To my Dad
ACKNOWLEDGMENTS

I thank my Chair, Dr. David Honeyman, and my committee members. Additional thanks to the faculty of the College of Education at the University of Florida for their dedication and enthusiasm. Further thanks to my family and friends for their constant support and encouragement.
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THE IMPACT OF EARMARKED LOTTERY REVENUE ON THE FUNDING OF FLORIDA’S COMMUNITY COLLEGES

By

Christina Will

May 2011

Chair: David Honeyman
Major: Higher Education Administration

The purpose of this study was to determine the extent to and manner in which earmarked lottery revenue impacted the funding of Florida’s 28 community colleges. Utilizing data from fiscal year 1997-1998 through fiscal year 2008-2009, this study determined that funds from the Florida Lottery have become an integral part of the operating budgets of Florida’s community colleges. The proportion of community colleges’ operating budgets comprised of discretionary lottery funds varied by institutional size as did the mean appropriation of discretionary lottery dollars per full-time equivalent (FTE). Variations in discretionary lottery funds appropriated to the community college system were not correlated with general revenue, student fees, nor FTE. The amount of lottery funds appropriated to the community college system annually were not correlated with changes in Florida Lottery revenue nor the amount of lottery funds transferred annually to the Educational Enhancement Trust Fund. The lottery fund appropriations made to only one of the earmarked beneficiaries, the state university system, were significantly correlated with the appropriations made to the community college system. Community college system expenditures were not correlated with the amount of discretionary lottery funds appropriated to the community college system.
CHAPTER 1
INTRODUCTION

The Florida Lottery was created through a voter-approved constitutional amendment in 1986, “to allow the people of the state to benefit from significant additional moneys for education while playing the best lottery games available” (Florida Lottery, 2008f, ¶ 1). In 1987, the Florida Public Education Lottery Act was enacted by the Florida Legislature. Section 24.102(2), Florida Statutes, stated the expressed intent of the Legislature was “that the net proceeds of lottery games conducted pursuant to this act be used to support improvements in public education and that such proceeds not be used as a substitute for existing resources for public education” (Florida Department of Education, 2008, p. 1). However, as Florida’s Auditor General noted in 2004, “the law did not define the existing resources for education for which the Lottery is not to be used as a substitute” (Monroe, p. 2). Tickets went on sale in 1988 with the proceeds earmarked “to enhance public education in the state” (Florida Lottery, 2007a, p. 2). From its inception through fiscal year 2008-2009, the Florida Lottery transferred over $21 billion in lottery proceeds to education.

The Florida Lottery’s mission was “to maximize revenues in a manner consistent with the dignity of the state and the welfare of its citizens” (Florida Lottery, 2008f, ¶ 1); notice the mission did not stipulate that those revenues were to benefit education. The Florida Lottery attempted to maximize revenue by offering a variety of online games, instant games, and, periodically, a raffle. Lottery proceeds were transferred quarterly to the Educational Enhancement Trust Fund (EETF) which was administered by the Florida Department of Education. Florida was one of the few states with a lottery that did not mandate, by law, minimum percentages of lottery proceeds to be designated for prizes, transferred to the lottery’s designated beneficiaries, nor a maximum proportion to be utilized for operating expenses.
Instead, as reproduced by the Florida Department of Education, Section 24.121 of the Florida Statutes, which governed the allocation and expenditure of lottery revenues, made repeated references to the use of “variable percentages” (2008, p. 2).

In the 2008-2009 fiscal year, Florida Lottery funds comprised 5.1% of the state’s total operating budget for public schools and public higher education institutions (Florida Department of Education, 2009). While the Florida Lottery “was never intended to fully fund public education,” (Florida Lottery, 2007a, p. 2) the funds the Florida Lottery provided to education were described by Lottery officials as “far-reaching and crucial to ensuring the future success of students in Florida” (Florida Lottery, 2008d, ¶ 6). From the Florida Lottery’s first sale in 1988 through fiscal year 2008-2009, over $21 billion in lottery revenue was transferred to K-20 education, which, Florida Lottery officials touted, was “money raised without having to raise taxes” (Florida Lottery, 2007a, p. 2).

Initially, lottery revenue was distributed to designated beneficiaries as categorical funds. Beginning in 1991, school districts, community colleges, and state universities were provided a portion of lottery funds as lump-sums whereby each institution was responsible for distributing the funds thereafter “to use the funds for educational enhancement” (Florida Department of Education, 2008, p. 6). Additional funds were also distributed to institutions through matching-fund programs, grants, and special initiatives approved by the legislature. Lottery funds were used for school construction and renovation, K-12, community college, and state university funding, as well as state student financial aid. In 1997, the Florida Bright Futures Scholarship Program was established and became another earmarked recipient of Florida Lottery funds. Unlike other earmarked beneficiaries, the Florida Bright Futures Scholarship Program was funded solely through lottery revenue, therefore Section 24.121(5e) of the Florida Statutes (as
reproduced by the Florida Department of Education) stipulated, “if shortages require reductions in estimated distributions from the Educational Enhancement Trust Fund, funds for the Florida Bright Futures Scholarship Program shall be reduced only after reductions in all other distributions are made” (2008, p. 4).

As demands for lottery funds increased, the Florida Legislature’s Office of Program Policy Analysis and Government Accountability (OPPAGA) noted, “in fiscal year 2007-08 growth in Lottery transfers to the Educational Enhancement Trust Fund began to slow” and further noted that “current forecasts indicate continued slowing of revenue growth and transfers” (2009, p. 1). Florida Lottery officials stated in the Lottery’s Long Range Program Plan, FY 2008-2009 through 2012-2013 that, “given Florida’s ever-increasing population and demand for education funding (the class-size constitutional amendment and Bright Futures scholarships are but two examples), policy makers may face, for the first time, the very real possibility of not having enough lottery-generated revenue to underwrite desired education programs without an impact to general revenue funds” (DiBenigno, 2007, p. 11). Considering this prediction by Florida Lottery officials and the demands being placed upon the Lottery as a revenue source by the Governor and the Florida Legislature, the effects of earmarked lottery revenue on the budgets of Florida’s educational institutions and programs must be clearly determined in order to prepare for a potentially devastating lack of lottery revenue.

Previous studies conducted nationwide indicated that, in general, lottery revenue was an unreliable source of income that was subject not only to market demand, but a systemic, predictable life-span of lottery games. The Florida Lottery was no exception; in fiscal year 2006-2007 the Florida Lottery experienced a $100 million decrease in sales (Souza, 2008) despite acting upon multiple recommendations made by OPPAGA to increase revenue (Florida
Legislature, Office of Program Policy Analysis and Government Accountability, 2007; 2006; 2004a; 2004b; 2003). In 2008, Florida’s state economists reduced their projections of lottery revenue by $47 million and have “scaled back projections for the next two years by $159 million” (Bousquet & Colavecchio-Van Sickler, 2008, ¶ 2). In April 2008, Florida House Speaker Marco Rubio stated that, “Gambling is a stagnant source of revenue. We’ve always known that.” (Bousquet & Colavecchio-Van Sickler, 2008, ¶ 10). Yet Governor Crist’s 2008-2009 budget proposal relied on a $250 million increase in lottery revenue; revenue that was earmarked for education (Bousquet, 2008). As Florida continued to look to the Florida Lottery as a revenue source for education, an examination of this policy’s effect on its earmarked beneficiaries was due.

While 18 states, including Florida, earmarked lottery revenues solely for educational purposes in 2008, the effectiveness of this policy was the subject of continued debate. Several studies examined whether earmarking lottery revenue for education actually benefited the institutions receiving those funds. In their 1974 evaluation of earmarking lottery revenue for education, Weinstein and Deitch concluded that “in most cases, there is more likely to be a substitution rather than a supplemental effect” (p. 79). Mikesell and Zorn (1986) said “claims made by lottery proponents that the net revenue contributes to the expansion of functional areas are not provable” (p. 315). By collectively examining states that earmark lottery revenue for education, later studies found some evidence to suggest that lottery funds actually supplanted state general revenue funds as a result of earmarking. In 1991, Borg, Mason, and Shapiro (who included Florida in their collective study of five state lotteries) said “earmarked education lotteries have probably led to significant fungibility of education revenues, and thus the lotteries have done much more to harm education in the states that employ them than they have done to
help” (p. 47). In their “Report to the National Gambling Impact Study Commission,” Clotfelter, Cook, Edell, and Moore (1999) stated “there is reason to doubt if earmarked lottery revenues in fact have the effect of increasing funds available for the specified purpose” (p.2). They cited two works to support this statement; Clotfelter and Cook’s book Selling Hope (1989) and Spindler’s study of Ohio (1995). Still, Jones and Amalfitano declared in 1994 that “the lack of any large-scale research makes it difficult to substantiate any claims about the efficacy of earmarking, pro or con” (p. 17). A dearth of further study left the issue unresolved, particularly in light of mounting data that was unavailable to earlier researchers who studied some lotteries while they were still in their infancies. As most recently stated by Ellis in 2007, it was still “unclear whether lotteries produce a net benefit to education.”

