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The Impact of the Arkansas Scholarship Lottery on College Choice and Completion of Adult Students

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The Impact of the Arkansas Scholarship Lottery on
College Choice and Completion of Adult Students

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Adult and Lifelong Learning

by

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Abstract

In 2008, Arkansas citizens overwhelmingly supported a referendum to legalize a state-run lottery to support college scholarships. The Arkansas General Assembly passed a law in 2009 that detailed administration and procedures of the lottery, and students first received scholarships (branded as the Academic Challenge Scholarship) in fall 2010. The program was largely modeled after other state-run scholarships with two major exceptions: policy makers intentionally established lower eligibility requirements and included adult students. This study measured the impact of the state lottery funded Academic Challenge Scholarship on adult college choice and completion. Findings included significant demographic and college choice differences between recent high school graduates and adults. For adult students specifically, findings indicated significant differences in college choice and completion by demographic variables of gender, race or ethnicity, and socioeconomic status. These findings contribute to the scarce literature on the impact of state scholarship lotteries on adults, and they have significant implications for policy and future research.

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Chapter 1

Introduction

In 2008, Arkansas citizens overwhelmingly supported a referendum to legalize a state-run lottery to support college scholarships. The Arkansas General Assembly passed a law in 2009 that detailed administration and procedures of the lottery, and students first received scholarships (branded as the Academic Challenge Scholarship) in fall 2010. The program was largely modeled after other state-run scholarship lotteries in Georgia, Tennessee, and Florida with two major exceptions: policy makers intentionally established lower eligibility requirements and included adult students in order to maximize access. In fact, Arkansas was the first state to launch its scholarship lottery with adult students included, with Tennessee amending its program to include adult students in 2008.

To date, revenue from the Arkansas Scholarship Lottery has provided \$803 million in Academic Challenge Scholarship awards to 542,307 Arkansas college students (Arkansas Scholarship Lottery, 2019). This investment in higher education makes the Academic Challenge Scholarship a significant policy lever with great potential to promote higher education for adult students, particularly those who are historically underrepresented.

Problem

The impact of scholarship lotteries on college choice and completion is well documented for states with more established programs. Since most states did not originally include adult students in eligibility requirements, research on the impact of such programs is scarce. With nine years of data now available since the launch of the Academic Challenge Scholarship, review of its impact on college choice and completion for adults is now possible, which would add to

existing literature and inform policy makers of potential changes that could positively impact adult students.

Additionally, existing research on other state scholarship lotteries indicate differing impacts on college choice and completion for varying demographics of gender, race or ethnicity, and socioeconomic status. There is some evidence to support similar findings in Arkansas, but it is limited to students who recently graduated from high school. There is no analyses on the Academic Challenge Scholarship to determine whether these differing demographic patterns are applicable to adult students. Disaggregated data is imperative in designing policies that promote equitable access and attainment for adult students.

Context of the Problem

An educated population has many benefits. For the individual, a college degree means a stronger likelihood of being employed, earning more money, and owning a home (Navient, 2017), and median earnings increase significantly with each level of postsecondary attainment (Carnevale & Cheah, 2018). For the state and the nation, an educated and skilled population means a stronger economy.

The Georgetown University Center on Education and the Workforce (Carnevale & Smith, 2012) projected that nationally, 65% of jobs would require some form of postsecondary education and training by 2020. That same prediction for the South was only 59% (the same as the national average nearly a decade ago) and even lower for Arkansas at 51%. Meanwhile, the rate of Arkansans with any credential beyond high school, including short term and industry recognized certificates, is only 41.5%, which is lower than the national rate of 47.6% (Lumina, 2019). Arkansas' inability to meet employment demands and keep up with the nation, particularly neighboring states, significantly limits economic growth.

To increase attainment and to better meet employment demands, Arkansas must look to adults, especially given the projected decline in the traditional age college-going population. Due to falling birth rates, Arkansas will have 4,000 fewer students in Kindergarten than in 10th grade in 2022 (Gates, 2019), leading to future reductions in the annual number of high school graduates. Knocking at the College Door (2019) projects that Arkansas will graduate 32,600 high school seniors in 2025 and drop to 29,500 by 2031. Arkansas cannot focus on recent high school graduates alone; state policy must prioritize adult student college access and attainment.

While Arkansas lags the nation in credentials beyond high school, racially or ethnically diverse populations are even further behind. Lumina (2019) disaggregated attainment rates for Arkansans with at least an associate degree, and results indicate that most non-White populations have much wider gaps. Results are detailed in Table 1.

Table 1: Rate of Population with at Least an Associate Degree

Race/Ethnicity	National	Arkansas
All Populations	42.4%	32.5%
Asian American and Pacific Islander	62.7	50.5
White	47.1	32.5
American Indian	24.5	25.8
Hispanic	23.7	13.9

Demographic factors are also known to impact college choice. African American and Hispanic students are more likely to enroll in community colleges and are not proportionately represented in selective colleges (Carnevale, Van Der Werf, Quinn, Strohl, & Repnikov, 2018). Low-income populations, who are more likely to be African American or Hispanic, are less likely to attend college; but when they do enroll, they are more likely to work and select sub-baccalaureate degree programs (Carnevale & Smith, 2018). Location also matters. Students in

rural communities are more likely to graduate from high school, but they are less likely to enroll in college compared to those in urban and suburban communities (Lumina Foundation Focus, 2019).

Racial and ethnic inequities in college access and attainment are of increasing concern given projected national demographic changes. Brookings Institute projects that the nation will become minority White (49.7%) by 2045, with Hispanics comprising 24.6%, African Americans 13.1%, and Asians 7.9% (Frey, 2018). If these inequities persist, the nation will see a decline in the overall rate of citizens with degrees, leaving jobs unfilled and exacerbating income inequities. The impact on the economy would be devastating. According to the National Equity Atlas (2019):

America's demography is changing—and the nation's economic fate will hinge on how we respond to these changes. As the population grows more diverse and people of color become the majority, equity—just and fair inclusion—has become an urgent economic imperative. Reversing the trends of rising inequality and stagnant wages and ensuring that everyone can participate and prosper are critical to build a strong, competitive economy in the decades to come.

Purpose

The purpose of this study was to measure the impact of the Academic Challenge Scholarship (ACS) on college choice and completion for adult students, and to determine the policy implications of that impact. Demographics and college choices of students in the traditional award category (ACST) were compared to students ages 24 and older in the nontraditional award category (ACSNT 24+). For the ACSNT 24+ award category only, college choice and completion were disaggregated by gender, race or ethnicity, and Pell eligibility, and the impact of reductions in award amounts on college choice were measured. Award categories are defined in chapter two.

Research Questions

1. Do demographics differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
2. Do college choices differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
3. Do college choices differ between Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?
4. Do reductions in award amounts impact the college choices of Academic Challenge Scholarship recipients in the ACSNT 24+ award category?
5. Does degree completion differ between Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?

Limitations

Several environmental factors that could impact college choice and completion for adult students were not considered in this study.

1. The price of tuition and other costs of attendance have increased while Academic Challenge Scholarship award amounts have decreased, widening the affordability gap. Affordability disproportionately affects low-income students who lack resources to make up the difference. This potentially impacted college choice and completion for Academic Challenge Scholarship recipients.
2. Changes in the economy impacting employment opportunities are known to impact college choice and completion. The Academic Challenge Scholarship launched at the tail end of the Great Recession, during which record numbers of adults enrolled in college in order to obtain skills needed for employment. These economic conditions potentially

impacted college choice and completion for Academic Challenge Scholarship recipients.

Since then, unemployment has dropped to record lows.

3. Arkansas has undertaken a significant statewide effort over the last 10 years to initiate student success programs that improve college access and completion, including developmental education redesign and multiple measures for gateway course placement. These efforts potentially impacted college completion for Academic Challenge Scholarship recipients.

Definitions

1. Academic Challenge Scholarship: The scholarship funded by revenue from the Arkansas Scholarship Lottery.
2. Adult Student: A student who is 24 years of age or older, thereby considered financially independent by the U.S. Department of Education for purposes of federal financial aid eligibility.
3. Low-income Student: A student who is eligible for a federal Pell grant at any level.
4. Nontraditional Student Award Category: The award category for the Academic Challenge Scholarship for any recipient who does not meet the eligibility requirements of the traditional student award category. Award categories are defined in chapter two.
5. Racially or Ethnically Diverse Student: A student who indicates a race or ethnicity other than White or Caucasian.
6. Traditional Student: A first-time, full-time student enrolled in college in or before the fall semester immediately following high school graduation.
7. Traditional Student Award Category: The award category for the Academic Challenge Scholarship for any recipient who enrolls as a first-time, full-time student in or before the

fall semester immediately following high school graduation. Award categories are defined in chapter two.

Conceptual Framework

The state lottery funded Academic Challenge Scholarship was intended to provide access to college by reducing cost and to increase the number of citizens with college degrees. The goal of this study was to measure the impact of the scholarship on college choice and completion for adult students with a focus on demographics of gender, race or ethnicity, and socioeconomic status. Therefore, the conceptual framework for this study was the role of financial aid in college choice, and how financial aid influences college choice differently for varying demographic groups. The framework was complimented by the concept of equity mindedness in completion.

Adult students face additional barriers to college access due to lack of financial aid opportunities and competing responsibilities such as employment and childcare (Pingel & Holly, 2017; Duke-Benfield, Garcia, Walizer, & Welton, 2018; Pingel, 2019). Low-income students are more likely to base college choice on price and financial aid availability (Paulson & St. John, 2002). Students also respond differently to financial aid based on race or ethnicity (Heller, 1999; Paulson & St. John, 2002; Kim, DesJardins, & McCall, 2009). Combined, research suggests that the influence of financial aid on college choice varies based on demographics.

This conceptual framework was complimented by principles of equity mindedness, which is an intentional focus on maximizing equitable access and outcomes for diverse populations. National higher education advocates are calling on states and institutions of higher education to evaluate policies and practices for their impact on equity for historically underrepresented populations (Bensimon, Robert, Dowd, & Harris, 2007; Bensimon & Malcolm, 2012; American Association of Colleges and Universities, 2015; Lumina Foundation, 2015; Center for Urban

Education, 2017; Malcolm-Piqueux & Bensimon, 2017; Achieving the Dream, 2019; Jones & Berger, 2019). Being equity-minded is essential to analyzing the outcomes of this study and recommending policies that have a positive impact on equity for adult students.

Significance

Given the projected growth of racial and ethnic diversity and shrinking population of high school graduates, it is an economic development imperative that Arkansas utilize any available resources to strategically serve adults in order to move the state forward in national rankings of higher education completion and attainment. The annual multi-million-dollar investment of state lottery revenue into higher education makes the Academic Challenge Scholarship a valuable policy lever, but it must first be reviewed for its impact on adults, particularly those who are historically underserved. Additionally, given the increase in lottery revenue in recent years, now is an opportune time to strategically plan investment of scholarship dollars in populations with the most need.

Arkansas is at a critical time for higher education planning. The Arkansas Division of Higher Education (ADHE) is the state agency directed with implementing legislation impacting higher education, as well as coordinating all activities and reporting of institutions of higher education in the state. The ADHE is currently reviewing and revising its Master Plan for Higher Education, with the timeline of formally recommending a plan to its board in fall of 2020. The plan will outline goals and strategies for the next five years and will be influenced by higher education leaders, policy makers, and other stakeholders during the planning period. This research has the potential to add to that conversation and influence recommended changes to the Academic Challenge Scholarship that positively impact adult college access and completion, particularly for historically underserved populations.

Summary

The Academic Challenge Scholarship has nine years of data available to measure its impact on college choice and completion for adult students, with a focus on demographics of gender, race or ethnicity, and socioeconomic status. National data indicate the positive economic impact of higher education both to individuals and states. However, Arkansas lags in its rate of citizens with postsecondary credentials and has significant higher education race or ethnicity completion gaps for citizens with at least an associate degree. Additionally, given the projected decline in the number of high school students due to falling birth rates, adults are imperative to increasing the number of Arkansans with college certificates and degrees.

Building on the conceptual framework of the impact of financial aid on college choice and equity mindedness in college completion, this study measured the demographic differences between ACST and ACSNT 24+ students, and the differences in college choices between these student groups. For ACSNT 24+ only, this study measured college choice and completion disaggregated by demographics, as well as measured the impact of award amount reductions on college choice. The study's conceptual framework was complimented by principles of equity mindedness, which inform policy recommendations that promote equitable access and outcomes for diverse populations. This study adds to the scarce literature on the impact of state scholarship lotteries on adult students.

The remainder of this paper is organized as follows. Chapter two details the conceptual framework on which the study is based, the history and structure of the Arkansas Scholarship Lottery, and existing research on state scholarship lotteries. Chapter three outlines the methodology, and chapter four outlines the results. Chapter five concludes the study with a discussion of the results and subsequent policy implications.

Chapter 2

Literature Review

The Arkansas Scholarship Lottery was established in 2009 and has since provided more than 542,000 Arkansans with a total of \$889 million in Academic Challenge Scholarship awards (Arkansas Scholarship Lottery, 2019). Many of these students were in the nontraditional award category, defined broadly as any student who was not a recent high school graduate at the time of application, including adults ages 24 and older. While Arkansas was forward thinking in its inclusion of adult students, no analysis has been done to measure the impact on this population to date.

Given the data on the value of higher education and projected demographic changes discussed in chapter one, it is imperative to understand how this scholarship impacts adult students. This research measured the impact of the Academic Challenge Scholarship on college choice and completion for adult students age 24 and older, disaggregated by demographic data of gender, race or ethnicity, and socioeconomic status, as well as determined the policy implications of the results.

This literature review is organized as follows. Section one includes background and research on the study's conceptual framework, which is the role of financial aid on college choice, and how that role varies by demographic group. The conceptual framework is complimented by the role of equity mindedness in developing policies that promote equitable access and completion across varying demographics. Section two includes an in-depth background of the Academic Challenge Scholarship, an overview of its eligibility and award structure, significant changes since creation, and existing research on its impact. Section three includes research on the impact of other state lotteries, specifically on college choice and

completion by demographics. Finally, the chapter concludes with a discussion of major themes discovered in the existing research.

Conceptual Framework

Many college choice studies are framed within the economic theory of human capital, which assumes college choice decisions are rationally made by weighing the benefit of the return on investment (Tan, 2014). This theory does not account for influences of complex external factors such as lack of finances and lack of information or misinformation about options (Avery & Hoxby, 2004). Additionally, it does not account for differences in college choice among different socioeconomic and racial or ethnic groups (Perna, 2006) and is insufficient for understanding the influence of financial aid in college choice (Kim, 2012; Perna, 2011). In other words, if a student cannot afford the cost, choice is limited regardless of the potential benefit, and perception of affordability varies by demographic. Therefore, the conceptual framework for this study was the role of financial aid in college choice, and how financial aid influences college choice differently for varying demographic groups.

This study measured the college choices of Academic Challenge Scholarship recipients age 24 and older, specifically institution type and enrollment status, and whether those choices varied by demographic characteristics of gender, race or ethnicity, and socioeconomic status. This research was also informed by the concept of equity mindedness in shaping policies that promote equitable college completion for all populations. The conceptual framework is represented in Figure 1.

