grant program; however, it still requires greater than 3 times more spending per additional graduate. It also lacks feasibility—building a child care program from the ground up is difficult and would require administrative expertise not currently available in the VCCS.

Due to its high score in cost-effectiveness and equity, I recommend that the Urban Institute work to establish a comprehensive student parent support program in Virginia public schools.

[23] While the grant program ranks lowest in cost-effectiveness, it is only the second-highest in total cost. The public is more likely to focus on the overall cost as opposed to theoretical cost-effectiveness projections. As a result, the cost would not heavily impact the political case for the program.

Implementation

To implement the program, the Urban Institute should build a legislative coalition to introduce a bill in the state legislature. Upon passage, public universities will need to obtain space and conduct interviews with potential benefits navigators. To increase the feasibility of the alternative, I recommend sharing the costs between public universities, the state government, and private charities. If there is staunch opposition to the bill, advocates may consider an "opt-in" approach from public universities to improve feasibility.

Building Legislative Support

A student parent program will require a bill in the state legislature. The Urban Institute should coordinate with advocacy organizations in Virginia to begin coalition building. SCHEV can serve as a partner; they have access to both legislators and policy advocates. The Partners for College Affordability and Public Trust, a nonprofit advocacy organization, has successfully passed legislation to increase the transparency of college pricing and outcomes (Partners for College Affordability and Public Trust, n.d.). The American Association of University Women in Virginia and the Virginia Women's Equality Coalition are also potential supporters.

Any legislative coalition should solicit input on bill proposals from the VCCS. Creating a comprehensive student parent program will require additional resources from community colleges, particularly funding. Advocates must emphasize the benefits to the VCCS and 4-year public universities early to minimize opposition. Given equity goals in the VCCS, it seems likely they would provide valuable input and support (Herder, 2021).

The legislature is key to funding the program. Figure 13 contains a list of potential legislative gatekeepers, with their role, political party, and views of the proposal.

Figure 13: Key Gatekeepers and Positions

Name	Role	Party	Status
Delegate Barry Knight	Chair of the Appropriations Committee in the House of Delegates	Republican	Supports college affordability, but does not have a stated commitment to either student parents or equity. Emphasizes job readiness (Knight, n.d.).
Delegate Luke Torian	Former Chair of the Appropriations Committee in the House of Delegates	Democrat	Supports college affordability and equity-focused initiatives (Martz, 2021).
Delegate Kathy Byron	Chair of the Energy and Commerce Committee in the House of Delegates	Republican	Prioritizes workforce development. Has successfully advocated for past training programs (*Issues – Kathy Byron*, n.d.)
Delegate Jeion Ward	Former Chair of the Commerce and Labor Committee in the House of Delegates	Democrat	Represents the City of Hampton - Hampton University is an HBCU. Since black students are more likely to have children, she may support boosting student parent graduation rates
Delegate Glen Davis Jr.	Chair of the Education Committee in the House of Delegates, Chair of the Higher Education Subcommittee	Republican	Introduced legislation to incentivize public colleges to freeze tuition during COVID-19. Supports college affordability (*Priorities*, n.d.).
Senator Janet Howell	Chair of the Finance and Appropriations Committee in the Senate, Member of the Higher Education Subcommittee	Democrat	Shown past interest in college affordability as a member of the Higher Education Subcommittee.
Senator Mamie Locke	Chair of the High Education Subcommittee in the Senate	Democrat	Representative of the Hampton area and may support increased aid to low-income universities.
Delegate Todd Gilbert	Speaker of the House of Delegates	Republican	Heavily focused on economic priorities and job creation (*The Issues | Delegate Todd Gilbert | Virginia*, n.d.).
Senator Dick Saslaw	Majority Leader in the Senate	Democrat	Argues that lack of funding for higher education is a primary problem facing his district (Washington Post, n.d.).
Senator Thomas Norment Jr.	Minority Leader in the Senate	Republican	Graduated from William and Mary, believes higher education accessibility is a top priority. Committed to top rankings for state universities (*Tommy Norment*, n.d.).
Peter Blake	Director of SCHEV	n/a	Author of multiple college affordability presentations. No stated commitment to student parents.

Virginia politicians generally lack awareness of student parents. Figure 13 illustrates that Democrats are broadly in favor of college accessibility, affordability, and equity initiatives. Director Peter Blake and Senator Mamie Locke could be key legislative advocates. Republicans nationally have a negative view of higher education, with 59% reporting that postsecondary education has an overall negative effect on the U.S. (Kreighbaum, 2019). Republicans in Virginia are more likely to support programs to expand higher education than their peers in other states. While Virginia Republicans do not explicitly support equity initiatives for education, they have a strong respect for higher education as a vehicle for economic productivity. Virginia is one of the most highly educated states in the nation (Davis Jr., 2021). Many of the state legislators are alumni of Virginia educational institutions. Delegate Kathy Byron, Senator Thomas Norment, and Delegate Todd Gilbert may promote a student parent initiative due to their focus on job training and college funding.