While over $21 billion dollars were transferred from the Florida Lottery to educational institutions through the end of fiscal year 2008-2009, the extent to which those funds benefitted education in Florida was a contentious issue. The very year the Florida Lottery began generating revenue, claims of fungibility were being reported; Allen (1991) stated that in 1988 Florida’s Education Commission had reported the use of lottery funds for programs that had previously been funded through the state’s general revenue (p. 306). In 1991, then Governor Lawton Chiles, called Florida’s lottery “a great hoax on the people” (as quoted in Bobbitt, 2007, p. 62). Stark (1991) and Stark, Wood, and Honeyman (1993) demonstrated the supplantation of general revenue funds with lottery funds at the K-12 level in Florida. Summers, Honeyman, Wattenbarger & Miller (1995) found significant redistribution effects since the lottery’s inception, with both lottery revenue and state revenue constituting a decreasing share of community college budgets. In 1998, a study conducted by the Palm Beach Post staff found that, during the 10 years the lottery had been in operation, 35 cents of each tax dollar was spent on
education, whereas 40 cents of each tax dollar was spent on education before the lottery (Bobbitt, 2007). Bobbitt noted that before the establishment of the Florida Lottery, the state “spent 60% of its budget on education, but now spends only 51 percent” (2007, p. 62). In January 2008, former Florida State University President and member of the Florida Taxation and Budget Reform Commission, Sandy D’Alemberte, stated in a newspaper editorial titled, “Students Lose in this Shell Game,” that “the Legislature has used lottery funding to displace general revenue funding and there has been no benefit to education” (¶ 7). However, there was still a need for current, data-driven, evidence-based research examining the lottery’s impact on Florida’s education funding. If lottery dollars had supplanted general revenue dollars that would otherwise have been allocated to earmarked recipients of lottery revenue, Florida’s educational institutions would be facing serious, long-term budgetary crises as the lottery failed to produce sufficient revenue for current and proposed initiatives.

It has already been noted that Florida Lottery revenue only constituted 5.1% of the state’s total public education budget in fiscal year 2008-2009. After examining five state lotteries, including Florida, Borg, Mason, and Shapiro declared in 1991 that, “lottery revenues are just too small to make much of a dent in a large budget item like education” (p. 13). They also “concluded that lotteries were at best insignificant with regard to the funding of education” (p. 40). Jones and Amalfitano (1994) concurred with this sentiment. However, at the institutional level, the significance of lottery dollars may have been more palpable. Furthermore, if those lottery funds were supplanting general revenue funds, the importance of lottery dollars would be magnified. It had to be determined what proportion of institutional budgets was comprised of lottery dollars to truly understand the effect of lottery revenue on earmarked recipients.
Several studies examined the effects of earmarking lottery revenue for education. However, most of these studies were multi-state analyses which several researchers concluded was not the best approach. Each state lottery had reached a different point of maturity, offered differing products that effected revenue production, and had different economic situations that may or may not have made supplanting general revenue with lottery revenue necessary (Garrett, 2001; Lauth & Robbins, 2002; McQueen, 2007). Furthermore, educational funding structures and lottery-distribution schemes varied, even among states that earmarked lottery revenue for education. Therefore, state-level study could be more useful for determining the effects of earmarked lottery revenue on its recipients.

Performing a state-level examination of the Florida Lottery’s effect on education funding was particularly important given the aforementioned reliance on lottery revenue by the state. While the findings could possibly be generalized to other states earmarking lottery revenue for education, the potential and more immediate benefit for Florida’s education policy makers cannot be overstated.

**Purpose of this Study**

The purpose of this study was to determine the extent to and manner in which earmarked lottery revenue impacted the funding of Florida’s 28 community colleges. Factors influencing the amount of lottery revenue appropriated to the Florida community college system were also examined.

**Research Questions**

This study examined five research questions:

1. what percentage of community college system funding was provided by discretionary lottery funds system-wide at the institutional level; what proportion of community colleges’ total operating revenue was comprised of discretionary lottery funds; what was the mean appropriation of discretionary lottery dollars per FTE at the institutional level; if these amounts vary by institutional size;
2. if variations in discretionary lottery funds appropriated to the community college system correlated with general revenue, student fees, or FTE; if correlations among variables were consistent by institution size or if correlations varied with the size of the institution;

3. if variations in lottery funds appropriated to the community college system were correlated with changes in total lottery revenue; if variations in lottery funds appropriated to the community college system were correlated with changes in the amount of funds transferred to the EETF;

4. if variations in lottery funds appropriated to the community college system were correlated with lottery fund appropriations to other earmarked beneficiaries;

5. if variations in community college system expenditures were correlated with the amount of discretionary lottery funds appropriated to the community college system.

**Significance of Study**

In 2008, Florida’s community college system was expected to grow over the next five years “by 20% or 150,000 new students. This growth cannot take place without continuing and expanded state financial support” (Florida Community College Council of Presidents, 2008, p.3). As earmarked lottery revenue recipients, lottery funds impacted the level of financial support provided to Florida’s community colleges. As Land and Alsikafi noted in 1999, “when education funding is tied to a state lottery, the fiscal stability of educational programs often becomes a critical concern” (¶ 19). In Florida at the time of this study, demand for lottery funds increased as the lottery’s revenue plateaued and decreased, making the concern regarding “fiscal stability” even more critical. An analysis of current data helped to clarify the budgetary situation facing Florida’s community colleges, and provided community college administrators, advocates, lobbyists, and Florida’s legislators with a current analysis to guide economic policy at the institutional and state level. The resulting policy recommendations could further be of use to all community colleges faced with decreasing state support and increasing demand for services.

It was hoped that the findings of this study would lead to an objective method of analysis that could be replicated for each category of educational institution currently receiving lottery
revenue. This method could then be utilized by other states, allowing researchers the opportunity to conduct post-hoc, multi-state analyses. It was also hoped that, upon successful application of this model to other state lotteries, the 18 other state lotteries earmarking lottery funds for education at the time of this study would reevaluate community college funding policies in light of their findings.

This study described the budgetary situation facing Florida’s community colleges, thereby providing community college advocates, lobbyists, and legislators with a current, objective analysis to guide economic policy at the institutional, state, and national level. Furthermore, the results, once publicized, could remedy public misperceptions regarding the impact of lottery funding on education.

**Limitations**

Community college revenue sources, funding formulae, and fiscal governance varied by state. Within Florida, available revenue sources varied slightly among the state’s community colleges. As reported by Miller & Holt in 2005, 29 states utilized local taxation as a form of revenue through property taxes, sales taxes, and/or voted-approved bonds. As a result, “nationally, about one-fifth of community college revenue [was] derived from local tax appropriations” (Miller & Holt, 2005, p. 67). In Florida, a few community colleges received local tax revenue during the time period studied but most did not. However, these differences do not restrict the ability to generalize the findings of this study to other community college systems. In Florida and nationally, regardless of the available revenue sources, community colleges were being asked to do more with less state support (Babitz, 2003; Bass, 2003; Miller & Holt, 2005; Romano, Gallagher & Shugart, 2010; Zeiss, 2003).

As reported by the state of Florida, the total operating revenue of Florida’s community colleges consisted of “student fees” (revenue derived from tuition and fees), an annual
appropriation of lottery funds, and an annual general revenue appropriation from the State of Florida. The Board of Trustees of each community college was responsible for developing a budget at the institutional level which fully utilized the appropriated funds. Each year the Florida Legislature established a “standard student fee amount per credit hour” and each community college Board was authorized to set institutional tuition rates within a range of 10% below to 15% above the amount established the legislature (Florida Department of Education, Division of Accountability, Research, and Measurement, 2010, p.13). Florida was one of only two states (California being the other) in which the state legislature established community college tuition and fees. Community colleges in other states exercised local control of student tuition and fees or had a state or district educational board setting tuition rates and fees (Mullin & Honeyman, 2008).

This study used post-hoc data provided by the state of Florida for fiscal years 1997-1998 through 2008-2009. This study assumed the data provided by the state was accurate and reliable.
CHAPTER 2
LITERATURE REVIEW

A review of the literature provided the background for this study and placed the issue of lottery revenue and educational funding in context. Policy issues surrounding the use of lottery funds for education were relevant to every state earmarking lottery revenues for education. However, very little had been written about the extent to and manner in which earmarked lottery revenue impacted the funding of higher education in general, or community colleges in particular. Most of the literature regarding the issue of lottery revenues’ impact on education funding focused on total education expenditures by states or state K-12 educational funding by states. Furthermore, most studies were multi-state analyses which often obscured the manner in which lottery revenue was allocated, thereby affecting the studies’ results.