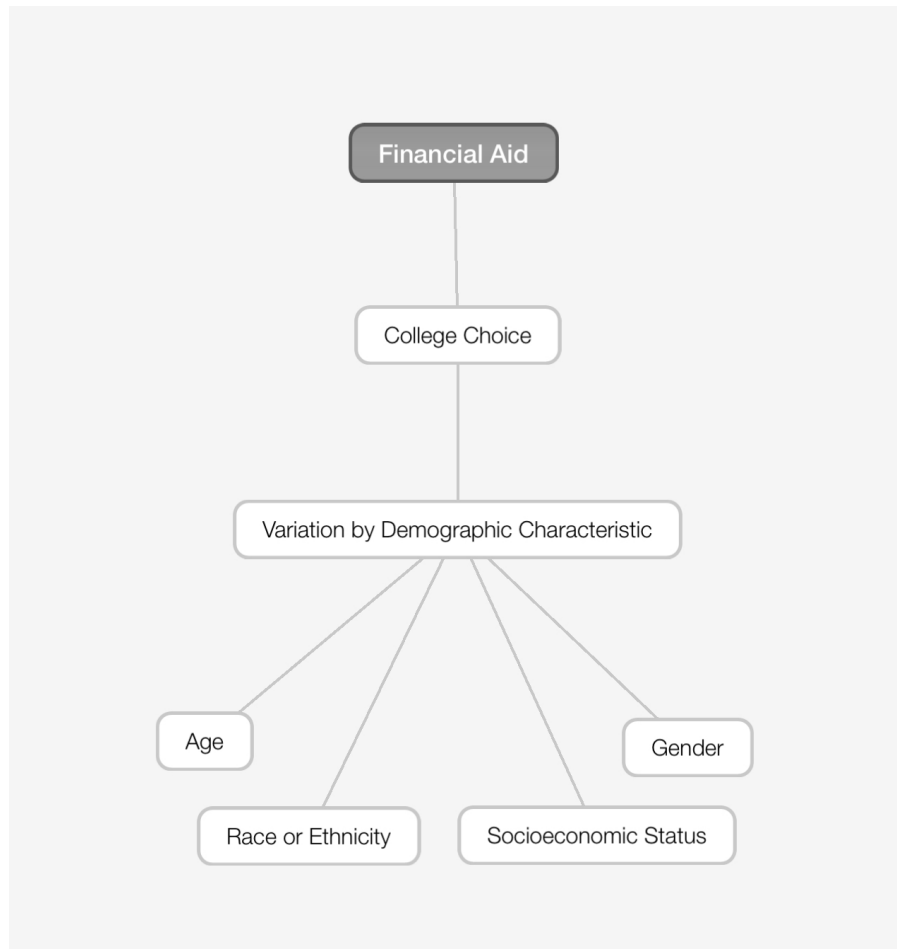


Figure 1: Conceptual Framework

The Role of Financial Aid in College Choice for Differing Demographic Groups

Affordability is a primary factor in college choice, but affordability can vary widely among students from different socioeconomic backgrounds, according to a report from the Institute for Higher Education Policy (Poutre, Rorison, & Voight, 2017). Authors concluded that students from the highest income categories could afford 90% of colleges, while students in the low- and moderate-income categories could only afford 1 to 5% of colleges (Poutre et al., 2017, p. 1). Today, more than one-third of college students are considered low-income (Lumina, 2018), and national higher education advocates are calling on states to design financial aid policies that provide resources directly to the neediest of students in order to promote equitable college access and completion.

Adult students, who make up approximately 40% of today's college students (Lumina, 2018), face additional barriers in accessing state financial aid to make college more affordable. In many of the largest state financial aid programs, a student becomes ineligible if too much time has passed since high school graduation, and eligibility requirements look back at past high school performance and/or require full-time enrollment (Pingel, 2019). Pingel and Holly (2017) noted that adult students make college choices in concert with other financial and time decisions related to work and childcare, and they recommended inclusion of adults in state financial aid policy such as providing need-based aid, allowing part-time enrollment, awarding students regardless of high school graduation date, and allowing enrollment in shorter term degree programs.

Duke-Benfield, Garcia, Walizer, and Welton (2018) conducted qualitative research to identify policy opportunities to address the needs of low-income, working students. A central theme was that financial aid programs were generally not designed for working adults, and they did not take into consideration needs beyond tuition such as childcare and transportation. Low-income students need additional resources such as Supplemental Nutrition Assistance Program, subsidized childcare, and health insurance, but access to these resources is often blocked by policies such as work requirements and restrictions on participating in education programs to qualify. Financial aid policy recommendations included prioritizing students who are low-income and racially or ethnically diverse and establishing emergency aid to assist students with unexpected barriers.

Researchers have also considered the effect of affordability on college choice for racially and ethnically diverse groups. Heller (1999) evaluated the effects of price sensitivity on college choice for different racial groups using public college enrollment, tuition prices, state financial

aid expenditures, and unemployment data. He found that for all races, enrollment in community colleges was related to all three variables. A \$1,000 increase in tuition price was associated with a 2.08% enrollment decrease, an increase in state grant spending of \$100 per 18-24 year old student was associated with a 1.26% enrollment increase, and a 1% increase in unemployment was associated with a .19% enrollment increase. Asian Americans had the highest negative reaction to increased community college tuition prices, but they had a positive reaction to increased four-year university tuition prices. Heller found that overall, his model indicated that price sensitivity was much higher in community colleges than in four-year universities, indicating that community college students were more sensitive to the variables of price, state aid, and unemployment. He concluded that state policy should link tuition and financial aid by increasing prices for those who can afford it while providing aid to those who cannot.

Paulson and St. John (2002) evaluated college choice decisions for different socio-economic classes using data from the National Postsecondary Student Aid Survey, which was particularly appropriate because it included a sample of all students, not just recent high school graduates. They found that low-income students were more likely to be racially and ethnically diverse, female, attend college part-time, and base college choice on low tuition and/or student aid availability. More than half of low-income students considered work and/or living costs as very important in their college choice. Low-income students were more likely to receive A's than their middle- and upper-income peers, but they were also more likely to aspire to completion of a vocational certificate or some college, rather than a baccalaureate or advanced degree.

Among the low-income group, Paulson and St. John (2002) found that African American students were more likely to persist than White students, which they concluded was potentially

due to receiving higher financial aid packages. Low-income Asian Americans were less likely to persist than any other low-income race, low-income women were less likely to persist than low-income men, and low-income recent high school graduates were less likely to persist than their low-income older peers. Authors concluded that college choice and persistence varied greatly among socioeconomic classes, and that “standards of equity would require that adequate amounts of need-based grants to offset tuition increases be targeted for, and made available to, student with demonstrated need” (Paulson & St. John, 2002, p. 236).

Kim, DesJardins, and McCall (2009) evaluated the impact of student expectations about financial aid with a focus on income and race or ethnicity, finding that differences in expected and actual financial aid significantly impacted choices. For each racial or ethnic group, high income students were more likely to apply to college than low income students. However, responses to financial aid varied by race or ethnicity. African American and Hispanic student enrollment response was lower than White and Asian students when aid was more than expected. For African American students, enrollment response was lower than White students even with high financial aid awards. The authors concluded that these differences could be due to differing expectations about financial aid and perceptions of cost, lack of information about other financing options, and lack of information about the benefits of college. Because of the significant difference in enrollment response by race or ethnicity, the authors suggest that institutions customize financial aid packages for students based on race or ethnicity.

Equity Mindedness in Shaping Policy

For decades, the focus of higher education was on improving access and increasing completion rates. While progress has been made, these improvements are not equitable for historically underrepresented populations including students who are racially or ethnically

diverse, low-income, and adults. As a result, national higher education advocates and private foundations are turning their focus to equity, calling for states to disaggregate data, evaluate policies and practices, and develop specific goals and strategies that promote equitable higher education access and completion for all populations. The national focus on equity is relevant to this study because it reinforces the need to disaggregate demographic data and evaluate potential policy changes within the Academic Challenge Scholarship that could positively impact college access and attainment for diverse populations of adult students.

The Center for Urban Education (2017) defines an equity focused policy as one that “recognizes the need to eliminate the disparities in education outcomes of students from underserved and underrepresented populations” (Center for Urban Education, 2017, p. 2). The Center identified strategies for embedding equity in higher education completion goals, including identifying existing assets that can promote equity. The Center defined equity assets as “existing policies or programs that are currently serving – or could be improved to serve – as tools to advance equity” (Center for Urban Education, 2017, p.14). With approximately \$12 million dollars in lottery revenue currently awarded to students in the nontraditional award category annually, the Academic Challenge Scholarship is certainly an equity asset with potential to contribute to equitable outcomes.

The Center for Urban Education’s work on evaluating higher education data and policy focuses on equity for racially or ethnically diverse students (Bensimon, Robert, Dowd & Harris, 2007; Bensimon & Malcom, 2012; Center for Urban Education, 2017). The Education Trust (Jones & Berger, 2019) also focuses on higher education completion gaps for racial and ethnic minorities in its equity advocacy efforts, stating that these gaps exist even when controlling for income. Other national higher education advocates are using a broader definition of equity.

Achieving the Dream (2019) includes adults in its definition of historically underrepresented students. The Association of American Colleges and Universities (Association of American Colleges and Universities, 2015; Malcolm-Piqueux & Bensimon, 2017) includes low-income students in its equity priorities, although they caution against using income as a proxy for race (Malcolm-Piqueux & Bensimon, 2017). The Lumina Foundation (2015) advocates including specifically low-income adults in state higher education equity completion goals.

The equity framework is utilized nationally in developing state higher education policy and is an appropriate supplement to the role of financial aid in college choice framework for this study. Being equity-minded will highlight the importance of equitable outcomes for all demographics and will inform policy recommendations to strategically invest these funds in ways that promote equitable higher education access and completion. For the purposes of this research, equity will be defined broadly and include college choice and completion for students based on age, gender, race or ethnicity, and socioeconomic status.

Arkansas Scholarship Lottery

Copeland (2013) conducted a qualitative case study of the Arkansas Scholarship Lottery policy design process through interviews and a review of historical documents. His work resulted in extensive documentation of events leading up to the scholarship launch. Beginning in 2007, Arkansas Lieutenant Governor Bill Halter spearheaded the effort to change the state's constitution to permit a lottery that directly benefitted college scholarships. Following a failed attempt to work with the state legislature to refer a ballot initiative to the public for a vote, as required to change the state's constitution, Lt. Governor Halter circumvented the legislature and initiated a campaign for public support to get the initiative on the ballot. The campaign was successful, and a vast majority of Arkansans voted in favor of the scholarship lottery in

November of 2008, resulting in Amendment 87 to the Arkansas Constitution and legalizing the operation of a state-run lottery.

Copeland (2013) further reported that following the overwhelming public support and resulting constitutional amendment, Arkansas legislators were tasked with passing a law that established rules for both operating the state lottery and administering the scholarships during the 2009 legislative session. Act 606 of 2009 (The Arkansas Scholarship Lottery Act) revamped the existing Arkansas Academic Challenge Scholarship to serve as the Arkansas Scholarship Lottery. The act also established eligibility criteria and specified that up to \$8 million could be spent on scholarships specifically for students in the nontraditional award category (award category definitions, eligibility criteria, and award amounts are detailed in the next section). Lottery tickets were available at retail outlets by the fall of 2009.

The Arkansas Division of Higher Education (ADHE) was tasked with implementing the scholarship and began accepting applications in summer of 2010 for the 2010-2011 academic year. Determining eligibility for students in the nontraditional award category with prior college credits was particularly complicated due to the manual process of reviewing transcripts to evaluate eligibility, which delayed award notices (Wallis, 2010). According to meeting minutes of the Arkansas Higher Education Coordinating Board (2010), “ADHE has redirected existing staff, hired temporary workers, and drawn on resources of other state agencies to deal with a monumental amount of applications for financial aid... So far, 36,697 current achiever/nontraditional applicants have been submitted, and it is believed that applicants will be notified of their status by August 10.” ADHE’s application processes have since been streamlined.

The next year, lottery revenue fell more than \$10 million short of projections, resulting in a reduction in award amounts (Brantley, 2011). Continuing revenue declines resulted in further award reductions effective for academic years 2014 and 2017 (award amounts are detailed in the next section). Revenue stabilized under the leadership of a new director, and proceeds for scholarships reached \$92 million for academic year 2019, the third highest amount since the lottery was created (Hibblen, 2018).

Eligibility and Award Structure

Arkansas policy makers were mindful of the opportunity to provide access to students who may not have otherwise considered college, and they intentionally designed a scholarship program that reached beyond recent high school graduates. Copeland and Mamiseishvili (2017) noted that at the time of design, Arkansas was the only state to designate all lottery revenue for higher education scholarships, and they found that policy makers established lower than typical eligibility criteria in order to promote access. An interviewee described as “a former legislator” said the following (Copeland & Mamiseishvili, 2017, p. 120):

Finally, at the end of the day, I think we all decided we were going to be stuck with that 2.5 and that 19 on the ACT even though research showed that was an absolute recipe for failure, but we did it. It was trying to reach that student that had never been reached before. We went down to that level and I say down because it was less of an academic rigor than we ever had on any scholarship.

Copeland and Mamiseishvili (2017) also concluded that a particularly unique policy decision was the inclusion of adult students, including those with prior college credits and enrolled part-time. An interviewee described as “a higher education interest group participant” said the following (Copeland & Mamiseishvili, 2017, p. 121):

We especially thought nontraditional students were important. If we were going to change the state of Arkansas, the way we are going to change it in the next ten years is with nontraditonals, the re-training of adults. To leave out the nontraditional would delay the impact that this was going to have in terms of changing the economy of Arkansas.

At the time the Arkansas Scholarship Lottery was established, the state had an existing program called the Arkansas Academic Challenge Scholarship that was funded by \$20 million in state general revenue. This scholarship was available to recent high school graduates based both on academic merit and financial need. As mentioned earlier, Act 606 of 2009 revamped this program to include the Arkansas Scholarship Lottery, adding specific language that the scholarship “supplement and shall not supplant nonlottery state educational resources” (Arkansas State Legislature, 2009, p. 95). To date, the original \$20 million from state general revenue is still utilized along with lottery revenue to support the Academic Challenge Scholarship.

The need-based component of the Arkansas Academic Challenge Scholarship was phased out for new applicants after the lottery was implemented. The new program was split into two parts, with one designated for traditional students who were recent high school graduates enrolled for the first-time, full-time in college, and a second designated for nontraditional students. Act 606 of 2009 broadly defined “nontraditional student” as “a student who is not a traditional student” (Arkansas State Legislature, 2009, p. 84), meaning any student who is *not* a recent high school graduate enrolled for the first-time, full-time in college. For both groups, compared to other states with scholarship lotteries, the program established lower eligibility and continuing eligibility requirements to promote access.

Basic eligibility requirements for both traditional and nontraditional student award categories have not changed since original implementation and are outlined below.

- US citizen or lawful permanent resident
- Arkansas resident

- Accepted for admission and enrolled either full-time (15 credit hours) or part-time (minimum of 6 credit hours for nontraditional award category only) at an approved institution of higher education
- Enrolled in a program of study which leads to or is creditable to a baccalaureate degree including baccalaureate degree programs, associate degree programs, qualified certificate programs, and nursing diplomas.
- Not owe a refund on federal or state student financial aid, not be in default, and not have borrowed in excess of annual loan limits
- Not be incarcerated at the time of application or during the time the applicant receives a scholarship
- Certify drug-free status and pledge to refrain from the use of or abuse of illegal substances, including alcohol if the applicant is less than 21
- A male applicant under the age of 26 must file a Statement of Selective Service Status with the institution at which he is enrolled
- Complete the Free Application for Federal Student Aid (FAFSA)

Act 606 of 2009 outlined additional eligibility requirements specifically for the nontraditional award category. These requirements have been revised over the years. Both original and revised additional eligibility requirements are detailed in Table 2.