Framing the Effort

Advocates should frame the student parent program as an economic development initiative. I recommend using the passage of the Kansas Accelerating Opportunity Initiative as a guide. The program passed in conservative states such as Kansas, Georgia, Mississippi, Louisiana, Arkansas, and Texas due to its appeal to both parties (*Accelerating Opportunity: Kansas*, 2022). The program gives adults without a college degree an opportunity to obtain a job. High numbers of student parents have some college but no degree - over half drop out of college in 6 years. Marketing for the initiative should emphasize the potential to increase the competitiveness of the state economy. Additional college graduates would raise GDP, and a more educated workforce is likely to attract businesses. This strategy will be particularly effective to persuade Republican legislators to support the bill.

Carroll and Erkut (2009) calculated that one additional college graduate generates an average of $286,000 in monetary benefits to taxpayers through increased tax revenue and decreased public spending (Carroll & Erkut, 2009).[24] Using this estimate, each dollar spent on a student parent program would create $23 in benefits for taxpayers. See Appendix F for a full return on investment calculation.

Cost Sharing

I recommend that any proposal shares program costs between the state legislature, public universities, and private charities. The proportion of funding from each source should be negotiated during the legislative process. The state legislature should allocate funding to each school individually based on the preexisting higher education funding formulas. The state should cover a higher proportion of program expenditures for colleges with fewer resources, particularly the VCCS and HBCUs. The Kansas Accelerating Opportunity program was partially funded by private sponsors (*Accelerating Opportunity: Kansas*, 2022). Colleges should apply for private charity funding individually.

[24] This number is adjusted for inflation.

Program Development

Once the law is passed, public school administrators will be required to obtain office space, hire staff, and advertise the program. Community colleges should utilize existing office spaces such as old classrooms and student activities centers when available. Consider locations that are centrally located on the campus. The more central the office is to the main campus, the more likely it is to increase social interaction. Additionally, offices should be open beyond normal business hours to account for student parents' unique schedules.

Schools should lean on existing recruitment pipelines for school counselors when hiring staff. Benefits navigators will likely require training to develop the competency to care for student parents. Drawing on previous training curriculums in Oregon for traditional benefits navigators could expedite the process.

Advertisement of the program is crucial to successful implementation. This effort will likely only benefit student parents if there is a relatively high take-up rate. Diana Yacob, the current director of CCAMPIS in Northern Virginia, will be a good reference to better understand successful methods to reach out to student parents.

"Opt-in" Approach

If there are political, financial, or administrative constraints that prevent the full implementation of a student parent program, Virginia should consider an opt-in approach to program rollout. The state legislature would pass a bill that authorizes funding to schools that choose to implement the program. A gradual rollout will lower upfront costs. Allowing individual schools to opt-in would allow the state government to gather more evidence of the program's effect size. It is also possible that schools with the highest concentrations of student parents would be more likely to select into the program, efficiently targeting implementation in areas that need the intervention the most. While a full program rollout would have the largest impact on student parents, this modification is a viable option in the face of significant resistance.

Final Considerations

Policymakers must change the current system of higher education to better meet the needs of student parents. A student parent support program would be the most cost-effective intervention to improve student parent graduation rates. While there are potential political and administrative hurdles to implementation, there is great potential for coalition building to gather support. The creation of a support program presents an incredible opportunity to assist parents while creating a more equal, competitive, and robust economy for the state.

When student parents choose to attend a public college in Virginia, they are placing their trust in the ability of the state education system to help them realize their goals. Policymakers should reciprocate their trust and effort with resources to ensure student parents have the tools necessary to succeed. This investment would have massive benefits in the long term—for student parents, their children, and the greater community.

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Appendix

Appendix A: Graduate Projections Under the Status Quo

Appendix A: Projected Number of Student Parent Graduates at Virginia Public Institutions Under the Status Quo

Year	Projected Number of Student Parents in Their First Year	Projected Number of Student Parent Graduates
2009	16,371	-
2010	16,494	-
2011	16,562	-
2012	16,239	5,576
2013	15,890	5,699
2014	15,231	5,803
2015	14,621	5,769
2016	13,877	5,723
2017	13,751	5,559
2018	13,202	5,408
2019	12,844	5,200
2020	11,843	5,220
2021	10,725	5,076
2022	10,499	5,001
2023	10,279	4,669
2024	10,063	4,280
2025	9,852	4,242
2026	9,645	4,203
2027	9,442	4,164
2028	9,244	4,124
2029	9,050	4,085
2030	8,860	4,045
2031	8,674	4,005
2032	8,491	3,965
2033	8,313	3,925
2034	8,138	3,885

Notes: This figure is a graph of enrollment and graduation numbers over time using data from SCHEV and the Institute for Women's Policy Research. The projected number of student graduates represents the number of student parents graduating in a given year. I find this number by multiplying the projected graduation rate by the number of student parents in their first year of study 3 years prior.