State Lotteries

Adoption Patterns

Beginning with the establishment of the New Hampshire Lottery in 1964, waves of lottery adoption spread throughout the United States, usually coinciding with times of economic recession, shortfalls in state-generated revenue, or changes in the federal government’s distribution of funds to the states. Marketed by legislators and viewed by many voters as an alternative to new taxes, lotteries were considered a painless way to raise revenue (Barker & Britz, 2000; Berry & Berry, 1990; Borg, Mason & Shapiro, 1991; Jones & Amalfitano, 1994; Karcher, 1992; McGowan, 1994; Nelson & Mason, 2007; Nibert, 2000; Von Herrmann, 2002).

As a “useful fiscal tool” that “produce state revenue without major public complaint” (Mikesell & Zorn, 1986, p. 318), state lotteries were found to “yield as much revenue in one year as increasing a state sales tax rate by 1 percentage point” (Erekson, DeShano, Platt & Ziegert, 2002, p. 302). Several researchers reported that states with high per-capita income had a
constituency that favored lotteries as a means of alleviating some of their personal tax burden (Erekson, DeShano, Platt & Ziegert, 2002; Nelson & Mason, 2007; Whitaker, 2007). However, Whitaker’s 2007 study concluded that “the perceived tax benefits to non participants are illusory” (p. 542). Whitaker contended that if the public became aware of the costs they were incurring as a result of the lottery, “support for lotteries will wane” (2007, p. 542). However, most scholars believed that lotteries were here to stay. McGowan (1994) called lotteries a “necessary income” (p. 17) source for states services and noted that lotteries had become “a means of finance for state governments when they can no longer demand that citizens pay more taxes in order to provide governmental expected services” (1994, p. 17). In 2008, a review conducted by the researcher of lottery beneficiaries nationally indicated that lottery funds supported more than education. Lottery revenue underwrote multiple beneficiaries including state prescription plans, local infrastructure, transportation services, and social services considered vital to local communities (Appendix A).

States were likely to institute a state lottery when a neighboring state already had a lottery in operation, a phenomena that Berry and Berry (1990), Pierce and Miller (2004) and Nelson and Mason (2007) referred to as diffusion. As early as 1988, Mikesell and Zorn reported a loss of state revenue resulting from residents crossing state borders to play a neighboring state’s lottery. For example, before the Georgia lottery began selling products in 1993, Georgia residents spent $50 million on Florida Lottery products annually (Nelson & Mason, 2007). In 2007, Stodghill and Nixon reported North Carolina’s citizens, through purchase of out-of-state lottery tickets, provided $500 million in aid to neighboring state’s causes. It is no wonder, then, that when campaigning for the establishment of a state lottery, legislators often argued that when their own state did not have its own lottery, its citizens’ dollars benefitted causes in the neighboring state
that offered state lottery games (Bobbitt, 2007; Nelson & Mason, 2007; Pierce & Miller, 2004). State officials also noticed the seeming financial boon lotteries created in neighboring states and sought to establish their own state lottery to reap the same rewards (Barker & Britz, 2000; Bobbitt, 2007).

In 2007, the Ohio Lottery Office of Finance reported that, “nearly 94% of the U.S. population resides in a state operating a lottery” (p. 6). In 2008, Alabama, Alaska, Arkansas, Hawaii, Mississippi, Nevada, Utah and Wyoming did not have state lotteries. States that did not have lotteries often had other forms of legalized gambling which lobbied against the establishment of a lottery for fear of the resulting cannibalization that could occur if a state lottery was introduced; such was the case in Nevada and Mississippi. Other states without lotteries often had a strong religious contingent that had significant influence on state politics, although that line of resistance was overcome in some states by tying the lottery to a worthy cause, such as education (Bobbitt, 2007; Ellis, 2007; Jones & Amalfitano, 1994; McGowan, 1994; Nelson & Mason, 2007; Pierce & Miller, 2004; Weinstein & Deitch, 1974). As McGowan stated, “even proponents of lotteries or gambling generally concede that while it is not a “good” activity it can be used to fund “good” causes” (1994, p. 4).

Public Perception and Justification

Lotteries were marketed by legislators and viewed by many voters as an alternative to new taxes, particularly when lotteries were established to benefit education. Erekson, DeShano, Platt & Ziegert (2002) deemed lotteries “a legislator’s panacea; it satisfies those who value education, while also appeasing those who do not wish to pay for such quality through taxes” (p. 305). Whitaker noted that lotteries provided revenue raising mechanisms for state legislatures that “lessen monitoring [of those expenditures] since it does not increase implicit taxes” (2007, p. 536).
The public perception of the lottery’s impact on education was often inflated, which inhibited efforts to raise taxes to support education. Lottery revenue constituted a small proportion of states’ educational budgets, ranging by state from 0.4% to just over five percent, however, the public was largely unaware of this (Ellis, 2007; Fairfield, Nixon & Nguyen, 2007). Erekson, DeShano, Platt & Ziegert noted the “distance” (2002, p. 305) most constituents had from the educational budgeting process when there was a lack of understanding regarding the true impact of lottery dollars. Most constituents, however, were “keenly aware” (p. 305) of their own tax burdens which the lottery was purported to alleviate (Erekson, DeShano, Platt & Ziegert, 2002). Erekson, DeShano, Platt & Ziegert contended, “if lottery funds are giving voters a false sense of security regarding educational funding, voters may erroneously reduce property taxes and other forms of support for public education because they see lottery funds as being supplemental” (2002, p. 304-305). Bobbitt (2007) claimed this is just what occurred in Florida only two years after the lottery’s adoption; bond issues that had met with success before the lottery’s inception failed thereafter. Bobbitt stated, “Florida found that public support for education funding suffered because of the misperception that the lottery was a windfall for education” (2007, p. 62). However, this phenomena was not unique to Florida.

In 1991, Allen examined the effects the public’s perceived use of lottery funds for education had on state funding for education. After examining Florida, California, Michigan and Illinois, Allen concluded that the lotteries served legislators by giving the “appearance of meeting needs of education while masking the relative drop in more direct taxes” (p. 310) and that the public was misled regarding the lotteries’ effect on educational funding.

**Lottery Revenue Allocation Systems**

In 2008, forty-two states and the District of Columbia were operating lotteries. The auspices under which each state lottery was created and operated varied. In 2008, 18 state
lotteries purported to solely benefit educational endeavors, transferring all lottery profits to accounts from which revenue was appropriated directly to educational institutions via the institutions’ annual operating budget, institutionally-awarded grants, construction funds, or special programs. Some educational institutions received lottery dollars indirectly through student scholarships, grants, and aid.

Some state lotteries were established under the flag of education only to change that purpose, legislatively, a few years later. In 2008, seventeen states utilized lottery profits for a variety of purposes, earmarking revenues for environmental programs, infrastructure support, and social services. Twelve of these state lotteries designated funds for multiple beneficiaries including some educational endeavors, such as school safety initiatives or teacher retirement funds. Eight state lotteries simply deposited lottery revenues directly into the state’s General Fund for spending later determined by the state’s legislature. The transparency of operation varied among state lotteries, as did state-level accounting practices and the disclosure of lottery revenue appropriations to the public. A summary of the state lotteries’ designated beneficiary type during the 2008 fiscal year and the total disbursements of lottery revenue to beneficiaries through fiscal year 2007 (the most current year for which data was available from each state at the time of the study) is provided in Appendix A.

**Florida’s Lottery Funds**

In Florida, lottery proceeds were transferred to the Educational Enhancement Trust Fund (EETF) which was administered by the Florida Department of Education. Beginning in 1991, K-12 public school districts, community colleges, and state universities were provided a portion of lottery revenue transferred to the EETF in lump-sums with each institution given responsibility for distributing the funds thereafter “to use the funds for educational enhancement” (Florida Department of Education, 2008, p. 6). Lottery funds that were not provided to institutions as
lump-sums were earmarked for school construction and renovation, grants, special initiatives, state student financial aid, and, beginning in 1997, the merit-based Florida Bright Futures Scholarship Program. Lottery funds were the sole source of funding for the Florida Bright Futures Scholarship Program.