Table 2: Additional Requirements for Nontraditional Students

Category	Rule per Act 606 of 2009	Revision
If graduated from Arkansas public high school and NOT completed 12 college credit hours	Achieve a 2.5 high school GPA OR minimum 19 ACT composite score	**AY2017: 2.5 high school GPA option removed ***AY 2020: Achieve a minimum 19 ACT super score
If completed 12 or more college credit hours	Achieve a 2.5 postsecondary GPA	No change
If graduated from a private high school, out-of-state high school, home school, or earned a GED	Achieve a minimum 19 ACT composite score	***AY 2020: Achieve a minimum 19 ACT super score
Ineligible if	Earn a baccalaureate degree or equivalent hours OR earn an associate degree or equivalent hours if at a two-year institution	No change
Continuously eligible if	ALL of the following: 1) 2.5 cumulative postsecondary GPA 2) Successfully complete at least 15 hours if enrolled full-time and least 6 hours if enrolled part-time 3) Continuously enrolled unless ADHE grants an absence 4) Meet Satisfactory Academic Progress 5) Successfully complete all remedial courses within first 30 semester hours attempted 6) Enroll in courses that lead toward a baccalaureate degree program after completing an associate degree or equivalent hours	No change
Renewable for one academic year annually until	ONE of the following: 1) Earn a baccalaureate degree 2) attempts total of 130 hours in 8 semesters if full-time unless degree requires additional hours 3) attempts 130 hours in 16 semesters if part-time unless degree requires additional hours	No change
May regain eligibility one time in an academic year if	Complete required number of hours AND achieve a 2.5 cumulative GPA during the summer term at the recipient's own expense	*AY 2014: If recipient does not successfully complete any credit hours then she immediately forfeits the remainder of the scholarship for that academic year

AY: Academic Year

*Act 1106 of 2013 (Arkansas State Legislature, 2013b)

**Act 1105 of 2015 (Arkansas State Legislature, 2015)

***Act 549 of 2019 (Arkansas State Legislature, 2019b)

Act 606 of 2009 specified award amounts for both traditional and nontraditional award categories. Award amounts have changed significantly over the years as a result of reductions in lottery revenue, although revenue has since stabilized and is now increasing. Both original and revised award amounts are detailed in Table 3.

Table 3: Annual Award Amounts

Category	AY 2011*	AY 2012**	AY 2014***	AY 2017****
Full-Time at 4-Year Institution	\$5,000	\$4,500	Fresh. = \$2000; Soph. = \$3000; Junior = \$4000; Senior = \$5000	Fresh. = \$1000; Soph. & Junior = \$4000; Senior = \$5000
Full-Time at 2-Year Institution	\$2,500	\$2,250	\$2,000	Fresh. = \$1000; Soph. = \$3000
Part-Time at All Institutions	9-14 hours = 75%; 6-8 hours = 50%	No change	No change	No change

AY: Academic Year

*Act 606 of 2009 (Arkansas State Legislature, 2009)

**Act 1180 of 2011 (Arkansas State Legislature, 2011)

***Act 234 of 2013 (Arkansas State Legislature, 2013a)

****Act 1105 of 2015 (Arkansas State Legislature, 2015)

Other Significant Changes

Several acts passed by the Arkansas General Assembly since 2009 have significantly revised or otherwise impacted the Academic Challenge Scholarship and its awardees. The timeline of events is as follows:

- Act 265 of 2010, known as “The Jodie Mahoney Scholarship Act,” increased the amount of lottery revenue earmarked for the nontraditional award category from \$8 million to \$12 million (Arkansas State Legislature, 2010).
- Act 234 of 2013, known as “To Amend Provisions of the Arkansas Academic Challenge Scholarship Program, Part 2, Concerning Scholarship Awards from Net Lottery Proceeds

of the Lottery,” increased the amount of lottery revenue earmarked for students in the nontraditional award category from \$12 million to \$16 million (Arkansas State Legislature, 2013a).

- Act 316 of 2017, known as “To Create the Arkansas Future Grant Program,” established a new last dollar scholarship program for students enrolled in STEM or regionally high-demand workforce training programs, with no merit- or need-based eligibility requirements program (Arkansas State Legislature, 2017a). The program was funded by state general revenue available through the repeal of two existing need-based grant programs, the Workforce Improvement Grant and the Higher Education Opportunities Grant. With the elimination of these two programs, Arkansas no longer had a need-based financial aid.
- Act 613 of 2017, known as “To Create the Arkansas Workforce Challenge Scholarship,” reduced the amount of lottery revenue earmarked for students in the nontraditional award category from \$16 million to \$12 million (Arkansas State Legislature, 2017b). Act 613 also utilized excess lottery revenue to establish scholarships for students enrolled in certificate and associate degree programs in high-demand workforce occupations. At the time of act’s passing, these programs were defined as industry, health care, and information technology.
- Act 456 of 2019, known as “To Create the Arkansas Concurrent Challenge Scholarship,” utilized excess lottery revenue to establish scholarships for high school students taking concurrent college credit courses (Arkansas State Legislature, 2019a).

Results

As mentioned previously, the existing Arkansas Academic Challenge Scholarship Program was revised in 2009 to include the Arkansas Scholarship Lottery. Dyanarski (2008) detailed the impact of the Arkansas Academic Challenge scholarship prior to lottery implementation, as originally established in 1991. At the time of the study, the scholarship was funded solely through state general revenue, included a need-based component based on annual family income caps, and included only traditional students who were recent high school graduates. Dyanarski evaluated the impact of the scholarship along with the state of Georgia and concluded that both states saw increases in college attendance. However, those increases were flat after accounting for population growth. The scholarships had the greatest positive impact on white women.

Pittman (2014) evaluated post-implementation Academic Challenge Scholarship data to determine whether there was a relationship between lottery tickets purchased and lottery scholarships awarded. He concluded that while there was an overall increase in college participation in the state, there was not a significant change in college participation by Arkansans from counties with higher rates of poverty. Pittman further concluded that the program had a regressive effect. Arkansans who purchased lottery tickets at higher rates came from counties with higher rates of poverty, and Arkansans who received lottery scholarship awards came from counties with less poverty.

Bradberry (2018) conducted a quasi-experimental analysis of existing data from the Arkansas Division of Higher Education and a survey of Arkansas residents enrolled in public four-year universities as traditional students to determine the impact of the Academic Challenge Scholarship. She found that seven of the top ten counties with the most scholarship recipients

came from counties with the largest expenditures on lottery tickets, potentially due to the higher populations of those counties. Recipients who were from high-income counties, female, White, and had an ACT score of 19 or higher were more likely to graduate in comparison to recipients who were from low-income counties, male, non-White, and had an ACT score of 18 or below. A significant finding was that only 12.3% of recipients who lost the lottery scholarship in their first year went on to complete a bachelor's degree in six years or less. Bradberry concluded that Academic Challenge Scholarship recipients were more likely to graduate than non-lottery recipients, but that recipients from low-income counties graduated at lower rates (47.1%) compared to their high-income county peers (51.1%). Additionally, survey results indicated that receipt of the lottery scholarship had the largest positive impact on college choice for participants with a family income below \$51,000 per year.

According to a report from the Arkansas Legislative Council Lottery Oversight Committee (2019), there are currently 32,486 students receiving Academic Challenge Scholarship awards at a total of \$92,601,611. Of those, 3,944 are in the nontraditional award category, and they receive a total of \$12,109,640. The report disaggregated data by academic performance, gender, race, and family income for both traditional and nontraditional student award categories. However, it does not specify age, which is important to this study given the broad program definition for the nontraditional award category. To date, there has been no research on the impact of the Academic Challenge Scholarship on college choice or completion of adult students age 24 and older, specifically.

State Scholarship Lotteries

State supported lotteries were common in the United States by 1985, but none were established in the South until the 1990s (Nelson & Mason, 2003), beginning with Georgia in

1993. Southern states continued to establish lotteries through the 2000s, several specifically to establish college scholarships, with Arkansas being among the last in 2009. Despite well-intentioned policy makers and ambitious goals of increasing college enrollment and completion, results on the impact of scholarship lotteries are mixed at best, particularly for students who are low-income and racially or ethnically diverse. Results specific to adult students are scarce since most scholarship lotteries focus primarily on traditional age college students who are recent high school graduates.

Lottery researchers Stanley and French (2005) evaluated data from Southern states and found no significant relationship between state scholarship lotteries and college enrollment. However, they did conclude that a state's population and unemployment rate significantly impacted enrollment, meaning states with higher populations and/or higher unemployment rates had higher college enrollment. A limitation of this study was that all southern states were evaluated collectively, skewing potential individual differences in eligibility and award structures that may impact enrollment. Researchers concluded that individual state analyses may produce more specific results.

Stanley and French (2009) further evaluated data from all 50 states to determine whether state funded merit-based scholarships impacted college enrollment, including state scholarship lotteries. They excluded states without a merit-based aid program, as well as all need-based aid programs. Results indicated that states with merit-based aid programs reported 19% fewer freshmen in college than non-merit-based aid states, which researchers admitted could be skewed by the states reporting lower populations and fewer high school graduates. However, as in their 2005 study, they concluded that state population was a significant predictor of enrollment.

Sjoquist and Winters (2015) evaluated merit-based scholarships from 25 states, including state scholarship lotteries, and found consistent evidence that these programs had no significant impact on college enrollment or completion. Researchers further suggested that merit-based scholarships tended to be awarded to higher-achieving students more likely to persist and graduate. Therefore, they were unlikely to make a difference in overall persistence and completion rates because they were not specifically targeted at success for marginally eligible students.

A growing body of literature focuses on disaggregated demographic data to examine the impact of merit-based aid, including state scholarship lotteries, on college enrollment and completion of historically underrepresented populations, particularly students who are low-income and racially or ethnically diverse. Bowden and Elrod (2004) reviewed literature on the subject and concluded that state scholarship lotteries were regressive in nature, in that lottery revenue was collected disproportionately from low-income families and redistributed as scholarships to more affluent families. They also concluded that access to college for students who were racially or ethnically diverse is not proportionate to population growth.

Heller and Marin (2004) examined racial inequities in state merit-based scholarships, including state scholarship lotteries in Florida, Georgia, Kentucky, and New Mexico. They found that non-need, merit-based aid primarily benefitted students who would attend college regardless of these scholarships, and that White students (independent of socioeconomic status) had greater access to non-need, merit-based aid. The authors recommended the inclusion of need-based aid as a tool for enhancing equitable college access and completion.

Lebioda (2014) reviewed the eligibility and award structures of eight state lottery-funded scholarships (Arkansas, Florida, Georgia, Kentucky, New Mexico, South Carolina, Tennessee,

and West Virginia) and evaluated their impact on equitable college access and completion. She noted the regressive nature of scholarship lotteries, the trend of moving from need-based aid to merit-based aid, and the trend of tightening eligibility requirements and reducing award amounts to accommodate reduced lottery revenue and increased demand for scholarships. She concluded that these policies disproportionately impacted students who were low-income and racially or ethnically diverse. Lebiada concluded by recommending a shift back to need-based aid and adding additional academic and supportive services for historically underrepresented and nontraditional students.

Research on the impact of specific state scholarship lotteries on college choice and completion by student gender, race or ethnicity, and socioeconomic status is detailed below. As previously stated, research specific to adults is limited.

Results in Specific States

Georgia.

Georgia was the first state to enact a scholarship lottery in 1993. The resulting Georgia Helping Outstanding Pupils Educationally (HOPE) scholarship is the most extensively researched, and it is the model for subsequently developed state scholarship lotteries. Dee and Jackson (1999) evaluated data from one freshman cohort of students attending Georgia Tech to determine whether there was a pattern in students who lost the HOPE scholarship. Researchers concluded that there was no significant difference in race or ethnicity of students, but there was a significant difference in the course of study students selected. Students in the sciences, engineering, and computing were 21 to 51% more likely to lose their scholarship than students in other fields, due to not maintaining the required 3.0 GPA for continuing eligibility. This research may not be generalizable because it is limited to one cohort attending one selective university.

Dyanarski (2000) estimated the impact of the HOPE scholarship on college attendance, finding that the program significantly increased the attendance rate of middle- and high-income students, and particularly White students. She concluded that the scholarship widened the gap between low-income and high-income students in attendance, although the results may have been biased due to the non-random sample selection of students for whom family income data were available. Dyanarski also concluded that HOPE widened the racial gap in attendance relative to other Southern states, finding no significant impact on enrollment of African American students. She did conclude that there was a significant impact of the HOPE scholarship on college choice, finding that Georgia students were more likely to remain in-state for college.

Rubenstein and Scafidi (2002) conducted a survey from a stratified sample of adults in Georgia (weighted to match state demographic data) to evaluate the relationship between lottery expenditures and benefits received via the HOPE scholarship. They concluded, consistent with other studies, that the HOPE scholarship was regressive in nature. More educated, higher income families received a disproportionate amount of scholarship funding compared to less educated, lower- income families. However, the 2001 changes allowing students to receive both Pell grants and HOPE awards may help to reduce the regressive nature by providing more funding to lower-income students.

Chen (2004) reviewed literature related to the Georgia HOPE Scholarship. He concluded that more students enrolled in Georgia colleges, and that achievement in both high school and college increased. However, this could have been a result of other demographic factors such as overall population increases in the state or the shift from high-achieving students choosing in-state colleges over out-of-state colleges. He further concluded that the critical impact of the

scholarship is on low-income students due to the regressive nature of lottery scholarships. Like Rubenstein and Scafidi (2002), Chen (2004) concluded that the 2001 decision to allow students to receive both a Pell grant and a lottery scholarship, rather than reducing the lottery scholarship relative to the Pell grant amount, could alleviate this inequity.

Cornwell, Mustard, and Sridhar (2006) evaluated Integrated Postsecondary Education Data System (IPEDS) data to determine the impact of the HOPE scholarship on college enrollment, concluding that HOPE resulted in a 9% enrollment increase in four-year public institutions and at 13% enrollment increase in four-year private schools. There was no significant evidence of a positive impact on enrollment at two-year colleges. Researchers found significant enrollment increases for African American students, which they attributed primarily to large enrollment into the state's Historically Black Colleges and Universities as well as in technical colleges. There was not a significant increase for White students in technical colleges. The program also reduced the outmigration of high-achieving students by an average of 560 per year, and it increased the average SAT score by 40 points. The researchers conclude that "programs like HOPE, which primarily affect the choice of where, rather than whether, to attend college call into question the social benefits of state-sponsored merit aid" (Cornwell et al., 2006, p. 784).

Shell (2016) evaluated whether 2011 reductions to HOPE award amounts had an impact on enrollment trends. He concluded that the award reductions resulted in students selecting technical and community colleges over more costly and prestigious four-year universities. However, this trend was not even across demographics. Students from lower income counties outside of the Atlanta area were much more likely to see enrollment decreases in four-year universities.

Florida.

The Florida Bright Futures scholarship lottery was established in 1997 and modeled after the Georgia HOPE scholarship. Stranahan and Borg (2004) conducted a survey of 1,260 Florida households in order to estimate the relationship between money spent on the lottery and money received from Bright Futures. They concluded that race, income, and parental education levels were significant predictors of receiving a scholarship. Children who were White, had higher family income, and had a parent with at least some college experience were significantly more likely to receive Bright Futures. On income specifically, researchers found that “high socioeconomic status households receive a net program benefit gain of more than \$2,200, but low socioeconomic status households have a net program loss of more than \$700” (Stranahan & Borg, 2004, p. 123) due to low-income households spending more on lottery purchases than they received in return in lottery scholarships.

Harkreader, Hughes, Tozzi, and Vanlandingham (2008) examined Florida high school graduates to determine the impact of Bright Futures on high school course selection and college enrollment. They compared students who earned a high school diploma in the 1997 academic year (eligible to apply for Bright Futures but no time to select college preparatory courses) and in the 2001 academic year (eligible to apply with adequate time to select college preparatory courses). Results indicated that the overall percentage of students taking college preparatory courses increased from 54 to 67%. Similarly, the rate at which high school graduates attended college in Florida increased from 44 to 55%. Students who were African American, Hispanic, limited English proficiency, and low-income were less likely to be eligible for Bright Futures or take college preparatory courses, but there were overall increases for these students in Bright Futures eligibility, taking college preparatory courses, and college enrollment. Despite these

increases, these student groups continued to be disproportionately underrepresented among graduates prepared for college.