Appendix B: Graduate Projections Under Each Alternative

Appendix B: Number of Student Parent Graduates Under Each Alternative

Year	Number of Graduates (Status Quo)	Number of Graduates (Support Program)	Number of Graduates (Grants)	Number of Graduates (Child Care)
2022	5,001	5,001	5,001	5,001
2023	4,669	4,669	4,669	4,669
2024	4,280	4,280	4,280	4,280
2025	4,242	4,327	4,263	4,539
2026	4,203	4,497	4,245	4,833
2027	4,164	4,705	4,226	4,996
2028	4,124	4,784	4,417	5,413
2029	4,085	4,901	4,601	6,066
2030	4,045	4,854	4,763	6,280
2031	4,005	4,806	4,716	6,218
2032	3,965	4,758	4,669	6,155
2033	3,925	4,710	4,622	6,093
2034	3,885	4,662	4,575	6,031
Total	**54,591**	**60,953**	**59,047**	**70,574**

Notes: These are projections of the total number of student parent graduates through 2034 under each alternative. Enrollment is lagged three years and multiplied by the projected graduation rate. The total enrollment of student parents in any given year is multiplied by 1/4 to represent only student parents who are set to graduate that year.

Appendix C: Alternative 1 Cost Calculation

Appendix C: Expense Estimates Under a Student Parent Program

Number of Colleges in Virginia	39
Average Cost Per Square Foot of Office Space	$20.93
Average Size of Office (in square feet)	650
Average Total Compensation of a Benefits Navigator	$72,400.00
Administrative Costs	10% of the program cost
Cost of Tuition Waivers	10.9% of the total program cost

Notes: SCHEV data provides the number of colleges. The average cost per square foot of office space comes from Commercial Cafe (Commercial Cafe, 2020). The number of square feet required reflects an estimate of the average office space necessary. The salary of a benefits navigator comes from a salary.com estimate of the total compensation package of a college advisor (Salary.com, n.d.). The cost of tuition waivers reflects the proportion this expense made up of total program costs in Ohio. This estimate operates off the assumption that student aid packages and the cost of attendance are relatively similar across both states.

Cost Calculation

First, I find the total annual cost of the program.

Annual Cost = *(Number of Colleges * Price per Square Foot * Average Office Size * Number of Offices per College + Average Salary of a Benefits Navigator * Number of Benefits Navigators per College) / (1 – Percentage of Total Program Costs for Tuition Waiver and Administration)*

Cost in Year 2024 = *(39 colleges * $20.93 * 650 square feet * 1 office per college + $72,400 * 2 navigators per school) / (1-.79)*

Cost in Year 2024 = *$7,819,969.00 (without inflation)*

I then calculate the cost over the lifespan of the project, assuming a 2% average annual inflation rate and a 3% discount rate.

Total Cost = *Net Present Value (Cost in Year 1 + Cost in Year 2 + Cost in Year 3…. + Cost in Year 12)*

Total Cost = *$78,038,298.00*

Appendix D: Alternative 2 Cost Calculation

Appendix D: Cost of Grant Funding Over Time

Year	Projected Total Student Parent Enrollment (Alternative 2)	Projected Cost of the Intervention	Projected Total Cost (with Inflation)
2024	40,252	$34,294,590	$35,680,091
2025	41,377	$35,253,021	$37,410,788
2026	42,437	$36,156,065	$39,136,487
2027	43,434	$37,005,625	$40,857,200
2028	42,522	$36,228,402	$40,799,064
2029	41,629	$35,467,502	$40,741,011
2030	40,754	$34,722,584	$40,683,041
2031	39,898	$33,993,311	$40,625,153
2032	39,060	$33,279,355	$40,567,348
2033	38,240	$32,580,394	$40,509,624
2034	37,437	$31,896,113	$40,451,983

Notes: I use my analysis of the BPS survey to estimate the number of student parents in each income bracket. This table assumes the national distribution holds in Virginia, and that this distribution remains constant over time. I multiply the proportion of student parents below 100% of the poverty line (31.8%) and between 100%-150% of the poverty line (21.6%) by $2,000 and $1,000 respectively, then sum the results together to get the total annual cost.