While Florida law required that 80% of unclaimed prize monies be transferred directly to the Educational Enhancement Trust Fund with the remaining 20% retained by the Florida Lottery to pay for future prizes or special promotions (Florida Lottery, 2008b), Florida was one of the few states operating a state lottery that did not mandate, by law, the minimum percentages of proceeds to be designated for prizes, transferred to the lottery’s designated beneficiaries, nor a maximum proportion to be utilized for operating expenses. Instead, as reproduced by the Florida Department of Education (2008), Section 24.121 of the Florida Statutes, which governed the allocation and expenditure of lottery revenues, made repeated references to the use of “variable percentages” (p. 2). Subsection (1) stated, “variable percentages of gross revenue from the sale of online and instant lottery tickets returned to the public in the form of prizes shall be established by the department in a manner designed to maximize the amount of funds deposited under subsection (2)” (Florida Department of Education, 2008, p. 2). Subsection (2) stated “variable percentages of the gross revenue from the sale of online and instant lottery tickets as determined by the department consistent with subsection (1), and other earned revenue, excluding application processing fees, shall be deposited in the Educational Enhancement Trust Fund” (Florida Department of Education, 2008, p. 2). As reproduced by the Florida Department of Education (2008), Section 24.121(3) of the Florida Statutes stated, “the funds remaining in the Operating Trust Fund after transfers to the Educational Enhancement Trust Fund shall be used for the payment of administrative expenses of the department” (p. 3).
State statute prioritized the use of revenues deposited into the Educational Enhancement Trust Fund (EETF). These priorities, to be satisfied before the legislature, “shall equitably apportion moneys in the trust fund among public schools, community colleges, and universities” as stated in Section 24.121(5c), Florida Statutes (Florida Department of Education, 2008, p. 3). Section 24.121(2) of the Florida Statutes authorized “lottery revenues transferred to the Educational Enhancement Trust Fund [to be] reserved as needed and used to meet the requirements” of school district construction bonds (Florida Department of Education, 2008, p. 2). Another priority authorized by Florida Statute was delineated in Section 24.121(5c) allowing the legislature to annually determine a portion of lottery revenue for disbursement to each school district “for enhancing school performance through development and implementation of a school improvement plan” with funds allocated per student (Florida Department of Education, 2008, p. 3). Section 24.121(5e) of the Florida Statutes, as reproduced by the Florida Department of Education (2008), stated that “all components of the Florida Bright Futures Scholarship Program” (p. 4) were to be “funded annually from the Educational Enhancement Trust Fund” (p. 4). The section, as reproduced by the Florida Department of Education (2008), further stipulated that:

Funds shall be allocated to this program prior to application of the formula for equitable distribution to public schools, community colleges, and state universities. If shortages require reductions in estimated distributions from the Educational Enhancement Trust Fund, funds for the Florida Bright Futures Scholarship Program shall be reduced only after reductions in all other distributions are made. (p. 4)

The Florida Lottery officials stated the lottery was a “dependable contributor to education in Florida” (2008d, ¶ 6). At the close of fiscal year 2008-2009, “for the seventh time in the Florida Lottery's 21-year history the agency surpassed the billion-dollar mark in a single year” (Florida Lottery, 2010a, ¶ 2) in annual transfers of lottery funds to the Educational Enhancement Trust Fund. Florida Lottery net sales and transfers to the EETF for fiscal years 1997-1998
through 2008-2009 is provided in Table 2-1. In fiscal year 2008-2009, Florida Lottery officials reported transferring $1.28 billion from the Florida Lottery to the Educational Enhancement Trust Fund (Florida Lottery, 2010b). Those Florida Lottery funds comprised 5.1% of the state’s total operating budget for public schools and public higher education institutions (Florida Department of Education, 2009). For public schools, the Florida Department of Education noted, based on daily operating costs, “lottery funds available to public schools would operate the public schools for fewer than four days” (2009, p. 32).

From fiscal year 1997-1998 through fiscal year 2008-2009, $13,230,142,290 in lottery funds were appropriated to earmarked beneficiaries (Florida Department of Education, 2009). Of that total, Florida’s public schools received 52% of lottery appropriations from the EETF, Florida’s Bright Futures Scholarship Program received 22%, the state university system received 14%, Florida’s community college system received 11%, State Student Financial Aid received 1%, while the State Board of Education, First Generation in College Matching Grant Program, and Workforce Education each received less than one percent of appropriated lottery funds. Table 2-2 provides the proportional distribution of lottery funds appropriated to earmarked lottery beneficiaries annually from fiscal year 1997-1998 through fiscal year 2008-2009.

Beginning in 1991, the lottery funds appropriated to community colleges were no longer allocated as categorical funds with inherent spending restrictions. The lump-sum allocation of discretionary lottery funds to community colleges, referred to by the Florida Department of Education as “Community College Lottery Funds” (2008, p. 10), was included in the total operating budget of the institution, therefore its use was determined by each community colleges’ Board of Trustees. Additional lottery revenues were available to community colleges through grants and special initiatives. Acquisition and use of those funds were dictated by the
grant or initiative. For example, in fiscal year 2007-2008, Florida’s community colleges were appropriated $489,600 from the EETF to partially fund “Florida’s Two Plus Two Public and Private Partnerships” baccalaureate programs with the remaining $2,774,400 provided from the state’s General Revenue fund (Florida Department of Education, 2008, p. 29). Community colleges and partnering institutions who participated in this initiative “receive[d] equal proportions of the per student incentive award” (Florida Department of Education, 2008, p. 28).

**Lottery as a Revenue Source**

Lotteries had significant start-up costs. Whitaker found that during the year a new lottery was established, state expenditures increased 1.68%, exceeding the average annual increase in spending usually experienced by state governments (2007). Even once a state lottery was firmly established, scholars contended that lotteries were not an efficient means of raising revenue due to the high administrative costs associated with lotteries as opposed to other fund raising mechanisms, namely taxes (Mikesell & Zorn, 1986; Ellis, 2007).

**Maturity Effects and Product Revenue Patterns**

Lotteries were perceived by states as a consistent source of revenue and were incorporated into the annual budget based upon projected earnings despite the fluctuating annual sales experienced by every state lottery (Jones & Amalfitano, 1994; Karcher, 1992; McGowan, 1994; Mikesell & Zorn, 1988). Mikesell and Zorn’s seminal works provided an examination of the stability of lottery revenue. In 1986, Mikesell and Zorn said, “a state cannot rely on its lottery to be a stable, reliable source of net revenue” (p. 314) due to its reliance on “changing consumer preferences” (p. 314), competition from neighboring states, and even competition from illegal forms of gambling. Jones and Amalfitano noted similar sources of instability in 1994. In 1988, Mikesell and Zorn said lottery sales were affected by several factors including lottery activities in neighboring states, maturation of the state’s lottery, introduction of new games and declining
sales of older games, and size of jackpots. Mikesell and Zorn also demonstrated that lottery sales gradually declined once a state lottery had operated for about ten years (1988).

A review of each state lottery’s annual financial reports conducted by the researcher in 2008 confirmed Mikesell and Zorn’s 1988 analysis. By 2008, most state lottery officials reported a plateau in lottery sales and introduced new games as a means of reinvigorating interest in the state’s lottery even though there were costs associated with the introduction of new products. Florida was no exception. For example, the Florida Legislature’s Office of Program Policy Analysis and Government Accountability (OPPAGA) reported in 2007 that the Florida Lottery “continue[d] to face the challenge of maintaining revenue growth” (p.1) due to game sales that “level off” (p. 1) and competition from other forms of gambling. The Florida Lottery emulated several state lotteries by introducing new games over the years as a means of reinvigorating sales, however in 2007 OPPAGA recommended introducing additional new games, including video lottery and keno, to maintain Florida Lottery revenue levels. Florida’s experiences reflected the patterns exhibited by other mature state lotteries. Most states reported the continued popularity of instant games and decreasing popularity of the old, established online games except in times when jackpots increased; lottery products had a life cycle that effected revenue production. A review of state lotteries’ operations, histories, and financial reports was conducted for this study during the summer of 2008 the findings of which also confirmed McGowan’s analyses of lottery game life spans (1994). A summary of lottery revenue procurement methods (games) employed by each state lottery during fiscal year 2008 is provided in Appendix B.

In 1988, Mikesell and Zorn declared “the lottery provides neither a sizable nor a stable revenue foundation for the government” (p. 41). In 1994, Jones and Amalfitano found lotteries generated about 2.2% of states’ tax revenues but noted Weinstein and Deitch’s (1974) contention
that the same amount of revenue could be generated by raising the sales tax by .05% (p. 53). As noted earlier, Erekson, DeShano, Platt & Ziegert stated in 2002 that it would now take a full percentage point increase in sales to generate the equivalent amount of state lottery revenue (p. 302). However, upon examination by the researcher of individual state lottery reports in 2008, it appeared the contribution of lottery funds to government coffers was becoming increasingly sizable in some states. In both Illinois and New Jersey, for example, the state’s lottery was the fourth largest revenue generator in the state (Illinois Lottery, 2008c; State of New Jersey, 2008e).

**Cannibalism**

The researcher’s review of state lottery reports that were available in 2008 confirmed the effect of neighboring state lotteries on state lottery revenue as discussed by Mikesell and Zorn (1988) and Jones and Amalfitano (1994). States that were bordered by a state that did not have its own lottery had a customer base of out-of-state players who regularly crossed state border to buy tickets. Neighboring state lotteries also competed with each other for ticket sales as a jackpot grew in one state and enticed out-of-state residents to cross state lines to buy tickets. Several researchers examined this effect at the state level.