Mckinney (2009) examined unintended consequences of Bright Futures. He identified specific policy problems including the fiscal health of the lottery due to decreasing revenue from sales and increasing student demand for scholarships and difficulty in implementing structural award amounts due to its public popularity. The author noted public policy concerns with utilizing limited scholarship funds for affluent students who would have attended college regardless of whether they received a lottery scholarship, as well as the inequitably low distribution of scholarships awarded to students who were low-income and racially or ethnically diverse compared to higher-income and White students. Mckinney (2009) concluded that flat-rate awards rather than full tuition awards would address fiscal instability, and that adding a need-based component to the merit-based component would address demographic distribution inequities.

Zhang, Hu, and Sensenig (2013) examined the impact of Bright Futures on college enrollment and completion in Florida, finding a significant overall increase in college enrollment for both two- and four-year public institutions. Researchers concluded this increase was due in part to the reduction of out migration of college students, which was 23% prior to implementation of Bright Futures and reduced to 19.9% after implementation. Results further indicated similar enrollment increases when disaggregated by gender and race or ethnicity for four-year public institutions. Two-year public institutions also saw no differences in enrollment increases by gender, but enrollment increases for part-time non-White students was larger than part-time White students. While the overall impact on degree completion was lower than on enrollment, degree completion for non-White students (8%) was larger than for White students

(.4%). Researchers noted limitations of the study, including the increasingly rigorous eligibility criteria enacted over time and other college choice factors, such as academic performance, sensitivity to price change, and transfer.

Tennessee.

The Tennessee Education Lottery Scholarship (TELS) was enacted in 2003 for recent high school graduates. It was the first program to allow eligibility based on either a standardized test score or high school GPA (Pallais, 2009). While Tennessee added a provision for nontraditional students ages 25 and older in 2008, most (if not all) research is limited to traditional students who were recent high school graduates.

Bone (2008), completed prior to the inclusion of adult students, evaluated the impact on TELS on higher education enrollment in Tennessee and found significantly increased enrollments when compared to its neighboring states and SREB states, potentially due to having a higher overall population. However, no significant enrollment difference was found within the state of Tennessee since the implementation of TELS. The researcher did find a significant difference in overall enrollment increases between four-year institutions (6.4%) and two-year institutions (1.6%). No significant difference was found in the specific demographic groups of first-time freshmen students, Hispanic students, or African American students. While average standardized test scores increased, that increase was not significant. The researcher concluded that since a disproportionate percentage of students receiving the lottery scholarship had family incomes of \$96,000 or above, including a need-based component in eligibility should be considered.

Ness and Tucker (2008) surveyed Tennessee high school seniors, both college and noncollege bound, prior to graduation to evaluate whether TELS had an impact on college

choice. Results indicated that the scholarship influenced African American seniors to attend college at a rate of 1.73 times greater than White seniors. Additionally, the results indicated that seniors with an annual family income of less than \$36,000 were 1.5 times more likely to report that the scholarship influenced their decision to enroll in college compared to seniors with a higher annual family income, and seniors whose parents had lower levels of education were more likely to report that the scholarship influenced their college going decision. Furthermore, seniors with lower class rank and academic aspirations were more likely to report that scholarship eligibility would make a difference in their post-high school choices. Researchers noted the following (Ness & Tucker, 2008, p. 581):

Therefore, merit aid programs seem to follow this trend of addressing college affordability through blanket discounts, rather than through targeted policies such as financial aid directed to students least able to afford college costs. Ultimately, it seems the inefficient financial aid policies are most sustainable due to their broad political appeal. If we are to accept this premise, then the most important issue becomes how these policies treat traditionally under-represented students.

Pallais (2009) evaluated data for students who took the ACT and planned to graduate from high school in 1996, 1998, 2000, and 2004 to determine whether the TELS had an impact on ACT scores and college choice. She concluded that the program did not achieve its stated goal of more students staying in the state for college, and it had no significant impact on whether students selected two-year or four-year institutions. She also concluded that the lottery scholarship did increase ACT scores, but not for all segments of the population. African Americans were significantly less likely to increase their ACT scores to the minimum eligibility threshold of 19. In fact, they were five times less likely than Asian students and seven times less likely than White students to increase their scores to 19 or higher.

Menifield (2012) evaluated TELS' impact on the retention of fall 2007 recipients (prior to the inclusion of nontraditional students) by demographic, economic, and education variables.

Results indicated that retention was particularly weak for African American recipients, weaker than any other racial group. Women were more likely than men to retain their scholarships, as were students majoring in science, technology, engineering, and math fields. Students with higher ACT scores, higher high school GPAs, and higher family incomes were also more likely to retain their scholarships. In fact, students who received Pell grants were twice as likely to lose their scholarships during the first two years of enrollment compared to students who were not Pell eligible. Menifield (2012) concluded that colleges and universities concerned about the retention of all students should target racially or ethnically diverse students and others likely to lose their scholarships with additional academic and supportive services.

Bruce and Caruthers (2014) determined that TELS did not increase overall college enrollment for students who graduated from high school between 2006 and 2009, but it did impact college choice. Students who scored at least a 20.5 on the ACT were more likely to select four-year institutions over two-year institutions, relative to students who met the minimum eligibility requirement of 19 but did not exceed 20.5. Additionally, the tendency to select a four-year institution was most prominent among students with family income that did not exceed \$60,000 and students who qualified for Pell grants.

Welch (2014) evaluated the impact of TELS specifically on community college enrollment of marginally eligible students who were entering freshmen in academic years 2005 to 2009. She concluded that although the scholarship reduced the cost, it had no significant impact on persistence, academic performance, transfer to a four-year institution, completing an associate degree within three years, or completing a bachelor's degree within five years. She further evaluated earnings and found no significant changes in wages either during or post-

college enrollment. Welch did, however, find a small but significant increase on cumulative credit hours after two years of enrollment.

Other States.

Kash and Lasley (2010) evaluated the relationship between the demographics of Kentucky high schools and the number and dollar amount of lottery funded Kentucky Educational Excellence Scholarships (KEES) awarded. They concluded that KEES was regressive in nature, with more awards and higher dollar amounts going to students from high schools with more White students, more female students, and fewer free or reduced-lunch eligible students. Further analysis indicated that “granting awards based on GPA mitigates some of the regressivity across schools when compared with the awards based on standardized test results, and it is likely that variations in grading standards could be a factor” (Kash & Lasley, 2010, p. 34-35). Kash and Lasley (2010) recommended eliminating the graduated award structure (which included bonus funding based on ACT scores) and adding a need-based component to the merit-based eligibility criteria to reduce the regressivity.

Scott-Clayton (2011) evaluated first-time, full-time West Virginia freshmen to determine college completion results for the first two cohorts of college students after the implementation of the lottery funded West Virginia PROMISE scholarship. She limited the study to those who had a high school GPA of at least 3.0 and who were just below or just above the ACT eligibility threshold of 21, including students who were not eligible for the scholarship. She concluded that there was no statistical difference between students who received the scholarship and those who did not in terms of persistence. However, scholarship recipients had significantly higher cumulative GPAs and on-time degree completions. Scholarship recipients were 9 percentage points more likely to have a 3.0 cumulative GPA and 9.5 percentage points more likely to have

earned 120 hours in four years. Additionally, Scott-Clayton (2011) found no significant differences in outcomes for students based on income.

Erwin and Binder (2018) evaluated college completion rates of students who received the New Mexico Lottery Scholarship, which had relatively low eligibility criteria compared to other state lottery scholarships and paid 100% of tuition at the time of the study. They found positive completion effects for academically well-prepared students and negative effects for less-prepared students. Because the scholarship paid 100% of tuition, making the difference between tuition costs zero, researchers concluded that less academically prepared students were persuaded to attend more prestigious four-year institutions.

Arbogast, Thornton, and Szweda (2016) utilized county-level data to evaluate whether there was a relationship between South Carolina Education Lottery (SCEL) purchases and scholarship distributions. Findings indicated that counties with higher non-White populations spent more per capita on lottery purchases and, conversely, received significantly fewer SCEL scholarship dollars. Researchers noted the limitation of using county-level data due to potential skewing by small populations in some counties.

Discussion

The Academic Challenge Scholarship has undergone significant changes over the years. While the original inclusion of adult and part-time students is still in place, the eligibility criteria have changed slightly. A significant change was the elimination of the ability to qualify based on high school GPA (effective for academic year 2017) which immediately showed a negative impact on the number of overall applications (-16.5%), and an even higher negative impact on the number of African American applications (-40.5%) (Brantley, 2016). The ability to qualify based on an ACT superscore rather than a composite score has the potential to make scholarships

available to more students, but as a recent development effective for academic year 2020, its impact cannot be included in this study.

The changes in award structure are of most interest to this study. Freshman awards were originally valued at \$5,000 at four-year institutions and \$2,500 at two-year institutions, and they were cut to \$1,000 regardless of institution choice. Awards increase incrementally as students progress. However, given the price sensitivity of low-income and racially or ethnically diverse students discussed in section one, a low award amount at the freshman level could significantly impact college choice, or even whether to enroll at all.

The creation of new state financial aid programs is also of interest to this study. The original Arkansas Academic Challenge Scholarship program, on which the Arkansas Scholarship Lottery was based, had a need-based component with a cap on annual family income. That component was not included after the lottery was implemented. With the repeal of the Workforce Innovation Grant and the Higher Education Opportunities Grant to create the Arkansas Future Grant, a last-dollar scholarship program for students enrolled in STEM and high-demand workforce programs, Arkansas no longer has a need-based scholarship program. Additionally, the creation of new financial aid programs funded by excess lottery revenue could indicate an opportunity to revisit restrictive eligibility and award amounts.

Outcomes on the impact of state scholarship lotteries are somewhat mixed. Most researchers note the regressive nature of scholarship lotteries (Bowden & Elrod, 2004; Chen, 2004; Lebiada, 2014; Kash & Lasley, 2010; Pittman, 2014; Rubenstein & Scafidi, 2002), and that ultimately they have limited impact on overall enrollment when controlled for population growth (Bone, 2008; Bruce & Caruthers, 2014; Dyanarski, 2008, Sjoquist & Winters, 2015; Stanley & French, 2005 and 2009).

Most research concludes that state scholarship lotteries disproportionately benefit students who are White and higher-income (Bradberry, 2018; Dyanarski, 2000; Harkreader et al., 2008; Heller & Marin, 2004; Lebioda, 2014; McKinney, 2009; Menifield, 2012; Stranahan & Borg, 2004), as well as students who are higher-achieving (Erwin & Binder, 2018; Menifield, 2012; Sjoquist & Winters, 2015). For community college students specifically, Welch (2014) found no impact on enrollment, performance, transfer, or degree completion for students who were marginally eligible and received TELS.

Most research indicates a significant impact of scholarship lotteries on college choice. Ness and Tucker (2008) found that African American, low-income, and less academically prepared high school seniors in Tennessee were more positively influenced by the availability of TELS in deciding whether to enroll in college. Similarly, scholarship lotteries have had an overall positive influence on students deciding to remain in-state for college (Cornwell et al., 2006; Dyanarski, 2000; Zhang et al. 2013).

In some states, scholarship lotteries have significantly impacted student preference for four-year institutions over two-year institutions (Bone, 2008; Cornwell et al., 2006), particularly for higher achieving students (Bruce & Caruthers, 2014). However, award amount reductions in Georgia had the opposite effect, particularly for students from lower-income, rural counties (Shell, 2016). Georgia saw an increase of African American student enrollment in Historically Black Colleges and Universities and technical colleges (Cornwell et al., 2006), and Florida saw an increase of non-White students enrolled part-time (Zhang et al., 2013). In New Mexico, less academically prepared students were more likely to select more prestigious four-year institutions as a result of the scholarship lottery (Erwin & Binder, 2018).

It is important to note a limitation of this literature review. As in Arkansas, scholarship lotteries in other states have evolved over time, and changes in eligibility criteria and award amounts have potentially impacted college choice and completion. These changes over time are not addressed in this review, but they may have impacted the research results discussed here.

The majority of state scholarship lotteries limit eligibility to recent high school graduates enrolled in college for the first-time, full-time. It will be interesting to see whether these same patterns of college choice and completion are evident for adult scholarship recipients in Arkansas. Based on the conceptual framework of the role of financial aid in college choice and how that role varies by demographic, complimented by equity mindedness in developing financial aid policy that promotes equitable access and completion, this research will measure the college choice and completion for adult students, disaggregated by gender, race or ethnicity, and socioeconomic status. The findings will have implications for state leaders seeking policy levers, such as the Academic Challenge Scholarship, to promote equitable higher education access and completion.

The remainder of this paper is organized as follows. Chapter three details the methodology used to conduct this research, and chapter four outlines the results of this research. Chapter five provides an in-depth analysis and interpretation of results, as well as policy recommendations for improving the impact of the Academic Challenge Scholarship on adult students, with particular attention to equity for low-income and racially or ethnically diverse students.

Chapter Three

Methodology

This study utilized a quantitative research design to measure the impact of the Academic Challenge Scholarship (ACS) on college choice and completion of adult students ages 24 and older. Demographic and college choice differences between students in the traditional award category (ACST) and students in the nontraditional award category ages 24 and older (ACSNT 24+) were measured. For the ACSNT 24+ students, differences in college choices by demographics and award cohort were measured. For Award Cohort One of ACSNT 24+ students, differences in degree completion by demographics were measured. Research questions, variables, data collection, and research design are discussed below.

Research Questions

1. Do demographics differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
 - a. H_o - There are no differences in demographics between recipients in the ACST and ACSNT 24+ award categories.
 - b. H_a - There are differences in demographics between recipients in the ACST and ACSNT 24+ award categories.
2. Do college choices differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
 - a. H_o - There are no differences in college choices between recipients in the ACST and ACSNT 24+ award categories.
 - b. H_a - There are differences in college choices between recipients in the ACST and ACSNT 24+ award categories.

3. Do college choices differ between Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?
 - a. H_0 - There are no differences in college choices between recipients in the ACSNT 24+ award category when disaggregated by demographics.
 - b. H_a - There are differences in college choices between recipients in the ACSNT 24+ award category when disaggregated by demographics.
4. Do changes in award amounts impact the college choices of Academic Challenge Scholarship recipients in the ACSNT 24+ award category?
 - a. H_0 - Changes in award amounts do not impact the college choices of recipients in the ACSNT 24+ award category.
 - b. H_a - Changes in award amounts do impact the college choices of recipients in the ACSNT 24+ award category.
5. Does degree completion differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?
 - a. H_0 - Degree completion does not differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics.
 - b. H_a - Degree completion does differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics.

Variables

Independent variables included ACS award category, gender, race or ethnicity, Pell eligibility, award cohort, whether concurrent credit was earned, high school type, and whether a

remedial course was taken. Dependent variables included institution type, enrollment status, whether a student completed a degree of any type, and highest degree completed. Variables are defined below.

Independent Variables.

- This study utilized ACS award categories to distinguish between traditional and adult students. The traditional award category (ACST) requires recipients to be recent high school graduates enrolled in college full-time, and all other students are considered in the nontraditional award category (ACSNT). This study defined adults as students in the ACSNT award category ages 24 and older, which aligns with the U.S. Department of Education age distinction for a financially independent student. Students in the ACSNT award category under the age of 24 were excluded.
- Gender was defined as male, female, or not reported.
- Race or ethnicity was defined as White, African American, Hispanic, two or more races, or not reported.
- Socioeconomic status was defined as either Pell eligible or non-Pell eligible based on results from the FAFSA, which calculates income and assets in relation to debt and family size for a standardized evaluation of ability to pay for college.
- Award amount was defined by academic year of initial award and is categorized into three cohorts based on significant award amount changes.
 - Award Cohort One: Academic years 2011 to 2013
 - Award Cohort Two: Academic years 2014 to 2016
 - Award Cohort Three: Academic years 2017 to 2019

- Concurrent credit was defined as whether college credit was earned (yes or no) by a student while still enrolled in high school.
- High school type was defined as either high school diploma, home school, GED, or not reported.
- Remediation was defined as whether at least one remedial course was taken (yes or no) at time of first award.