Cost Calculation

First, I calculate the cost of the program in any given year.

Total Annual Cost in a Given Year = *(Percentage of Fully Eligible Parents * Total Enrollment in a Given Year * $2,000) + (Percentage of Partially Eligible Parents * Total Enrollment in a Given Year * $1,000)*

Cost in Year 2024 = *(31.8% * 40,252 * $2,000) + (21.6% * 40,252 * $1,000)*

Cost in Year 2024 = *$34,294,590.00 (without inflation)*

I then calculate the cost over the lifespan of the project, assuming 2% average annual inflation and a 3% discount rate.

Total Cost = *Net Present Value (Cost in Year 1 + Cost in Year 2 + Cost in Year 3…. + Cost in Year 12)*

Total Cost = *$345,877,057.00*

Appendix E: Alternative 3 Cost Calculation

Appendix E: Cost of Child Care Over Time

Year	Total Student Parent Enrollment	Student Parents Using Child Care	Number of Children Enrolled	Annual Infant Cost	Annual Toddler Cost	Annual all 3- & 4-year-old Cost	Total Cost
2024	40,252	6,709	10,063	$11,633	$8,271	$7,431	$70,056,721
2025	39,406	6,568	9,852	$11,633	$8,271	$7,431	$69,957,038
2026	38,579	6,430	9,645	$11,633	$8,271	$7,431	$69,857,496
2027	37,769	6,295	9,442	$11,633	$8,271	$7,431	$69,758,095
2028	36,975	6,163	9,244	$11,633	$8,271	$7,431	$69,658,837
2029	36,199	6,033	9,050	$11,633	$8,271	$7,431	$69,559,719
2030	35,438	5,906	8,860	$11,633	$8,271	$7,431	$69,460,742
2031	34,694	5,782	8,674	$11,633	$8,271	$7,431	$69,361,907
2032	33,965	5,661	8,491	$11,633	$8,271	$7,431	$69,263,212
2033	33,252	5,542	8,313	$11,633	$8,271	$7,431	$69,164,657
2034	32,554	5,426	8,138	$11,633	$8,271	$7,431	$69,066,243

Cost Calculation

I first calculate the number of children that would receive child care in a given year.

Number of Children Receiving Care in a Given Year = *Total Student Parent Enrollment in a Given Year * Proportion of Student Parents Eligible for Child Care * Take-up Rate * Average Number of Children per Parent*

Number of Children Receiving Care in 2024 *= 40,252 * 50% * 33% * 1.5*

Number of Children Receiving Care in 2024 *= 10,063*

I then estimate the total cost of the program in a given year.

Total Cost in a Given Year *= Number of Children * Proportion of Toddlers * Average Price per Toddler + Number of Children * Proportion of Infants * Average Price per Infant +Number of Children * Proportion of 3- & 4-year old's * Average Price for 3- & 4-Year Old's - $2000 * Number of Children*

Total Cost in Year 2024 *= 10,063 * 25% * $8,271 + 10,063 * 25% * $11,633 + 10,063 * 50% * $7,431 – $2,000 * 10,063*

Total Cost in Year 2024 = *$67,336,333 (without inflation)*

I then calculate the cost over the lifespan of the project, assuming a 2% average annual inflation rate and a 3% discount rate.

Total Cost = *Net Present Value (Cost in Year 1 + Cost in Year 2 + Cost in Year 3…. + Cost in Year 12)*

Total Cost = *$606,925,150.00*

Appendix F: Return on Investment Calculation

Appendix F: Benefit per Dollar Spent on Each Alternative

	Number of Additional Graduates	Benefit per Graduate	Total Program Cost	Total Monetary Benefit	Benefit per Dollar Spent
Alternative 1: Student Parent Program	6,362	$286,000	$78,038,298	$1,819,492,479	$23.32
Alternative 2: Grant Funding	4,456	$286,000	$345,877,057	$1,274,282,668	$3.68
Alternative 3: On-campus Child care	15,983	$286,000	$606,925,150	$4,571,025,803	$7.53

Notes: Per graduate benefit is based on conclusions in Carroll & Erkut (2009). These benefits include increased tax revenue and decreased spending on social services. They do not reflect the individual benefits that accrue to graduates. The estimate is adjusted to 2022 USD. It is important to note that this benefit would be distributed nationally. Since the costs would accrue at the state level, this estimate may slightly overstate the ROI for Virginia taxpayers.

I used the following equations:

Total Monetary Benefit = *Number of Additional Graduates * Benefit per Graduate*

Benefit per Dollar Spent = *Total Monetary Benefit / Total Program Cost*

Appendix G: Graduate Data Visualization