Garrett and Marsh (2002) studied the effects of cross-border lottery sales in Kansas, which is bordered by Oklahoma, Colorado, Nebraska and Missouri each of which had a lottery. Utilizing data from 1998 of per capita lottery sales in each of Kansas’ 105 counties (40 of which were border counties), Garrett and Marsh conducted a regression analysis incorporating the model of spatial autocorrelation, making spatial dependence a dependent variable which they termed “spatial lag” (2002, p. 511). Their analysis found “Kansas lost almost $10.5 million in 1998 to cross-border lottery shopping” (Garrett & Marsh, 2002, p. 517). Noting the relevance of their findings to other states that border lottery states, Garrett and Marsh concluded that their findings, “suggest that states are vulnerable to a revenue loss due to neighboring states with
lotteries. Given this potential vulnerability, states may not wish to rely on lottery revenues as a stable source of long run revenues” (2002, p. 518).

Tosun and Skidmore (2004) performed a series of regression analyses of lottery sales data from 1987 to 2000 for West Virginia’s 55 counties and concluded, “lottery and lottery game adoptions in West Virginia's contiguous states have had statistically and economically significant negative effects on West Virginia border county lottery sales” (p. 176). As Garrett and Marsh (2002) noted, since this phenomena was not unique to any one state, all state lotteries should consider the effect of neighboring state lotteries on their state lottery revenue.

Casinos and pari-mutuel betting also appeared to cannibalize sales of state lottery products, although the effects varied by state. Garrett and Marsh’s study of Kansas concluded it “appears that pari-mutuel racetracks and casinos do not have a significant impact on lottery sales” (2002, p. 514). However, also in 2002, Elliott and Navin studied the effects of riverboat casinos and pari-mutuel racetracks on state lottery revenue and found there was an effect on lottery revenue. Utilizing regression analysis of data from 1989 to 1995 “for all states operating a state-sponsored lottery” (p. 224) excluding Alabama, Alaska, Arkansas, Georgia, Hawaii, Idaho, Indiana, Louisiana, Minnesota, Mississippi, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Oklahoma, South Carolina, Tennessee, Texas, Utah, and Wyoming, Elliott and Navin concluded “state-licensed gambling casinos and pari-mutuel betting cause significant cannibalization of gross state lottery revenues” (2002, p. 244). Elliott and Navin concluded that “states still benefit from having both lotteries and casinos” (2002, p. 246), however, they noted that “the substitution between pari-mutuel betting and lotteries is so great that, at existing effective tax rates, states may suffer net revenue losses from the cannibalization of lottery revenues by pari-mutuel betting” (2002, p. 246). Elliott and Navin found that the state lost $0.83
in net lottery revenue for each dollar in additional revenue from riverboat casino gambling (2002, p. 244) whereas a dollar of revenue from pari-mutuel betting reduced gross state lottery revenue by $2.55 (2002, p. 245).

Studies conducted on the effects of casinos alone also indicated a cannibalization of lottery revenue. Siegel and Anders (2001) examined the effects of Indian casinos on Arizona’s lottery revenue. Utilizing a time-series regression of monthly data from 1993-1998, Siegel and Anders found an increase in Indian casino slot machines was “associated with a decline in lottery revenues, especially Lotto” (2001, p. 143). Specifically, Siegel and Anders found “a 10% increase in slot machines is associated with a 3.8% decline in lottery revenues and a 4.2% decrease in Lotto revenues” (2001, p. 144). However, the researchers admitted these results “may not generalize to the other 23 states where Indian casinos operate” (Siegel & Anders, 2001, p. 145).

Noting that they were extending the 2002 study conducted by Elliott and Navin, Fink and Rork (2003) examined data from 48 states from 1988 to 2000 including tax receipts from all forms of commercial casinos. Through regression analysis, their results “indicate a strong cannibalization of state net lottery revenue by commercial casino tax revenue. Specifically, we find that a $1 increase in commercial casino tax revenue decreases net lottery revenue by $0.56” (Fink & Rork, 2003, p. 2). Fink and Rork explained that their finding was 33% less than that of Elliott and Navin (2002) “due to the presence of a negative sample selection bias” (2003, p. 5) in Elliott and Navin’s study that those researchers did not control for. However, Fink and Rork concluded that their results confirmed the findings of both Elliott and Navin (2002) and Siegel and Anders (2001) that casinos negatively impacted net lottery revenues (2003).
In 2008, Walker and Jackson noted the results of earlier studies, including those of Siegel and Anders (2001) and Elliott and Navin (2002), could not be generalized to other states or time periods due to the state(s) or time period studied. Walker and Jackson further noted that most earlier studies “only provided a one-way test of the relationship among industries” (2008, p. 311) and that a study gaming industries’ affects on each other was needed. Utilizing data from all 50 states and the District of Columbia from 1985-2000, Walker and Jackson concluded that lotteries and casinos “are negatively related” (2008, p. 326), confirming the findings of Siegel and Anders (2001), Elliott and Navin (2002), and Fink and Rork (2003). Walker and Jackson also confirmed the findings of Elliott and Navin (2002), Garrett and Marsh (2002), and Tosun and Skidmore (2004) that the availability of gambling in adjacent states affects each others’ gaming industries. Specifically, Walker and Jackson found that a state’s lottery sales were negatively affected by the availability of casino gambling and dog racing in an adjacent state, but were positively affected by the presence of horse racing in an adjacent state (2008, p. 324). Walker and Jackson further concluded that, within a state, the availability of horse and dog racing “significantly increase lottery sales in that state” (2008, p. 324) but that lotteries “do not, however, appear to cannibalize the racing industries” (p. 326) within that state.

**Earmarking Effects**

Earmarking lottery funds for education created support for lottery adoption and continued operation (Bobbitt, 2007; Ellis, 2007; Weinstein & Deitch, 1974). In 2007, as reported by Ellis, a survey of Georgia residents found 68% of respondents “would vote to discontinue the lottery if it did not fund education” (¶ 10). Earmarking may have also held legislators to “a pattern of spending that does not allow for flexibility” (Garrett, 2001, p. 220), a pattern approved by voters. However, it was widely recognized that earmarking may have resulted in supplantation of funds that were previously spent by the state on the beneficiary of earmarked lottery funds.
In 1990, Borg and Mason examined five state lotteries that earmarked lottery revenue for education during fiscal years 1974 through 1985. While the focus was on total education expenditures, regression analyses showed that state expenditures decreased in every state but one. Borg and Mason (in their work with Shapiro) later found a decrease in per-pupil expenditures during the same time period in non-lottery states, leading them to conclude that “lotteries were at best insignificant with regard to the funding of education” (Borg, Mason, & Shapiro, 1991, p. 40).

Jones and Amalfitano (1994) observed that “the lack of any large-scale research makes it difficult to substantiate any claims about the efficacy of earmarking, pro or con” (p. 17). Jones and Amalfitano examined the financing of public schools in all 50 states utilizing data from 1987. Like Borg and Mason (1990), Jones and Amalfitano concluded that lottery states allocated fewer state dollars to education than non-lottery states. However, they found that lottery states did spend more on education because “they are wealthier than non-lottery states, not because they have the lottery” (Jones & Amalfitano, 1994, p. 113). They also found the proportion of state funds allocated to education was smaller in lottery states than the proportion of state revenue allocated to education by non-lottery states. Furthermore, Jones and Amalfitano found the lottery “was not a significant predictor” (1994, p. 119) in any of the regression equations they employed, leading Jones and Amalfitano to conclude that “states are not likely to enhance public education significantly by implementing the “lottery-for-education” proposals” and that the findings “strongly suggest state lottery revenue do not help schools” (1994, p. 119-120).

In 2002, Erekson, DeShano, Platt & Ziegert examined all 50 states utilizing data from 1986 to 1990. Through a series of regression analyses, they found “lottery states, on average, allocate around 0.2 percent more to education than non-lottery states” (p. 309) but found the fungibility
of resources off-set this benefit. Therefore, they concluded that “regardless of a state’s relative wealth, population, debt pressures or tax burdens, increases in lottery revenues negatively affect support for public education. Clearly, lottery revenues are fungible” (Erekson, DeShano, Platt & Ziegert, 2002, p. 311).

In 2005, Novarro challenged the findings of Borg and Mason (1990) and Erekson, DeShano, Platt & Ziegert (2002), claiming neither study “controlled for the correlation between educational expenditures and unobservable characteristics of states that adopt lotteries” (p. 26). Novarro studied all 50 states using data from 1976 through 2000 with per student expenditures for elementary and secondary education as the dependent variable. After conducting regression analyses, Novarro stated, “results suggest that earmarking lottery profits for education has a real effect on expenditures as $1 of profits earmarked to education increases spending by $0.36 more than a dollar of nonearmarked general fund profits and $0.60 more than a dollar earmarked for some category other than education” (2005, p. 31); one dollar of lottery profits earmarked for education increased current educational spending by roughly $0.79, whereas a nonearmarked dollar of lottery profits increased educational spending by only $0.43. However, Novarro did concede that some supplantation was occurring due to the fact that one dollar of lottery revenue did not result in one dollar of increased expenditure (2005).