Dependent Variables.

- Institution type was defined as the institution of choice at the time of initial award.
 - Public two-year college
 - Public four-year university
 - Private college or university
 - Nursing Diploma School
- Enrollment status was defined as either full-time or part-time enrollment at time of first award. ACST students are required to enroll full-time; Part-time enrollment is only an option for ACSNT students.
- Completion was defined as whether a degree of any level was completed (yes or no) and the highest level of degree awarded within six years of initial award. This variable was limited to cohort one – award years 2011 to 2013 – in order to allow completion of a baccalaureate degree within six years of initial award.
 - Certificate of Proficiency
 - Technical Certificate
 - Associate Degree
 - Baccalaureate Degree

Data Collection

The Arkansas Division of Higher Education (ADHE) is the state agency charged with collecting and processing applications for state financial aid to determine eligibility. ADHE also collects data regarding completion for all Arkansas higher education participants. Data for this study were collected from the ADHE upon approval by the University of Arkansas Internal Review Board. Data were requested for the entire population of Academic Challenge Scholarship recipients in the academic years of 2011 through 2019. Recipients with missing data relevant to this study were excluded, as were recipients in the ACSNT award category ages 23 and under.

Data collected for each research question were as follows.

1. Do demographics differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
 - a. Award category
 - b. Gender
 - c. Race or ethnicity
 - d. Pell eligibility
 - e. Concurrent credit
 - f. High school type
 - g. Remediation
2. Do college choices differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?
 - a. Award category
 - b. Institution type

3. Do college choices differ between Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?
 - a. Gender
 - b. Race or ethnicity
 - c. Pell eligibility
 - d. Institution type
 - e. Enrollment status
4. Do changes in award amounts impact the college choices of Academic Challenge Scholarship recipients in the ACSNT 24+ award category?
 - a. Award cohort
 - b. Institution type
 - c. Enrollment status
5. Does degree completion differ for adult recipients of the Academic Challenge Scholarship when disaggregated by race/ethnicity, gender, and socioeconomic status?
 - a. Award cohort (one only)
 - b. Gender
 - c. Race or ethnicity
 - d. Pell eligibility
 - e. Degree completed (yes or no)
 - f. Highest degree completed

Research Design

This study utilized a quantitative research design to measure the impact of the Academic Challenge Scholarship on college choice and completion of adult students. First, data were

analyzed using descriptive statistics to summarize and describe trends for students in both the ACST and ACSNT 24+ award categories.

Second, the study utilized SPSS to conduct Chi-Square Tests for Independence to determine whether observed results were as expected per the null hypothesis for each research question. According to Glass and Hopkins (1996, p. 330), “The Chi-Square test statistic can be used to find whether the observed proportions in two or more categories differ significantly from a priori or theoretically expected proportions.” According to Creswell (2014, p. 191) Chi-Square is an appropriate test to compare categories within groups when both independent and dependent variables are categorical. Bradberry (2018) utilized Chi-Square to determine whether receiving the Academic Challenge Scholarship was significant to the categorical dependent variables of persistence and completion. Since this study also examined categorical variables, Chi-Square was an appropriate test.

Finally, the study analyzed the results, drew conclusions based on findings, and determined whether there were policy implications for the Academic Challenge Scholarship that could positively impact college choice and completion of adult students, with a focus on demographics of gender, race or ethnicity, and socioeconomic status.

Summary

This study utilized a quantitative research design to measure the impact of the Academic Challenge Scholarship (ACS) on college choice and completion of adult students ages 24 and older. Data for this study were collected from the ADHE upon approval by the University of Arkansas Internal Review Board. Descriptive statistics were used to summarize data, and Chi-Square Tests for Independence were conducted to determine whether observed results were as expected per the null hypothesis for each research question.

Chapter Four

Results and Findings

The purpose of this study was to measure the impact of the state lottery funded Academic Challenge Scholarship (ACS) on college choice and completion of adult students, age 24 and over. This study was significant because existing research on the impact of state scholarship lotteries is focused on traditional age students who are recent high school graduates and enrolled in college full-time. The conceptual framework that guided this study was college choice differentiation between varying demographics (i.e. age, gender, race or ethnicity, and socioeconomic status), complimented by the principles of equity-mindedness. The results of this study inform state and campus level policy decisions that positively impact equitable college access and completion for adult students.

Overview of Research Questions

Research Question One measured the overall demographic differences between ACS recipients in the traditional award category (ACST) and recipients in the nontraditional award category ages 24 and older (ACSNT 24+). ACS recipients under the age of 24 who did not meet the eligibility requirements to qualify in the traditional award category were excluded from this study. These recipients may have narrowly missed the window to qualify as a recent high school graduate or may have been a recent high school graduate enrolled less than full-time. Due to the high variance in circumstances among these students, they were excluded in order to have a clear delineation between a recent high school graduate and an adult student.

Research Question Two measured differences in choice of institution type (i.e. four-year university, two-year college, nursing diploma school, or private college or university) between ACST and ACSNT 24+ recipients. As stated earlier, ACS recipients under the age of 24 who did

not meet the eligibility requirements to qualify in the traditional award category were excluded from this study. Since ACS recipients in the traditional award category are required to enroll full-time, differences in enrollment status (i.e. full-time or part-time) were not included in this research question.

Research Question Three measured college choice differences of ACSNT 24+ recipients in institutional type (i.e. four-year university, two-year college, nursing diploma school, or private college or university) and enrollment status (i.e. full-time or part-time) at the time of initial award. Differences in these choices were disaggregated by gender, race or ethnicity, and socioeconomic status. Socioeconomic status was defined in two categories as either Pell eligible or not Pell eligible.

Research Question Four also measured college choice differences in institutional type (i.e. four-year university, two-year college, nursing diploma school, or private college or university) and enrollment status (i.e. full-time or part-time) of ACSNT 24+ recipients at the time of initial award. For this question, differences in these choices were measured based on decreases in maximum award amount. Maximum award amounts were assigned in one of three cohorts based on significant decreases in order to determine the impact of the decreases. Award cohorts were academic years 2011 to 2013, 2014 to 2016, and 2017 to 2019.

Finally, Research Question Five measured differences in degree completion of ACSNT 24+ recipients within six years of initial award. This research question was limited to ACSNT 24+ recipients in Award Cohort One only. First, recipients were disaggregated by gender, race or ethnicity, and Pell eligibility and measured based on whether they completed any degree (i.e. yes or no). For ACSNT 24+ recipients who did complete a degree, differences in highest degree (i.e.

certificate, nursing diploma, associate degree, or bachelor's degree) were disaggregated by gender, race or ethnicity, and Pell eligibility.

Overview of Data Collection and Analyses

De-identified student level data were collected from the Arkansas Division of Higher Education for ACST and ACSNT 24+ recipients. Variables for all recipients in this study were (at the time of initial award) gender, race or ethnicity, Pell eligibility, whether concurrent credit was earned, high school type, whether a remedial course was taken, and institution type. For ACSNT 24+ only, enrollment status was collected. For ACSNT 24+ Award Cohort One only, highest degree completed was collected in order to allow for six-year completion window. As stated previously, ACS recipients under the age of 24 who did not meet the eligibility requirements to qualify in the traditional award category were excluded from this study.

A total of 121,895 student records were collected, with 110,136 recipients in the ACST award category and 11,759 recipients ACSNT 24+ award category. For all research questions, data were analyzed using Chi-Square Tests of Independence in SPSS to determine whether differences were significant at the .05 level. Data and analyses for each research question are outlined in the next section.

Results

Research Question One

Do demographics differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?

To answer this question, frequencies and percentages of demographic variables for recipients in each award category were determined. Independent variables included academic year of first award, gender, race or ethnicity, Pell eligibility, concurrent credit earned, high

school type, and remedial course taken. The dependent variable was the Academic Challenge Scholarship (ACS) award category, which was either traditional (ACST) or nontraditional, age 24 and older (ACSNT 24+).

Table 4 includes the number and percentage of newly awarded recipients by academic year per ACS award category.

Table 4: Annual Recipient Frequency by Award Category

Academic Year	ACST	Percent	ACSNT24+	Percent	Total
2011	11,792	68.4%	5,440	31.6%	17,232
2012	12,640	99.5	67	0.5	12,707
2013	13,341	91.7	1,205	8.3	14,546
2014	13,152	92.3	1,098	7.7	14,250
2015	12,983	93.2	942	6.8	13,925
2016	12,647	94.6	717	5.4	13,364
2017	11,139	93.1	826	6.9	11,965
2018	11,531	93.8	765	6.2	12,296
2019	10,911	94.0	699	6.0	11,610
Total	110,136	90.4	11,759	9.6	121,895

Table 5 includes the number and percentage of newly awarded recipients by gender per ACS award category.

Table 5: Gender Frequency by Award Category

Gender	ACST	Percent	ACSNT24+	Percent
Female	63,773	57.9%	8,423	71.6%
Male	46,352	42.1	3,335	28.4
Not Reported	11	0.0	1	0.0
Total	110,136	100.0	11,759	100.0

Table 6 includes the number and percentage of newly awarded recipients by race or ethnicity per ACS award category.

Table 6: Race or Ethnicity Frequency by Award Category

Race or Ethnicity	ACST	Percent	ACSNT24+	Percent
African American	13,180	12.0%	2,175	18.5%
Hispanic	6,277	5.7	433	3.7
Not Reported	3,750	3.4	375	3.2
Other	1,887	1.7	200	1.7
Two or More Races	3,574	3.2	267	2.3
White	81,468	74.0	8,309	70.7
Total	110,136	100.0	11,759	100.0

Table 7 includes the number and percentage of newly awarded recipients by Pell eligibility per ACS award category.

Table 7: Pell Eligible Frequency by Award Category

Pell Eligible	ACST	Percent	ACSNT24+	Percent
No	57,087	51.8%	2,502	21.3%
Yes	53,049	48.2	9,257	78.7
Total	110,136	100.0	11,759	100.0

Table 8 includes the number and percentage of newly awarded recipients by concurrent credit earned per ACS award category.

Table 8: Concurrent Credit Frequency by Award Category

Conc. Cred.	ACST	Percent	ACSNT24+	Percent
No	99,026	89.9%	11,742	99.9%
Yes	11,110	10.1	17	0.1
Total	110,136	100.0	11,759	100.0

Table 9 includes the number and percentage of newly awarded recipients by high school type per ACS award category. Since the ACSNT 24+ award category included students whose eligibility was based on college GPA rather than high school GPA, the number of high school type “not reported” was unusually high.

Table 9: High School Type Frequency by Award Category				
HS Type	ACST	Percent	ACSNT 24+	Percent
GED	155	0.1%	1,490	12.7%
Home School	730	0.7	31	0.3
HS Diploma	94,391	85.7	7,124	60.6
Not Reported	14,860	13.5	3,114	26.5
Total	110,136	100.0	11,759	100.0

Table 10 includes the number and percentage of newly awarded recipients by remedial course taken per ACS award category.

Table 10: Remediation Frequency by Award Category				
Remediation	ACST	Percent	ACSNT 24+	Percent
No	109,542	99.5%	7,359	62.6%
Yes	594	0.5	4,400	37.4
Total	110,136	100.0	11,759	100.0

Utilizing SPSS, expected counts were calculated for each demographic variable per award category, and Chi-Square Tests of Independence were conducted to determine whether the observed counts and expected counts were significantly different. Student records with unreported data were excluded from analyses. Independent variables were gender, race or ethnicity, Pell eligibility, concurrent credit earned, high school type, and remedial course taken. The dependent variable was the Academic Challenge Scholarship (ACS) award category, which was either traditional (ACST) or nontraditional, age 24 and older (ACSNT 24+). Cross

tabulations include both the count (actual frequency) and the expected count (projected frequency if the null hypothesis was true) used to conduct the Chi-Square Test of Independence.

Table 11 includes a cross tabulation of newly awarded recipients by award category per gender.

Table 11: Award Category Cross Tabulation by Gender

Award Category	Count/Expected Count	Female	Male	Total
ACSNT 24+	Count	8,423	3,335	11,758
	Expected Count	6,965	4,793	11,758
ACST	Count	63,773	46,352	110,125
	Expected Count	65,231	44,894	110,125
Total	Count	72,196	49,687	121,883
	Expected Count	72,196	49,687	121,883

Table 12 includes a cross tabulation of newly awarded recipients by award category per race or ethnicity.

Table 12: Award Category Cross Tabulation by Race or Ethnicity

Award Category	Count/Expected Count	African American	Hispanic	Other	Two or More Races	White	Total
ACSNT 24+	Count	2,175	433	200	267	8,309	11,384
	Expected Count	1,484	649	202	371	8,678	11,384
ACST	Count	13,180	6,277	1,887	3,574	81,468	106,386
	Expected Count	13,871	6,061	1,885	3,470	81,099	106,386
Total	Count	15,355	6,710	2,087	3,841	89,777	117,770
	Expected Count	15,355	6,710	2,087	3,841	89,777	117,770

Table 13 includes a cross tabulation of newly awarded recipients by award category per Pell eligibility.

Table 13: Award Category Cross Tabulation by Pell Eligibility				
Award Category	Count/Expected Count	No	Yes	Total
ACSNT 24+	Count	2,502	9,257	11,759
	Expected Count	5,748	6,011	11,759
ACST	Count	57,087	53,049	110,136
	Expected Count	53,841	56,295	110,136
Total	Count	59,589	62,306	121,895
	Expected Count	59,589	62,306	121,895

Table 14 includes a cross tabulation of newly awarded recipients by award category per concurrent credit earned.

Table 14: Award Category Cross Tabulation by Concurrent Credit Earned				
Award Category	Count/Expected Count	No	Yes	Total
ACSNT 24+	Count	11,742	17	11,759
	Expected Count	10,686	1,073	11,759
ACST	Count	99,026	11,110	110,136
	Expected Count	100,082	10,054	110,136
Total	Count	110,768	11,127	121,895
	Expected Count	110,768	11,127	121,895

Table 15 includes a cross tabulation of newly awarded recipients by award category per high school type.

Table 15: Award Category Cross Tabulation by High School Type

Award Category	Count/Expected Count	GED	Home School	HS Diploma	Total
ACSNT 24+	Count	1,490	31	7,124	8,645
	Expected Count	137	63	8,445	8,645
ACST	Count	155	730	94,391	95,276
	Expected Count	1,508	698	93,070	95,276
Total	Count	1,645	761	101,515	103,921
	Expected Count	1,645	761	101,515	103,921

Table 16 includes a cross tabulation of newly awarded recipients by award category per remedial course taken.

Table 16: Award Category Cross Tabulation by Remedial Course Taken

Award Category	Count/Expected Count	No	Yes	Total
ACSNT 24+	Count	7,359	4,400	11,759
	Expected Count	11,277	482	11,759
ACST	Count	109,542	594	110,136
	Expected Count	105,624	4,512	110,136
Total	Count	116,901	4,994	121,895
	Expected Count	116,901	4,994	121,895

Utilizing SPSS, Chi-Square Tests of Independence were conducted to determine whether differences between counts and expected counts were statistically significant. Results indicated that differences for all demographic variables were statistically significant, with all p values below .05. Therefore, the null hypothesis was rejected. Table 17 includes the Chi-Square value, degrees of freedom, and p value for each demographic variable.

Table 17: Significance of Category Cross Tabulation by Demographic Variable

Demographic Variable	Chi-Square Value	df	Asymptotic Significance (2-Sided)
Gender	828.968	1	0.000
Race/Ethnicity	485.014	4	0.000
Pell Eligibility	3969.894	1	0.000
Concurrent Credit	1266.264	1	0.000
High School Type	14837.765	2	0.000
Remedial Course Taken	36776.697	1	0.000

Research Question Two

Do college choices differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?