Also in 2005, Evans and Zhang examined the educational expenditures of the 16 states that earmarked lottery revenues for K-12 education to determine if expenditures increased when lottery profits increased. Utilizing data from 1978 through 1998, Evans and Zhang found “a dollar increase in the earmarked profits contributes 50 to 70 cents in state per pupil revenues and slightly smaller increases in per student current expenditures” (2005, p. 5), while one nonearmarked lottery dollar added to the general revenue fund “increases state revenues for K-12
education and current expenditures by about 30 cents” (2005, p.5). The researchers acknowledged spending did not increase dollar for dollar, and the “results suggest that a non-trivial portion of earmarked lottery profits for education is leaked away at the state level” (Evans & Zhang, 2005, p. 5).

At the state level, Stark, Wood, and Honeymon (1993) examined the effects of earmarked lottery revenue on K-12 funding in Florida by conducting a series of linear regressions utilizing data from 1973 through 1990. They found a decrease in per-pupil state funding occurred after K-12 education was earmarked to receive lottery revenue, with lottery funds thereafter comprising 56.8% of per-pupil funding. Also in 1993, Summers examined whether Florida’s community colleges benefitted from being earmarked recipients of lottery funds. Through a series of step-wise linear regressions that analyzed the expenditures and revenue distributions of each community college, Summers concluded that the community colleges did not benefit from being earmarked recipients of lottery funds; expenditures decreased and fewer dollars were allocated from the state general fund to community colleges. Garrett (2001) affirmed the findings of Borg and Mason (1990) and Jones and Amalfitano (1994) at the state level, examining the effect of lottery funding on Ohio’s education system by utilizing ARIMA time-series modeling.

Employing a methodology that had yet to be employed in previous studies, Soto’s dissertation of 2005 used a survey to gauge the opinion of community college chief financial officers from eight states, including Florida, regarding their satisfaction with lottery revenues as a source of community college funding. Chi-square analyses were used to compare frequency counts between those states who were directly funded with lottery revenue or indirectly funded. The study found dissatisfaction among chief financial officers regarding lottery revenue allocations to community colleges and indicated that earmarking lottery revenue for community
colleges may have been the cause of decreased funding. However, this study relied heavily upon the personal opinion of those surveyed and the questionable assumptions of the researcher regarding the survey respondents’ level of knowledge and the generalizability of their opinions.

While several studies have examined the effects of earmarking lottery revenue for education, most of these studies were multi-state analyses which was not the best approach in the view of several researchers. Each state lottery included in a multi-state analysis had reached a different point of maturity, offered differing products that effected revenue production, and had different economic situations that may or may not have made supplanting general revenue with lottery revenue necessary (Garrett, 2001; Lauth & Robbins, 2002; McQueen, 2007). An examination of the effects of earmarked state lottery revenue on each level of education funding, preferably utilizing the same methodology thereby allowing post-hoc cross analysis, would contribute greatly to the literature. At the time of this study, there was a dearth of research regarding the effects of earmarking revenue for higher education institutions; analyses of the effects on state universities and community colleges was needed. Thus, this study aimed to provide an analysis of Florida’s community college system and a methodology that could be replicated by other states currently earmarking lottery revenue for higher education institutions.

**Supplantation**

The supplantation of state revenue with lottery revenue as funding sources for earmarked recipients had been anecdotally reported since state lotteries began earmarking funds for education. For example, Bobbitt (2007) reported that within one year of the Florida Lottery’s inception, “critics accused the government of playing a shell game with the lottery proceeds, using them not to supplement the education budget, but rather to replace money taken away from education to spend elsewhere” (p.60-61). Bobbitt (2007) stated that in the early 1990’s, money was taken out of Florida’s education budget and spent on health care and prisons. By 2005,
Bobbitt reported, the state was spending 51% of its budget on education whereas before the lottery Florida spent 60% (Bobbitt, 2007). However, demonstrating supplantation statistically had proven difficult.

Several studies addressing supplantation were conducted in the late 1980’s to early 1990’s, but failed to concretely demonstrate supplantation effects. Mikesell and Zorn suggested that the practice of earmarking and the subsequent phenomena of supplantation was, at that time, too recent “or amorphous to allow analysis” (1986, p. 315). Their own study in 1986, which examined education expenditures as a proportion of total state expenditures before and after lottery adoption as a means of determining supplantation, yielded “mixed results” (Mikesell & Zorn, p. 315). These findings led the researchers to conclude that claims of lottery revenue “contributes to the expansion of functional areas are not provable” (Mikesell & Zorn, 1986, p. 315). In 1993, Summers examined whether lottery funds supplanted or enhanced state general revenue funds allocated to Florida’s community colleges. Several regression analyses were conducted, but Summers concluded, “this study did not find evidence that either supplantation or enhancement of general revenue dollars had occurred to a statistically significant level” (1993, p. 90).

To improve upon the findings of Mikesell and Zorn (1986, 1988) who utilized trend analysis but did not examine statistical relationships when conducting their studies, Spindler (1995), examined seven states, including Florida, utilizing ARIMA time series modeling with education expenditures as a dependent variable. Spindler concluded that lottery revenues were fungible in all states studied and that in four states the overall effect of lottery revenue on expenditures was determined to be negative (1995). Garrett (2001) felt that the use of education expenditures as a dependent variable was a problem with Spindler’s study because changes in
total revenue, which may or may not have been a result of supplantation, would have impacted education expenditures (this could also be considered a problem with the study conducted by Summers). Garrett further noted the problems inherent in multi-state analyses as a limitation of the Spindler study (2001).

Borg, Mason, and Shapiro addressed the issue of supplantation in 1991. The researchers recognized that the conclusions of Borg and Mason’s 1990 study did not prove supplantation because the amount of lottery revenue being examined was too small to detect significant changes in education expenditures. As a result, Borg, Mason, and Shapiro developed a new model “using a cross-sectional analysis by estimating functions explaining state educational expenditures with lottery variables included” (1991, p. 41). The results of this new methodology “[implied] that the gap between education lottery and non-lottery state allocations to education per student are widening” (Borg, Mason, & Shapiro, 1991, p. 47) as education lottery states allocated 15.4%, 22.9%, and 35% less per pupil than non-lottery states in 1974, 1979, and 1984 respectively. They concluded that, “earmarked education lotteries have probably led to significant fungibility of education revenues” (Borg, Mason, & Shapiro, 1991, p. 47).

However, Garrett (2001) claimed this, too, failed to prove supplantation noting that although Borg, Mason and Shapiro (1991) found lottery states spent less per pupil than non-lottery states, those states that earmarked lottery revenue for education may have done so to compensate for a per-pupil expenditure rate that was already low compared to that of other states. Even if earmarked lottery increased educational expenditures, Garrett (2001) argued, the revenue may not have compensated for previously existing differences.

To overcome the problems of earlier studies, Garrett (2001) chose to examine Ohio only and examine per-pupil expenditures utilizing data from 1958 through 1996. Garrett usefully and
simply defined the issue of supplantation in terms of fungibility as such, “if the contribution of
lottery revenues does not increase education expenditures by the full amount of lottery revenues,
education expenditures are said to be fungible” (2001, p. 220). Garrett’s study of K-12 per-pupil
expenditures utilized ARIMA modeling and concluded that the results “do not imply that
lotteries harm education, rather the results simply reveal that lotteries may not be helping

The following year, Erekson, DeShano, Platt & Ziegert found an “overwhelming
indication of the fungibility of lottery revenues” (p. 309) in their study of K-12 funding in all 50
states over five years (2002). Using regression analyses, Erekson, DeShano, Platt & Ziegert
found a 1% to 1.5% decrease in educational support “for every per capita dollar of lottery
revenue generated” (2002, p. 309); Erekson, DeShano, Platt & Ziegert’s use of per capita dollars
was unique. As noted earlier, state-level study was considered by many researchers to be more
useful for determining the effects of earmarked lottery revenue on its recipients due to existing
differences among states regarding the maturity of the lottery, the percentage of lottery revenue
earmarked for education, and economic situations that may or may not have made supplanting
general revenue with lottery revenue necessary. However, Erekson, DeShano, Platt & Ziegert
addressed this last concern by considering state wealth, debt, and tax burdens (2002).

Also in 2002, a study was conducted regarding supplantation and the Georgia lottery.
Lauth and Robbins (2002) examined education expenditures from 1994-2002 and found a
positive net effect as the state utilized lottery funds as an additional source of revenue. Lauth and
Robbins also indicated that use of lottery funds may have stimulated spending by the state in
certain areas of education, although other factors may have also explained the observed increase
in spending. Lauth and Robbins credited the transparency of Georgia’s appropriation and
budgeting process as required by state statute and the state’s constitution with the successful use of lottery proceeds as a supplemental form of revenue. They further credited the “personal commitment” (Lauth & Robbins, 2002, p. 99) of then Governor Zell Miller, a primary proponent of the lottery’s adoption who was still in office when the lottery was enacted, for ensuring his administration utilized the funds as supplemental revenue. The policy dictated by Georgia’s Lottery for Education Act was also credited by Lauth and Robbins (2002) for the state’s success in resisting the fungibility of lottery revenue, however, the authors also acknowledged that the state’s strong economy during the period studied made substituting state funds with lottery funds unnecessary (2002). Georgia was often touted as an exemplary state lottery; Lauth and Robbins’ 2002 study demonstrated why states sought to follow Georgia’s model. However, it must be noted that the Georgia Lottery benefited a program that was created along with the lottery to receive lottery dollars, namely the HOPE scholarship program. The Georgia Lottery did not earmark revenue for services that had received state revenue before the lottery’s inception.

While some studies have proven the existence or lack of supplantation for total education appropriations or K-12 systems, at the time of this study there had been no successful analyses of the possible supplantation of general revenue funds with lottery dollars at the higher education level nor had a model emerged that could be replicated at the state level to allow a post-hoc cross state analysis of the potential impact of supplantation (although Garrett (2001) suggested using his model for such a purpose). Only Stark, Wood, and Honeyman’s study was able to demonstrate supplantation of Florida’s general fund allocations to education with lottery funds (1993). However, their study addressed the K-12 system only. Summers’ study of the Florida lottery’s effect on state allocations to community colleges did not produce a statistically significant measure of supplantation (1993).
Jones and Amalfitano (1994) and Soto (2005) specifically noted the need for a study of the effects of earmarking lottery revenue at the community-college level. At the time of this study, there was a lack of scholarship regarding this issue, and existing scholarship was either too broad in scope (encompassing other categories of educational institution and multiple states) or too old to ensure the findings were still applicable today. For example, since Summers study of Florida’s community colleges in 1993, Georgia had created its own state lottery which may have had a negative impact on Florida’s lottery revenue, the legislature had created the Florida Bright Futures Scholarship program which was solely funded through lottery revenue, and the legislature had allocated lottery revenues to pay for bonds arising from a K-12 class size amendment. Florida’s lottery revenue distribution scheme in fiscal year 2008-2009 was no longer what it was in 1993. An examination of the impact these modified allocations had on community college funding in Florida was needed.
Table 2-1. Florida lottery net sales and transfers to the EETF fiscal year 1997-1998 through fiscal year 2008-2009

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<thead>
<tr>
<th>Fiscal Year</th>
<th>Net Sales</th>
<th>Transfer to EETF</th>
<th>Proportion of Net Sales Transferred</th>
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<tr>
<td>1997-1998</td>
<td>2,050,037,000</td>
<td>801,685,000</td>
<td>0.39106</td>
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<tr>
<td>1998-1999</td>
<td>2,096,726,000</td>
<td>807,227,000</td>
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<td>1999-2000</td>
<td>2,248,496,000</td>
<td>908,353,000</td>
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<td>2000-2001</td>
<td>2,274,726,000</td>
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<td>2001-2002</td>
<td>2,330,365,000</td>
<td>926,488,000</td>
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<td>2,867,981,000</td>
<td>1,035,178,000</td>
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<td>2003-2004</td>
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<td>1,051,658,000</td>
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<td>2004-2005</td>
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<td>1,103,633,000</td>
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<td>2005-2006</td>
<td>3,929,030,000</td>
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<td>2006-2007</td>
<td>4,122,116,000</td>
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<td>2007-2008</td>
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<td>2008-2009</td>
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<td>12,600,571,000</td>
<td>0.34452</td>
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<td>2008-2009</td>
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(Florida Lottery, 2010b)
<table>
<thead>
<tr>
<th>FY</th>
<th>Public Schools</th>
<th>Workforce Education</th>
<th>Community Colleges</th>
<th>State University System</th>
<th>State Board of Education</th>
<th>Bright Futures</th>
<th>State Student Financial Aid</th>
<th>First Gen. Match. Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>0.630</td>
<td>0.000</td>
<td>0.140</td>
<td>0.130</td>
<td>0.000</td>
<td>0.090</td>
<td>0.010</td>
<td>0.000</td>
</tr>
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<td>1998-1999</td>
<td>0.590</td>
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<td>0.120</td>
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<td>0.000</td>
<td>0.150</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.580</td>
<td>0.000</td>
<td>0.120</td>
<td>0.130</td>
<td>0.000</td>
<td>0.170</td>
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</tr>
<tr>
<td>2000-2001</td>
<td>0.600</td>
<td>0.000</td>
<td>0.110</td>
<td>0.110</td>
<td>0.000</td>
<td>0.160</td>
<td>0.020</td>
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</tr>
<tr>
<td>2001-2002</td>
<td>0.580</td>
<td>0.000</td>
<td>0.100</td>
<td>0.100</td>
<td>0.000</td>
<td>0.200</td>
<td>0.020</td>
<td>0.000</td>
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<tr>
<td>2002-2003</td>
<td>0.530</td>
<td>0.000</td>
<td>0.100</td>
<td>0.110</td>
<td>0.010</td>
<td>0.230</td>
<td>0.020</td>
<td>0.000</td>
</tr>
<tr>
<td>2003-2004</td>
<td>0.530</td>
<td>0.000</td>
<td>0.110</td>
<td>0.140</td>
<td>0.000</td>
<td>0.200</td>
<td>0.020</td>
<td>0.000</td>
</tr>
<tr>
<td>2004-2005</td>
<td>0.550</td>
<td>0.000</td>
<td>0.080</td>
<td>0.110</td>
<td>0.010</td>
<td>0.230</td>
<td>0.020</td>
<td>0.000</td>
</tr>
<tr>
<td>2005-2006</td>
<td>0.490</td>
<td>0.004</td>
<td>0.090</td>
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<td>0.000</td>
<td>0.270</td>
<td>0.001</td>
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<tr>
<td>2006-2007</td>
<td>0.420</td>
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<td>0.000</td>
<td>0.240</td>
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<tr>
<td>2007-2008</td>
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<td>0.100</td>
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<td>0.250</td>
<td>0.030</td>
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<td>2008-2009</td>
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<td>0.005</td>
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</tr>
<tr>
<td>1997-1998-2008-2009</td>
<td>0.519</td>
<td>0.001</td>
<td>0.106</td>
<td>0.139</td>
<td>0.001</td>
<td>0.217</td>
<td>0.016</td>
<td>0.006</td>
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</tbody>
</table>
CHAPTER 3
METHODOLOGY

The purpose of this study was to determine the extent to and manner in which earmarked lottery revenue impacted the funding of Florida’s 28 community colleges from fiscal year 1997-1998 through fiscal year 2008-2009. This study sought to answer the following research questions:

1. what percentage of community college system funding was provided by discretionary lottery funds system-wide at the institutional level; what proportion of community colleges’ total operating revenue was comprised of discretionary lottery funds; what was the mean appropriation of discretionary lottery dollars per FTE at the institutional level; if these amounts vary by institutional size;

2. if variations in discretionary lottery funds appropriated to the community college system correlated with general revenue, student fees, or FTE; if correlations among variables were consistent by institution size or if correlations varied with the size of the institution;

3. if variations in lottery funds appropriated to the community college system were correlated with changes in total lottery revenue; if variations in lottery funds appropriated to the community college system were correlated with changes in the amount of funds transferred to the EETF;

4. if variations in lottery funds appropriated to the community college system were correlated with lottery fund appropriations to other earmarked beneficiaries;

5. if variations in community college system expenditures were correlated with the amount of discretionary lottery funds appropriated to the community college system.

Research Design

This study was conducted from a positivist, objectivist theoretical framework. An ex post facto research design was employed to determine the impact of, or relationships among, variables’ on the funding of Florida’s 28 community colleges. In her seminal work on policy research, Majchrzak asserted “this method is, by far, the most cost-efficient method for answering policy research questions” (1984, p. 60).

Regression analyses were conducted to determine if any relationships existed, if variables were positively or negatively correlated, what proportion of variability in one variable could be
explained by another variable, and if a predictor variable could be identified. Regression analyses had been successfully employed to examine the effects of lottery revenue on educational funding by Borg, Mason, and Shapiro (1991), Stark (1991), Stark, Wood, and Honeyman (1993), and Erekson, DeShano, Platt & Ziegert (2002).