Utilizing SPSS, expected counts were calculated for institution type per award category, and Chi-Square Tests of Independence were conducted to determine whether the observed counts and expected counts were significantly different. The independent variable was the Academic Challenge Scholarship (ACS) award category, which was either traditional (ACST) or nontraditional, age 24 and older (ACSNT 24+). The dependent variable was institution type (i.e. four-year university, two-year college, nursing diploma school, and private college or university). Table 18 includes a cross tabulation of newly awarded recipients by award category per institution type, and it includes both the count (actual frequency) and the expected count (projected frequency if the null hypothesis was true) used to conduct the Chi-Square Test of Independence.

Table 18: Category Cross Tabulation by Institution Type

Award Category	Count/Expected Count	Four-Year University	Two-Year College	Nursing Diploma School	Private College or University	Total
ACSNT 24+	Count	5,629	5,388	115	627	11,759
	Expected Count	7,702	3,037	18	1,001	11,759
ACST	Count	74,209	26,098	76	9,753	110,136
	Expected Count	72,136	28,449	173	9,379	110,136
Total	Count	79,838	31,486	191	10,380	121,895
	Expected Count	79,838	31,486	191	10,380	121,895

Utilizing SPSS, a Chi-Square Test of Independence was conducted to determine whether differences between counts and expected counts were statistically significant. Results indicated statistically significant differences between award category and institution type (Chi-Square value = 3345.864, degrees of freedom = 3, and p value = 0.000). Therefore, the null hypothesis was rejected.

Research Question Three

Do college choices differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?

Utilizing SPSS, expected counts were calculated for demographic variables per college choice, and Chi-Square Tests of Independence were conducted to determine whether the observed counts and expected counts were significantly different. The independent variables were gender, race or ethnicity, and Pell eligibility. The dependent variables were institution type (i.e. four-year university, two-year college, nursing diploma school, and private college or university) and enrollment status (i.e. full-time or part-time). Cross tabulations include both the count (actual frequency) and the expected count (projected frequency if the null hypothesis was true) used to conduct the Chi-Square Test of Independence.

Table 19 includes a cross tabulation of newly awarded ACSNT 24+ recipients by gender per institution type, and Table 20 includes a cross tabulation by gender per enrollment status.

Student records with gender not reported were excluded.

Table 19: Gender Cross Tabulation by Institution Type

Gender	Count/Expected Count	Four-Year University	Two-Year College	Nursing Diploma School	Private College or University	Total
Female	Count	3,919	3,978	97	429	8,423
	Expected Count	4,032	3,860	82	448	8,423
Male	Count	1,710	1,410	18	197	3,335
	Expected Count	1,597	1,528	33	178	3,335
Total	Count	5,629	5,388	115	626	11,758
	Expected Count	5,629	5,388	115	626	11,758

Table 20: Gender Cross Tabulation by Enrollment Status

Gender	Count/Expected Count	Full-time	Part-time	Total
Female	Count	5,243	3,180	8,423
	Expected Count	5,339	3,084	8,423
Male	Count	2,210	1,125	3,335
	Expected Count	2,114	1,221	3,335
Total	Count	7,453	4,305	11,758
	Expected Count	7,453	4,305	11,758

Table 21 includes a cross tabulation of newly awarded ACSNT 24+ recipients by race or ethnicity per institution type, and Table 22 includes a cross tabulation by race or ethnicity per enrollment status. Student records with race or ethnicity not reported were excluded. Nursing diploma schools were excluded because some cells had expected counts of fewer than five.

Table 21: Race or Ethnicity Cross Tabulation by Institution Type

Race/Ethnicity	Count/Expected Count	Four-Year University	Two-Year College	Private College or University	Total
African American	Count	890	1,099	170	2,159
	Expected Count	1,041	1,003	115	2,159
Hispanic	Count	247	160	23	430
	Expected Count	207	200	23	430
Other	Count	121	73	6	200
	Expected Count	97	93	11	200
Two or More Races	Count	159	94	13	266
	Expected Count	128	124	14	266
White	Count	4,019	3,811	387	8,217
	Expected Count	3,963	3,818	437	8,217
Total	Count	5,436	5,237	599	11,272
	Expected Count	5,436	5,237	599	11,272

Table 22: Race or Ethnicity Cross Tabulation by Enrollment Status

Race/Ethnicity	Count/Expected Count	Full-time	Part-time	Total
African American	Count	1,308	851	2,159
	Expected Count	1,366	793	2,159
Hispanic	Count	259	171	430
	Expected Count	272	158	430
Other	Count	137	63	200
	Expected Count	127	73	200
	% within Attend	1.9%	1.5%	1.8%
Two or More Races	Count	171	95	266
	Expected Count	168	98	266
White	Count	5,259	2,958	8,217
	Expected Count	5,201	3,017	8,217
Total	Count	7,134	4,138	11,272
	Expected Count	7,134	4,138	11,272

Table 23 includes a cross tabulation of newly awarded ACSNT 24+ recipients by Pell eligibility per institution type, and Table 24 includes a cross tabulation by Pell eligibility per enrollment status.

Table 23: Pell Eligibility Cross Tabulation by Institution Type

Pell Eligible	Count/ Expected Count	Four-Year University	Two-Year College	Nursing Diploma School	Private College or University	Total
No	Count	1,258	931	53	260	2,502
	Expected Count	1,198	1,146	25	133	2,502
Yes	Count	4,371	4,457	62	367	9,257
	Expected Count	4,431	4,242	91	494	9,257
Total	Count	5,629	5,388	115	627	11,759
	Expected Count	5,629	5,388	115	627	11,759

Table 24: Pell Eligibility Cross Tabulation by Enrollment Status

Pell Eligible	Count/Expected Count	Full-time	Part-time	Total
No	Count	1,278	1,224	2,502
	Expected Count	1,586	916	2,502
Yes	Count	6,175	3,082	9,257
	Expected Count	5,867	3,390	9,257
Total	Count	7,453	4,306	11,759
	Expected Count	7,453	4,306	11,759

Utilizing SPSS, Chi-Square Tests of Independence were conducted to determine whether differences between counts and expected counts were statistically significant. Results indicated statistically significant differences between all demographic variables and choice of institution type and enrollment status. Therefore, the null hypothesis was rejected. Table 25 includes the Chi-Square value, degrees of freedom, and p value for each variable.

Table 25: Significance of College Choice Cross Tabulation by Demographic Variable

Demographic Variable	College Choice	Chi-Square Value	df	Asymptotic Significance (2-Sided)
Gender	Institution Type	36.132	3	0.000
	Enrollment Status	16.641	1	0.000
Race/Ethnicity	Institution Type	106.77	8	0.000
	Enrollment Status	12.777	4	0.012
Pell Eligibility	Institution Type	250.125	3	0.000
	Enrollment Status	207.244	1	0.000

Research Question Four

Do changes in award amounts impact the college choices of Academic Challenge Scholarship recipients in the ACSNT 24+ award category?

Utilizing SPSS, expected counts were calculated for award cohorts per college choice, and Chi-Square Tests of Independence were conducted to determine whether the observed counts and expected counts were significantly different. The independent variable was the award cohort (1 = Academic years 2011 to 2013, 2 = Academic years 2014 to 2016, 3 = Academic years 2017 to 2019). The dependent variables were institution type (i.e. four-year university, two-year college, nursing diploma school, and private college or university) and enrollment status (i.e. full-time or part-time). Cross tabulations include both the count (actual frequency) and the expected count (projected frequency if the null hypothesis was true) used to conduct the Chi-Square Test of Independence.

Table 26 includes a cross tabulation of newly awarded ACSNT 24+ recipients by award cohort per institution type, and Table 27 includes a cross tabulation by award cohort per enrollment status.

Table 26: Award Cohort Cross Tabulation by Institution Type

Cohort	Count/Expected Count	Four-Year University	Two-Year College	Nursing Diploma School	Private College or University	Total
1	Count	2,866	3,470	70	306	6,712
	Expected Count	3,213	3,076	66	358	6,712
2	Count	1,484	1,077	24	172	2,757
	Expected Count	1,320	1,263	27	147	2,757
3	Count	1,279	841	21	149	2,290
	Expected Count	1,096	1,049	22	122	2,290
Total	Count	5,629	5,388	115	627	11,759
	Expected Count	5,629	5,388	115	627	11,759

Table 27: Award Cohort Cross Tabulation by Enrollment Status

Cohort	Count/Expected Count	Full-time	Part-time	Total
1	Count	4,236	2,476	6,712
	Expected Count	4,254	2,458	6,712
2	Count	1,784	973	2,757
	Expected Count	1,747	1,010	2,757
3	Count	1,433	857	2,290
	Expected Count	1,451	839	2,290
Total	Count	7,453	4,306	11,759
	Expected Count	7,453	4,306	11,759

Utilizing SPSS, Chi-Square Tests of Independence were conducted to determine whether differences between counts and expected counts were statistically significant. Results indicated statistically significant differences between ACSNT 24+ award cohorts in choice of institution type. Therefore, the null hypothesis was rejected. However, differences between award cohorts in enrollment status was not significantly different. Table 28 includes the Chi-Square value, degrees of freedom, and p value for each variable.

Table 28: Significance of Award Cohort Cross Tabulation by College Choice

College Choice	Chi-Square Value	df	Asymptotic Significance (2-Sided)
Institution Type	226.216	6	0.000
Enrollment Status	2.492	2	0.230

Research Question Five

Does degree completion differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?

Utilizing SPSS, expected counts were calculated for each demographic variable per degree completion, and Chi-Square Tests of Independence were conducted to determine whether the observed counts and expected counts were significantly different. The independent variables were gender, race or ethnicity, and Pell eligibility. The dependent variables were degree completion (i.e. yes or no) and highest level of degree completed (i.e. certificate, associate degree, or bachelor's degree). Student records with gender or race or ethnicity not reported were excluded. Nursing diplomas were excluded from highest degree completed due to some cells having fewer than five expected counts. Cross tabulations include both the count (actual frequency) and the expected count (projected frequency if the null hypothesis was true) used to conduct the Chi-Square Test of Independence.

Table 29 includes a cross tabulation of ACSNT 24+ award category recipients by gender per any degree completed within six years of initial award.

Table 29: Gender Cross Tabulation by Degree Completion

Gender	Count/Expected Count	No	Yes	Total
Female	Count	1,272	3,594	4,866
	Expected Count	1,324	3,542	4,866
Male	Count	554	1,291	1,845
	Expected Count	502	1,343	1,845
Total	Count	1,826	4,885	6,711
	Expected Count	1,826	4,885	6,711

Table 30 includes a cross tabulation of ACSNT 24+ award category recipients by gender per highest degree completed within six years of initial award. Recipients who did not complete any degree within six years of initial award were excluded. Nursing diplomas were excluded because some cells had expected counts of fewer than five. Certificates of proficiency and technical certificates were combined into one certificate category for the same reason.

Table 30: Gender Cross Tabulation by Highest Degree

Gender	Count/Expected Count	Certificate	Associate	Bachelor's	Total
Female	Count	356	1,585	1,653	3,594
	Expected Count	346	1,510	1,739	3,594
Male	Count	114	467	710	1,291
	Expected Count	124	542	625	1,291
Total	Count	470	2,052	2,363	4,885
	Expected Count	470	2,052	2,363	4,885

Table 31 includes a cross tabulation of ACSNT 24+ award category recipients by race or ethnicity per any degree completed (i.e. yes or no) within six years of initial award.

Table 31: Race or Ethnicity Cross Tabulation by Degree Completion

Race/Ethnicity	Count/Expected Count	No	Yes	Total
African American	Count	435	882	1,317
	Expected Count	359	958	1,317
Hispanic	Count	35	131	166
	Expected Count	45	121	166
Other	Count	27	83	110
	Expected Count	30	80	110
Two or More Races	Count	24	71	95
	Expected Count	26	69	95
White	Count	1,298	3,690	4,988
	Expected Count	1,359	3,629	4,988
Total	Count	1,819	4,857	6,676
	Expected Count	1,819	4,857	6,676

Table 32 includes a cross tabulation of ACSNT 24+ award category recipients by race or ethnicity per highest degree completed within six years of initial award. Recipients who did not complete any degree within six years of initial award were excluded. Nursing diplomas were excluded because some cells had expected counts of fewer than five. Certificates of proficiency and technical certificates were combined into one certificate category for the same reason.

Table 32: Race or Ethnicity Cross Tabulation by Highest Degree

Race/Ethnicity	Count/Expected Count	Certificate	Associate	Bachelor's	Total
African American	Count	108	402	372	882
	Expected Count	85	372	426	882
Hispanic	Count	9	51	71	131
	Expected Count	13	55	63	131
Other	Count	6	28	49	83
	Expected Count	8	35	40	83
Two or More					
Races	Count	5	25	41	71
	Expected Count	7	30	34	71
White	Count	338	1,540	1,812	3,690
	Expected Count	354	1,554	1,782	3,690
Total	Count	466	2,046	2,345	4,857
	Expected Count	466	2,046	2,345	4,857

Table 33 includes a cross tabulation of ACSNT 24+ award category recipients by Pell eligibility per any degree completed (i.e. yes or no) within six years of initial award.

Table 33: Pell Eligibility Cross Tabulation by Degree Completion

Pell Eligible	Count/Expected Count	No	Yes	Total
No	Count	364	1,069	1,433
	Expected Count	390	1,043	1,433
Yes	Count	1,463	3,816	5,279
	Expected Count	1,437	3,842	5,279
Total	Count	1,827	4,885	6,712
	Expected Count	1,827	4,885	6,712

Table 34 includes a cross tabulation of ACSNT 24+ award category recipients by Pell eligibility per highest degree completed within six years of initial award. Recipients who did not complete any degree within six years of initial award were excluded. Nursing diplomas were

excluded because some cells had expected counts of fewer than five. Certificates of proficiency and technical certificates were combined into one certificate category for the same reason.

Table 34: Pell Eligibility Cross Tabulation by Highest Degree

Pell Eligible	Count/ Expected Count	Certificate	Associate	Bachelor's	Total
No	Count	67	361	641	1,069
	Expected Count	103	449	517	1,069
Yes	Count	403	1,691	1,722	3,816
	Expected Count	367	1,603	1,846	3,816
Total	Count	470	2,052	2,363	4,885
	Expected Count	470	2,052	2,363	4,885

Utilizing SPSS, Chi-Square Tests of Independence were conducted to determine whether differences between counts and expected counts were statistically significant. Results indicated statistically significant differences between ACSNT 24+ recipients for gender and race or ethnicity per degree completion. Therefore, the null hypothesis was rejected. However, differences between Pell eligibility and degree completion were not significantly different. For ACSNT 24+ recipients who did complete a degree, differences between all demographic variables and highest degree completed were significant. Table 35 includes the Chi-Square value, degrees of freedom, and p value for each variable.

Table 35: Significance of Degree Completion and Highest Degree Cross Tabulation by Demographic Variable

Demographic Variable	Degree Completion/ Highest Degree	Chi-Square Value	df	Asymptotic Significance (2-Sided)
Gender	Degree Completion	10.203	1	0.001
	Highest Degree	31.267	2	0.000
Race/Ethnicity	Degree Completion	29.763	4	0.000
	Highest Degree	25.887	8	0.001
Pell Eligibility	Degree Completion	3.042	1	0.081
	Highest Degree	76.099	2	0.000

Summary

Research Question One indicated demographic differences between recipients in the ACST and ACSNT 24+ award categories. ACSNT 24+ recipients were 71.6% female (compared to 57.9% of ACST recipients), 70.7% White (compared to 74% of ACST recipients), and 78.7% Pell eligible (compared to 48.2% of ACST recipients). Additionally, fewer ACSNT 24+ recipients earned concurrent credit (.1% compared to 10.1% of ACST recipients) or earned a traditional high school diploma (60.6% compared to 85.7% of ACST recipients). However, more ACSNT 24+ recipients took a remedial course in college (37.4% compared to .5% of ACST recipients). Counts for ACSNT 24+ were higher than expected for females, African American, Pell eligible, and remedial course taken. Counts for ACSNT 24+ were lower than expected for concurrent credit and traditional high school diploma earned. Chi-Square Tests of Independence indicated that differences in all demographic variables between ACST and ACSNT 24+ recipients were significant. Therefore, the null hypothesis was rejected.

Research Question Two indicated college choice differences between recipients in the ACST and ACSNT 24+ award categories. 67.4% of ACST recipients attended a four-year university, compared to 47.9% of ACSNT 24+ recipients. Counts for ACSNT 24+ were higher than expected for two-year college and nursing diploma school attendance, and lower than expected for four-year university and private college or university attendance. The Chi-Square Tests of Independence indicated that differences in institution type between ACST and ACSNT 24+ recipients were significant. Therefore, the null hypothesis was rejected.

Research Question Three indicated differences among ACSNT 24+ recipients in college choice when disaggregated by demographic variables. More males (51.3%) than females (46.5%) attended a four-year university, and more males (66.3%) than females (62.2%) attended full-

time. Counts for females were higher than expected for part-time attendance and two-year college and nursing diploma school attendance. 41.2% of African American recipients attended a four-year university, compared to 57.4% of Hispanic recipients and 48.9% of White recipients. 64% of White recipients attended full-time, compared to 60.6% of African American recipients and 60.2% of Hispanic recipients. Counts for White and Hispanic recipients were higher than expected for four-year university attendance, while counts for African American recipients were higher than expected for two-year college and private college or university attendance. Counts for African American and Hispanic recipients were higher than expected for part-time attendance, while the count for White recipients was higher than expected for full-time attendance. Fewer Pell eligible recipients (47.2%) than non-Pell eligible recipients (50.3%) attended a four-year university, but more Pell eligible recipients (66.7%) than non-Pell eligible recipients (51.1%) attended full-time. Counts for Pell eligible recipients were higher than expected for full-time and two-year college attendance. Chi-Square Tests of Independence indicated that differences in college choices between demographic variables for ACSNT 24+ recipients were significant. Therefore, the null hypothesis was rejected.

Research Question Four indicated differences in college choices between ACSNT 24+ award cohorts. More recipients in Award Cohort One selected a two-year college (51.7%) than Award Cohort Two (39%) and Award Cohort Three (36.7%). Counts for Award Cohort One were higher than expected for two-year college and nursing diploma school attendance, while counts for Award Cohort Two and Three were higher than expected for four-year university and private college or university attendance. While Chi-Square Tests of Independence did not indicate significant differences in enrollment status (i.e. full-time or part-time) between ACSNT

24+ award cohorts, differences in institution type were significant. Therefore, the null hypothesis was rejected.

Research Question Five indicated differences among ACSNT 24+ recipients in college completion when disaggregated by demographic variables. More females (73.9%) than males (70%) completed a degree at any level, but more males (55%) than females (46%) completed a bachelor's degree at the highest level. Counts for females were higher than expected for both certificate and associate degree completion at the highest level. 67% of African American recipients completed a degree at any level, compared to 78.9% of Hispanic recipients and 74% of White recipients. Similarly, 42.2% of African American recipients completed a bachelor's degree at the highest level, compared to 54.2% of Hispanic recipients and 49.1% of White recipients. Counts for African American recipients were higher than expected for both certificate and associate degree completion at the highest level. While there were no differences between Pell eligibility in degree completion at any level, 60% of non-Pell eligible recipients completed a bachelor's degree at the highest level, compared to 45.1% of Pell eligible recipients. Chi-Square Tests of Independence indicated significant differences in both degree completion at any level and highest degree completed between gender and race or ethnicity demographics for ACSNT 24+ recipients. Tests did not indicate significant differences in degree completion at any level based on Pell eligibility, but tests did indicate significant differences between Pell eligibility and highest degree completed. Therefore, the null hypothesis was rejected.

Findings are further discussed in the next chapter.

Chapter Five

Conclusions and Recommendations

This study reviewed nine years of student data to measure the impact of the state lottery funded Academic Challenge Scholarship (ACS) on college choice and completion of adult students. Using existing data from the Arkansas Division of Higher Education, the study measured the overall demographics of ACS recipients in the traditional award category (ACST) and adults age 24 and older in the nontraditional award category (ACSNT 24+) from academic years 2011 to 2019. Students under the age of 24 in the nontraditional award category were excluded. Using Chi-Square Tests of Independence, the data were examined to determine whether college choice differed significantly between these groups, and for ACSNT 24+ students, whether college choice and completion differed significantly based on demographics and award amount.

In 2009, Arkansas policymakers took an unusual position when developing rules for ACS by including adult students and establishing lower than typical eligibility requirements, making ACS the most widely accessible state lottery scholarship at the time of implementation. Other states have since included adult students, following Arkansas' lead. Since 2009, award amounts have been reduced due to revenue shortages. However, revenue has since stabilized, making this an ideal time to review the impact of the program and recommend changes to maximize access and success for adult recipients.

To date, research on the impact of lottery scholarships on college choice and completion is overwhelmingly limited to students who are recent high school graduates attending college for the first-time, full-time. This study is significant because it contributes to literature on college choice and completion for adult students, specifically disaggregated by demographic variables of

gender, race or ethnicity, and socioeconomic status. Given the projected national demographic changes discussed in chapter one (an increasingly older and non-White population) it is important for higher education advocates to pursue policies that positively impact college access and success for adult and diverse populations. The state lottery funded Academic Challenge Scholarship is a multi-million-dollar asset that should be maximized to support these populations.

Results of the study were presented in chapter four. This chapter focuses on interpreting the findings, identifying policy implications, and recommending areas for future research.

Conclusions

Research Question One

Do demographics differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?

Recipients in the ACSNT 24+ category were significantly more likely to be female, to be African American, to be Pell eligible, to have earned no earned concurrent credit, earned a GED rather than a high school diploma, and to have taken at least one remedial course in their first year of ACS award. These findings are consistent with many traits that Rowan-Kenyon (2007) identified as predictors of delayed college enrollment. She determined that larger percentages of students who were African American, low socioeconomic status, less academically prepared, and had less family and peer support were more likely to not enroll or delay enrollment. It is not surprising that the characteristics of students who are likely to delay college enrollment are more prevalent in ACS recipients who are adults age 24 and older.

Given the stark demographic differences between ACST and ACSNT 24+ recipients, the financial and other supports necessary to be successful in college are different. Since ACSNT

24+ recipients are more likely to be Pell eligible, they would benefit from additional needs-based financial assistance for tuition and living expenses, and since they are more likely to be female, they would benefit from additional financial support for childcare. ACSNT 24+ recipients are older, farther removed from high school, and less academically prepared than their ACST counterparts. Therefore, they would benefit from additional advising, tutoring, and career services support. Finally, culturally relevant student services, such as mentorships and cohort support groups, would benefit ACSNT 24+ recipients.

It is important to note the changes in annual recipient frequency by award category. As discussed in chapter two, the initial academic year (2011) of ACS saw tremendous interest from Arkansas' adult population that has not since been repeated. In 2011, 5,440 total recipients were awarded in the ACSNT 24+ category. The next highest academic year was 2013 with 1,205 recipients, with declining recipient numbers most years since. These decreases are potentially related to economic conditions of the time. College enrollment peaked nationwide during the Great Recession, and adults specifically sought short-term education and training opportunities directly related to employment. Similarly, the number of ACST recipients peaked in 2013 at 13,341 and has declined most years since.

Research Question Two

Do college choices differ between Academic Challenge Scholarship recipients in the ACST and ACSNT 24+ award categories?

Recipients in the ACSNT 24+ category were more likely to select a two-year college or nursing diploma school. Given that 71.6% of ACSNT 24+ recipients were female, it is not surprising that this population would pursue a female dominated occupation like health care and select nursing diploma schools. Additionally, as this population is older and more likely to

receive Pell, they are less likely to move away from existing family and work responsibilities to attend a four-year university. Therefore, it makes sense that they would select a local, more affordable option like a two-year college.

Research Question Three

Do college choices differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?

In the analysis of the ACSNT 24+ only population, female recipients were more likely to select a two-year college or nursing diploma school and to attend part-time. Males were more likely to attend a four-year university or a private college or university and to attend full-time. As discussed earlier, it is not surprising that females would be more likely than males to pursue a nursing diploma. The increased likelihood of females selecting a two-year college and attending part-time is potentially due to time limitations of parenting responsibilities and needing to stay close to home. The decreased likelihood of completing a bachelor's degree at the highest level is likely due to enrolling part-time.

African American recipients were more likely to select a two-year college or private college or university, while all other races or ethnicities were more likely to select a four-year university. The increased likelihood for African American recipients to select a private college or university is potentially due to the availability of private Historically Black Colleges and Universities in Arkansas. Both African American and Hispanic recipients were more likely to attend part-time, while all other races or ethnicities were more likely to attend full-time, which is potentially related to financial constraints.

Pell eligible recipients were more likely than non-Pell eligible recipients to attend a two-year college and to attend full-time. Because these recipients are ages 24 and older, they are

considered financially independent of their parents for the purposes of calculating federal financial aid. Without family support, and potentially responsible for supporting families of their own, Pell eligible recipients are likely to seek affordable and nearby options for higher education. Because Pell grants increase incrementally with the number of hours enrolled, Pell eligible recipients benefit most when they enroll full-time.

Research Question Four

Do changes in award amounts impact the college choices of Academic Challenge Scholarship recipients in the ACSNT 24+ award category?

Results indicated differences between ACSNT 24+ award cohorts in choice of institution type. Award Cohort One (academic years 2011 to 2013) was more likely to select a two-year college or nursing diploma school. Despite reductions in maximum award amounts, Award Cohorts Two (academic years 2014 to 2016) and Three (academic years 2017 to 2019) were more likely to select a four-year university or a private college or university. These findings may be explained by the increased number of adults seeking short-term education and training opportunities at two-year colleges due to the Great Recession, which would have impacted Award Cohort One. Differences between award cohorts in enrollment status (i.e. full-time or part-time) were not significant.

Research Question Five

Does degree completion differ for Academic Challenge Scholarship recipients in the ACSNT 24+ award category when disaggregated by demographics?

Results indicated differences between ACSNT 24+ recipients for degree completion by gender. Females were more likely than males to complete a degree of any kind. However, of the ACSNT 24+ degree completers, females were more likely to have completed a certificate or associate degree at the highest level, and males were more likely to complete a bachelor's degree

at the highest level. This may be a result of females seeking nursing and other health care certificates and degrees, which generally require less than a bachelor's degree. As previously reported, females were more likely to attend part-time, which could also impact their highest degree completed within six years.

Results were also significantly different between ACSNT 24+ recipients for degree completion by race or ethnicity. African American recipients were less likely than all other races or ethnicities to complete a degree of any kind. Of the ACSNT 24+ recipients that did complete a degree, African American recipients were more likely to complete a certificate or associate degree at the highest level. These findings are potentially because African American recipients were more likely to attend part-time, which would impact their highest degree completed within six years. For all other races or ethnicities, a bachelor's degree was more likely the highest level.

Differences in degree completion between ACSNT 24+ recipients who were Pell eligible and those who were not Pell eligible were not significantly different. However, for those who did complete a degree, Pell eligible recipients were more likely to complete a certificate or associate degree at the highest level, and those who were not Pell eligible were more likely to have completed a bachelor's degree at the highest level. As determined by Research Question Three, Pell eligible recipients were more likely to stay close to home and attend a two-year college. Because these recipients were adults with financial obligations in addition to college, they were more likely to seek short-term education and training opportunities leading directly to employment, which often does not require a bachelor's degree.

Discussion

The differences in demographics between the ACST and ACSNT 24+ student populations are clear. While there is insufficient research on adult recipients of other state

scholarship lotteries, the literature does indicate disproportionately fewer state scholarship lottery awards to traditional students who are low-income (Dyanarski, 2000; Rubenstein & Scafaldi, 2002; Stranahan & Borg, 2004; McKinney, 2009; Kash & Lasley, 2010; Lebioda, 2014) and racially or ethnically diverse (Dyanarski, 2000; Bowden & Elrod, 2004; Stranahan & Borg, 2004; Heller & Marin, 2004; McKinney, 2009; Kash & Lasley, 2010; Lebioda, 2014; Arbogast, Thornton, & Swezda, 2016). The disproportionately fewer state scholarship lottery awards to low-income and non-White traditional age students, as described in the literature, could explain the increased propensity for these demographics to appear in adult recipients of the Academic Challenge Scholarship.

ACSNT 24+ recipients were more likely than ACST recipients to attend a two-year college or nursing diploma school. Of the ACSNT 24+ population, female, African American, and Pell eligible recipients were more likely to attend a two-year college. Female and African American recipients were more likely to attend part-time. Similar demographic discrepancies were also evident in degree completion in the ACSNT 24+ population. Female, African American, and Pell eligible recipients were more likely to complete a certificate or associate degree at the highest level.

The Academic Challenge Scholarship is a significant benefit. However, alone it is insufficient for promoting college access and attainment for underserved populations. Greater levels of need-based financial aid and student support services are necessary to promote equitable college access and attainment among adult, female, African American, and Pell eligible students. Stacking a need-based aid component on top of the ACS academic requirements would benefit low-income students. This is consistent with recommendations in the literature to add need-based components to other state scholarship lotteries (Rubenstein & Scafaldi, 2002; Heller

& Marin, 2004; McKinney, 2009; Bone 2008; Kash & Lasley, 2010; Lebioda, 2014). Expanding programs like the nationally recognized Arkansas Career Pathways Initiative, which utilizes Transitional Aid to Needy Families (TANF) funds to provide mentoring and supportive services such as childcare assistance to low-income parents, would benefit females. Expanding culturally relevant programs such as mentoring and cohort support groups would benefit African American and Hispanic students.

The study's findings are consistent with the conceptual framework of the role of financial aid in college choice by different demographics, with a focus on equity mindedness, as discussed in chapter two (Heller, 1999; Paulson & St. John, 2002; Kim, DesJardins, & McCall, 2009; Pingel & Holly, 2017; Duke-Benfield, Garcia, Walizer, & Welton, 2018). Consistent with the framework, adults in this study made different college choices despite receiving the same scholarship amounts as recent high school graduates. Within the adult population, college choice and completion varied by demographic variables of gender, race or ethnicity, and Pell eligibility. Because of these demographic differences in college choice and completion, higher education leaders and advocates must prioritize policies that positively impact equitable college access and success for adult and diverse populations.

Limitations

Limitations to interpreting and generalizing the findings of this study are as follows.

1. The timing of the ACS launch coincided with the Great Recession, which saw increased numbers of adults enrolling in short-term education and training programs nationally. Such programs are more directly tied to employment opportunities and are generally offered by two-year colleges. Arkansas college choice trends for adults during this timeframe may be more a result of the economy rather than the availability of ACS.

2. The findings on the impact of Pell eligibility on adult college choice and completion are limited because the study only considered whether a recipient was Pell eligible. An analysis of the impact of Pell award amounts would provide further detail on whether the level of Pell eligibility impacted adult college choice and completion. For example, a student receiving \$500 in Pell may be different from a student receiving \$5,000 in Pell.
3. This study clearly indicated difference between ACST and ACSNT 24+ recipients, and it clearly indicated significant difference in college choices and completion for ACSNT 24+ by demographics. However, there is not enough detail in this study to determine reasons for many of those differences.

Recommendations for Policy

Recommendations for policy are as follows:

1. The Arkansas Department of Education should promote ACS specifically to middle and high school students who are statistically less likely to enroll in college immediately following graduation. This includes students who are racially or ethnically diverse and/or are socioeconomically disadvantaged. This should begin as early as possible so that students can prioritize college preparation. Expansion of the existing Arkansas College and Career Coach Program to all areas of the state would be beneficial in reaching this population.
2. Higher education institutions should develop new or improve existing college campus financial and student support programs for demographic populations less likely to complete a college degree, and for those less likely to persist to a bachelor's degree. This could include offering need-based institutional scholarships, providing emergency aid for unexpected expenses, and developing mentoring and cohort support programs such as the

Arkansas Career Pathways Initiative. These types of support programs should be prioritized in the Arkansas Division of Higher Education's Master Plan.

3. The Arkansas State Legislature should take action to include a need-based aid component in ACS to support low-income students. Additionally, the State Legislature should direct state funding to develop new or improve existing financial and student support programs for demographic populations less likely to complete a college degree, such as the Arkansas Career Pathways Initiative and the Arkansas College and Career Coach Program.
4. The Arkansas Division of Higher Education should collect more student data to inform what financial and student supports are necessary to assist populations less likely to complete a college degree. This could include whether students are the first in their family to attend college, are foster youth, or are parents. Such data would help determine which populations need targeted support.

Recommendations for Future Research

Recommendations for future research are as follows.

1. Future research should measure the impact of Pell award amounts on college choice and completion for ACSNT 24+ recipients. Differences in award amounts were not considered in this study, but such detail could be beneficial in determining how need-based financial aid should be structured to achieve a maximum benefit for students.
2. Future research should measure the ACS impact on ACSNT 24+ recipients by combinations of demographic data. For example, since female, African American, and Pell eligible recipients completed significantly lower degree levels, details on how a combination of these demographic variables impact college choice and completion could

further inform how to structure financial aid and supportive services to achieve a maximum benefit for students.

3. Future research should focus on the reasons that college choice and completion differed for adult students and for different demographic groups. This could be accomplished through qualitative interviews of ACS recipients.
4. Future research should focus on degree completion for Award Cohorts Two and Three once enough time has passed to measure a six-year graduation rate.
5. Future research should focus on the impact of ACS on college choice and completion of recipients excluded from this study, which were ACSNT recipients under the age of 24. These recipients were excluded in order to clearly delineate between recent high school graduates and independent, adult college students. However, they are a significant portion of ACS recipients and should be studied.

Summary

This study measured the impact of the state lottery funded Academic Challenge Scholarship on adult college choice and completion. Findings included significant demographic differences between recent high school graduates in the traditional (ACST) award category and independent adults age 24 and older in the nontraditional award category (ACSNT 24+). ACSNT 24+ recipients were significantly more likely to be female, to be African American, to be Pell eligible, to have earned no concurrent credit, to not have graduated from a traditional high school, and to have required a remedial course in college. ACSNT 24+ recipients were more likely to enroll in a two-year college or nursing diploma school, whereas ACST recipients were more likely to select a four-year university or private college or university.

Results also indicated significant differences among the ACSNT 24+ recipients when disaggregated by demographics. Females were more likely to attend a two-year college or

nursing diploma school and more likely to attend part-time. Females were more likely than males to complete a college degree of any level, but they were more likely to earn a certificate or associate degree at the highest level. Male recipients were more likely to enroll in a four-year university and enroll full-time, and they were more likely to complete a bachelor's degree at the highest level.

Differences by race or ethnicity were also significant. African American recipients were more likely to select a two-year college or private college or university, while all other races or ethnicities were more likely to select a four-year university. Both African American and Hispanic recipients were more likely to enroll part-time than all other races or ethnicities. African American recipients were less likely than all other races or ethnicities to complete a degree of any level. Of ACSNT 24+ recipients who did complete a degree, African American recipients were more likely to complete a certificate or associate degree at the highest level, while all other races or ethnicities were more likely to complete a bachelor's degree at the highest level.

Pell eligible recipients were more likely to select a two-year college and enroll full-time than non-Pell eligible recipients. Results did not indicate a significant difference between Pell eligible and non-Pell eligible recipients in completion of any college degree. However, of ACSNT 24+ recipients that did complete a degree, Pell eligible recipients were more likely to complete a certificate or associate degree at the highest level, while non-Pell eligible recipients were more likely to complete a bachelor's degree at the highest level.

Finally, results indicated that ACSNT 24+ recipients in Award Cohort One (academic years 2011 to 2013) were more likely than Award Cohorts Two and Three to select a two-year college or nursing diploma school, while Award Cohorts Two and Three were more likely to

select a four-year university or private college or university. There was no significant difference between the cohorts in whether they enrolled full- or part-time. The award years for Award Cohort One overlap with the Great Recession, which saw record numbers of adults enrolling in short-term education and training programs in order to find employment. It is unlikely that the college choice differences between these cohorts were due solely to the availability of ACS.

These findings have significant implications for policy and future research. In terms of policy, advocates should improve promotion of ACS among middle and high school students less likely to enroll in college immediately following graduation, provide additional financial and student services support specific to disadvantaged populations, include a need-based component to ACS, and collect more detailed data on ACS recipients. Future researchers interested in the impact of ACS on adult college choice and completion should evaluate the impact of differing levels of Pell award amounts, the impact for recipients who have two or more of the demographic characteristics discussed in this study, the reasons for college choice and completion differences, college completion for Award Cohorts Two and Three, and the impact of ACS on recipients in the nontraditional award category under the age of 24.

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IRB Protocol



To: Collin Ann Callaway
From: Chair, Douglas James Adams
IRB Committee
Date: 12/06/2019
Action: **Review Not Required**
Action Date: 12/06/2019
Protocol #: 1911234775
Study Title: The Impact of the Arkansas Scholarship Lottery on College Choice and Completion of Adult Students

Please keep this form for your records. Investigators are required to notify the IRB if any changes are made to the referenced study that may change the status of this determination. Please contact your IRB Administrator if you have any questions regarding this determination or future changes to this determination.

Data Sharing Memorandum of Understanding



Arkansas Department of Higher Education

423 Main Street, Suite 400 • Little Rock, Arkansas • 72201-3818 • (501) 371-2000 • Fax (501) 371-2001

Asa Hutchinson
Governor

Dr. Maria Markham
Director

**MEMORANDUM OF AGREEMENT
BETWEEN
THE ARKANSAS DEPARTMENT OF HIGHER EDUCATION
AND
University of Arkansas - Fayetteville**

This Memorandum of Agreement ("the Agreement") is entered into this 18th day of December by and between the Arkansas Department of Higher Education ("the Department") and University of Arkansas - Fayetteville ("the authorized recipient").

I. **PARTIES.** The Arkansas Department of Higher Education is a state educational agency, authorized to collect and maintain student educational records and to receive information from institution of higher education consistent with applicable state and federal laws and subject to the federal Family Educational Rights and Privacy Act (FERPA), as authorized by 20 U.S.C. § 1232g(b) and 34 CFR Part 99. The Department is headquartered at 423 Main Street, Suite 400, Little Rock, Arkansas, 72201.

The University of Arkansas is an institution of higher education located in Fayetteville, Arkansas, 72701. The College of Education and Health Professions is a college of the University of Arkansas with address of Room 324, Graduate Education Building, Fayetteville, Arkansas 72701.

II. **PURPOSE.** The purpose of the Agreement is to document the terms under which the Department is authorized to release de-identified student information for approved research projects, and to designate the authorized recipient as the authorized representative of the Department consistent with applicable federal and state laws concerning access to and confidentiality of student record information including FERPA.

As described herein, the authorized recipient, as the Department's authorized representative, may have temporary access to data in the custody of the Department for use in projects identified in addenda to the Agreement and under

the terms and conditions described in the Agreement and any addenda to it.

III. **AUTHORITY.** Consistent with the federal Family Educational Rights and Privacy Act (FERPA) the Department may disclose information from students' education records to its authorized representative without written consent for use in studies initiated or approved by the Department in connection with an audit or evaluation of Federal or State supported education programs; or enforcement of, or compliance with, Federal legal requirements relating to such programs. 34 CFR § 99.31(a)(3), 20 U.S.C. § 1232g(b)(3). The Department may also disclose information to its authorized representative without written consent for the purpose of conducting studies for or on behalf of the Department in order to develop, validate or administer predictive tests; administer student aid programs; or improve instruction. 34 CFR § 99.31(a)(6) and §§ 99.35; 20 U.S.C. § 1232g(b)(1)(F).

The Department designates the authorized recipient as its authorized representative for the purposes of disclosing student information for use in evaluation, enforcement, audit, compliance, or study as described above.

All projects referred to above shall be described in addenda to this Agreement, which shall include project information including but not limited to the scope of the project, the data that will be disclosed to the authorized recipient, the temporary custodian appointed by the Department, applicable timelines, additional terms and conditions specific to each project, and requirements for communication and reporting to the Department.

IV. **TERMS AND CONDITIONS.** To effect the transfer of data and information that is subject to State and Federal confidentiality laws and to ensure that the required confidentiality of information shall always be maintained, the authorized recipient, agrees to:

1. In all respects comply with the provisions of FERPA. For the purposes of the Agreement and the specific projects conducted pursuant to the Agreement and described in addenda to it, FERPA includes any amendments or other relevant provisions of federal law, as well as all requirements of 34 CFR Part 99 and 20 U.S.C. § 1232g. Nothing in this Agreement may be construed to allow either party to maintain, use, disclose, or share student record information in a manner not allowed under Federal law or regulation.
2. Name a temporary custodian of the Department's data for each project. That custodian shall be able to request and receive data under the Agreement and applicable addenda to it and to ensure the compliance of the authorized recipient with the terms of the Agreement and applicable laws. The Department shall release data

described in the attached addenda. All copies of data of any type, including any modifications or additions to data from any source that contains information, are subject to the provisions of the Agreement and addenda to it in the same manner as the original data disclosed by the Department to the authorized recipient. The ability to access or maintain data under the Agreement shall not under any circumstances transfer from the authorized recipient to any other individual, institution or entity.

7. Not disclose data contained under the Agreement or addenda to it in any manner that could identify any individual student to any entity other than the Department, or authorized employees, contractors and agents of the authorized recipient working as the Department's authorized representative on projects approved by the Department consistent with this Agreement and described in addenda to it. Persons participating in approved projects on behalf of the Parties under this Agreement shall neither disclose or otherwise release data and reports relating to an individual student, nor disclose information relating to a group or category of students without ensuring the confidentiality of students in that group. Publications and reports of this data and information related to it, including preliminary project descriptions and draft reports shall involve only aggregate data and no personally identifiable information or other information that could lead to the identification of any student. **No report of these data containing a group of students less than ten (10) shall be released to anyone other than the Department.** The authorized recipient shall require that all employees, contractors and agents working on this project abide by that statistical cell size.
8. Not provide any data obtained under this Agreement to any entity or person ineligible to receive data protected by FERPA, or prohibited from receiving data from any entity by virtue of a finding under 34 CFR § 99.31(a)(6)(iii).
9. Destroy all data obtained under the Agreement and addenda to it when no longer needed for the purpose for which it was obtained. Nothing in this Agreement authorizes the authorized recipient to maintain data beyond the time period reasonably needed to complete the projects described in the addenda to this Agreement. Upon termination of the Agreement or publication of reports generated under this Agreement and addenda to it, as authorized by the Department, whichever occurs first, the authorized recipient shall return all data files and hard copy records to the Department and purge any copies of data from its computer systems in compliance with 34 CFR §§ 99.31(a)(6)(ii)(b) and 99.35(b)(2). The authorized recipient agrees to require all employees, contractors, or agents of any kind to comply with this provision. No other entity is authorized to

only to the named temporary custodian, who shall be responsible for transmitting all data requests and maintaining a log or other record of all data requested and received pursuant to the Agreement and addenda to it, including confirmation of the completion of the project and the return or destruction of data as required by the Agreement. The Department or its agents may upon request review the records required to be kept by the authorized recipient under this section.

3. Use data shared under the Agreement for no purpose other than the research projects described in the attached addenda, and as authorized under 34 CFR §§ 99.31(a)(6) and 99.35; or 34 CFR § 99.31(a)(3). Nothing in the Agreement or the addenda shall be construed to authorize the authorized recipient to have access to additional data from the Department that is not included in the scope of the Agreement or under the terms of the projects described in the addenda to it or to govern access to the data by entities other than the Parties. The authorized recipient further agrees not to share data received under the Agreement and addenda with any other entity without prior written approval from the Department. The authorized recipient understands the Agreement does not convey ownership of data to the authorized recipient.
4. Require all employees, contractors and agents of any kind to comply with the Agreement, and all applicable provisions of FERPA and other federal and state laws with respect to the data and information shared under the Agreement. The authorized recipient agrees to require of and maintain an appropriate confidentiality agreement from each employee, contractor, or agency with access to data pursuant to the Agreement and addenda to it. Nothing in this section authorizes the authorized recipient to share data and information provided under the Agreement and addenda with any other individual or entity for any purpose other than completing the work as authorized by the Department consistent with this Agreement and addenda to it.
5. Provide the Department with periodic status reports during the project term as described in addenda to this Agreement. Progress reports shall include but not be limited to progress of the project relative to established deadlines. The authorized recipient shall provide the Department with immediate written notice of any changes to project protocols except as consistent with the Agreement and any addenda to it.
6. Maintain all data received pursuant to the Agreement separate from all other data files and not copy, reproduce or transmit data obtained pursuant to the Agreement except to its own agents acting for or on behalf of the Department and as necessary to fulfill the purpose of the project

continue research using the data obtained under the Agreement upon the termination of the Agreement and projects described in addenda to it.

10. Provide the Department with one electronic and, upon written request, at least one paper copy of the final versions of all approved, released reports and other documents associated with this project. The Department reserves the right to distribute and otherwise use the final approved, released report and associated documents as it wishes, in sum or in part.

V. RELATED PARTIES. The authorized recipient represents that it is authorized to bind to the terms of the Agreement, including confidentiality, maintenance, publication, and destruction or return of data, all related or associated institutions, individuals, employees or contractors who may have access to the data or may own, lease or control equipment or facilities of any kind where the data is stored, maintained or used in any way.

VI. FEES. There shall be no cost or fees charged to or paid by any party participating in this Agreement unless agreed to in writing by an authorized representative of each organization.

VII. TERM. This Agreement takes effect upon last dated signature by the authorized representative of each Party and shall remain in effect until completion of the projects described in the addenda or until canceled by either Party upon 30 days' written notice, whichever occurs first. The Agreement is renewable upon written approval by the authorized representative of each Party.

VIII. This Agreement expresses the entire agreement of the parties and shall not be modified or altered except in writing executed by the authorized representatives of the Department and the authorized recipient, and in a manner consistent with applicable Arkansas and Federal laws.

IX. Execution

Arkansas Department of Higher Education

Printed Name: Maria Markham, Ph.D.

Title: Director

Signature: 

Date:

University of Arkansas - Fayetteville _____ "The Authorized Recipient"

Printed Name: Jason G. Ramage

Title: Asst. Vice Chancellor for Research

Signature: 

Date: 6 January 2020

Addendum A

Description/Scope of Work

A quantitative research design to determine the impact of the Arkansas Scholarship Lottery on college choice and completion of adult students. College choice will be evaluated for all students in the Traditional award category and for students ages 24 and older in the Nontraditional award category. The time frame for college choice is the semester of initial award between academic year 2011 and academic year 2019.

Timeline of Work & Destruction Date

Research will commence in January of 2020 and end in January of 2021. Data destruction is to be no later than July 2021 with confirmation email sent to the Department that all data has been destroyed.

Data Sets for Study

Two separate tables for traditional and nontraditional students, AY2011-AY2019

1. Demographic Variables

a. Age, Gender, Race, Pell Award Amount if applicable, County of Origin

1. Academic Variables

b. Earned Concurrent Credit (Y/N), Earned HS Diploma or GED, Required Remediation (Y/N), Institution Type, Degree level of Credentials Awarded within 6 years of initial awarding of scholarship, Number of CrHrs enrolled in first award semester

1. Other Variables

c. Academic year of initial Lottery Scholarship Award

Principal Investigator(s) (Temporary Custodian)

Name: Collin Callaway/Dr. Kit Kacirek

Position: Doctoral Candidate/Associate Professor

Address: _____

Office: _____