The variables examined in this study were not manipulated by the researcher; this was an archival study. Therefore, the results of this study were dependent upon the accuracy of the data that was maintained and provided by the state. Statistical models were developed by the researcher to analyze the interactions of independent variables with the measures of interest expressed in each research question. Data from fiscal years 1997-1998 through 2008-2009 were analyzed at the community college system and institutional levels.

For data analysis purposes, Florida’s 28 community colleges were grouped by the researcher into four categories; Small, Medium, Large, and Very Large. The categories utilized in this study were based upon the Carnegie Foundation for the Advancement of Teaching’s 2009 classification definitions and the resulting institutional listings provided by the Foundation. The Carnegie classifications were determined by FTE and degree type offered by the institution. Institutions’ classification listings were determined by the Carnegie Foundation for the Advancement of Teaching “based on data from 2003 and 2004” (2009, ¶ 24); this was beneficial for this study since these years fell in the middle of the timeframe studied. In 2009, the Carnegie Foundation for the Advancement of Teaching classified Florida’s 28 community colleges into five categories; small two-year (S2), medium two-year (M2), large two-year (L2), very large two-year (VL2) and large, four year, non-residential (L4/NR). Only one community college, St. Petersburg College, was listed by the Foundation as a L4/NR (2009). For the purposes of this study, St. Petersburg College was included in the Very Large category, based upon the college’s
2003-2004 FTE of over 10,000 students (Florida Department of Education, 2009). With the exception of St. Petersburg College, this study utilized the categorizations determined by the Foundation. A complete list of the institutions in each category and the FTE as calculated by the Foundation that was required to fall within that category is provided in Table 3-1, Community College Size Categories and Definitions.

The mean operating revenue, general revenue allocation, students fees, FTE, expenditures, and lottery appropriation was calculated for each category for each fiscal year and cumulatively for all fiscal years studied. For each categorical data element, a frequency distribution, median, and mode was also calculated to ensure the data was accurate.

**Researcher Bias**

At the time of this study, the researcher was employed as a full-time faculty member with administrative duties at a community college in Florida. At the time of this study the researcher was neutral toward the Florida Lottery as a source of educational funding in general, and for community colleges in particular. The results of this study informed her opinion regarding the efficacy of this funding policy. The researcher had no moral objections to state-run lotteries nor legalized gambling as sources of state revenue, and, therefore, bore no moral bias towards the state lottery.

**Data Collection**

An IRB was submitted to the University of Florida’s Institutional Review Board requesting approval to conduct this study. Upon approval, data detailing the allocation of lottery revenue to all earmarked beneficiaries and Florida Lottery revenue data from fiscal years 1997-1998 through 2008-2009 were gathered by the researcher from published sources produced by the Florida Department of Education and the Florida Lottery. Additional data, specifically the annual allocations of state general revenue to each of Florida’s community colleges, annual lottery
appropriations to each community college, student fees collected by each community college annually, annual community college FTE, and the total operating budget for each institution during each fiscal year from 1997-1998 through 2008-2009 was requested from the Florida Department of Education via email. The data was supplied by Dr. David Holdnak, Vice Chancellor for Financial Policy at the Florida Department of Education’s Division of Florida Colleges via email as pdf and Excel documents. Data regarding the annual expenditures of Florida’s community colleges was collected from figures published annually by the Florida Department of Education in *The Fact Book* (Division of Accountability, Research and Measurement; 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010; Division of Community Colleges, Bureau of Research and Information Systems; 1997, 1998, 1999, 2000, 2001, 2002).

Data from all sources, except data supplied by Dr. Holdnak for fiscal year 2008-2009, was obtained in print format, either as a published document or a pdf file. Data was manually transcribed by the researcher into PASW Statistics 18. Frequencies, means, modes, and medians were then calculated for each data set to check for missing, mistyped, or non-compliant data.

**Data Analyses**

Utilizing PASW Statistics 18, descriptive and inferential statistics were calculated for all variables utilizing a .05 level of significance.

To analyze the effect of general revenue, student fees, and FTE on discretionary community college lottery fund appropriations, simultaneous multiple regression was conducted in order to determine the effect of each source of revenue. A simultaneous multiple regression was conducted at the system level and for each institution size category to determine if correlations varied by institutional size:

\[ Y_i = \beta_0 + \beta_1 CCSYSTLOTAPP_i + \beta_2 CCSYSTFTE_i + \beta_3 CCSYSTGENREV_i + \beta_4 CCSYSTSTUFEE_i + \varepsilon_i \]
\[ Y_i = \beta_0 + \beta_1 \text{SAVLOTAPP}_i + \beta_2 \text{SMALLAVFTE}_i + \beta_3 \text{SAVGENREV}_i + \beta_4 \text{SAVSTUFEE}_i + \varepsilon_i \]

\[ Y_i = \beta_0 + \beta_1 \text{MAVLOTAPP}_i + \beta_2 \text{MEDIUMAVFTE}_i + \beta_3 \text{MAVGENREV}_i + \beta_4 \text{MAVSTUFEE}_i + \varepsilon_i \]

\[ Y_i = \beta_0 + \beta_1 \text{LAVLOTAPP}_i + \beta_2 \text{LARGEAVFTE}_i + \beta_3 \text{LAVGENREV}_i + \beta_4 \text{LAVSTUFEE}_i + \varepsilon_i \]

\[ Y_i = \beta_0 + \beta_1 \text{VLAVLOTAPP}_i + \beta_2 \text{VERYLARGEAVFTE}_i + \beta_3 \text{VLAVGENREV}_i + \beta_4 \text{VLAVSTUFEE}_i + \varepsilon_i \]

To determine if variations in lottery funds appropriated to community colleges were correlated with changes in total lottery revenue, a linear regression was conducted:

\[ Y_i = \beta_0 + \beta_1 \text{FLLOTNETSALES}_i + \varepsilon_i \]

To determine if variations in lottery funds appropriated to the community college system were correlated with changes in the amount of funds transferred to the EETF, a linear regression was conducted:

\[ Y_i = \beta_0 + \beta_1 \text{FLLOTTFERSTOEETF}_i + \varepsilon_i \]

To analyze the effect of additional earmarked lottery beneficiaries on community college lottery fund appropriations, simultaneous multiple regression was conducted in order to determine the effect of each earmarked beneficiary:

\[ Y_i = \beta_0 + \beta_1 \text{PUBSCHLSTOTLOTAPP}_i + \beta_2 \text{SUSTOTLOTAPP}_i + \beta_3 \text{STUAIDTOTLOTAPP}_i + \beta_4 \text{BRFUTTOTLOTAPP}_i + \beta_5 \text{WRFRCEDTOTLOTAPP}_i + \beta_6 \text{STBOARDTOTLOTAPP}_i + \beta_7 \text{CCSYSTTOTLOTAPP}_i + \beta_8 \text{FIRSTGENTOTLOTAPP} + \varepsilon_i \]
To determine if variations in community college system expenditures were correlated with the amount of discretionary lottery funds appropriated to the community college system, a linear regression was conducted:

\[ Y_i = \beta_0 + \beta_1 \text{CCSTSTLOTAPP}_i + \ldots + \varepsilon_i \]

Variable Definitions:

- **BRFUTTOTLOTAPP**: Amount of lottery funds appropriated to Florida’s Bright Futures Scholarship Program annually.
- **CCSYSTFTE**: Annual community college system FTE.
- **CCSYSTGENREV**: Amount of general revenue appropriated to the community college system annually.
- **CCSYSTLOTAPP**: Amount of discretionary lottery funds appropriated to the community college system annually.
- **CCSYSTSTUFEE**: Amount of student fees collected annually by the community college system.
- **CCSYSTTOTLOTAPP**: Amount of lottery funds appropriated to the community college system annually.
- **FIRSTGENTOTLOTAPP**: Amount of lottery funds appropriated to the First Generation in College Matching Grant Program
- **FLLOTNETSALES**: Annual Florida lottery net sales.
- **FLLOTTFERSTOEETF**: Amount of lottery revenue transferred from the Florida Lottery to the EETF annually.
- **LARGEAVFTE**: Annual mean FTE for Large institutions.
- **LAVGENREV**: Annual mean general revenue appropriation to Large institutions.
- **LAVLOTAPP**: Annual mean lottery appropriation to Large institutions.
- **LAVSTUFEE**: Annual mean student fees collected by Large institutions.
- **MAVGENREV**: Annual mean general revenue appropriation to Medium institutions.
- **MAVLOTAPP**: Annual mean lottery appropriation to Medium institutions.
- **MAVSTUFEE**: Annual mean student fees collected by Medium institutions.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDIUMAVFTE</td>
<td>Annual mean FTE for Medium institutions.</td>
</tr>
<tr>
<td>PUBSCHLSTOTLOTAPP</td>
<td>Amount of lottery funds appropriated to public schools annually.</td>
</tr>
<tr>
<td>SAVGENREV</td>
<td>Annual mean general revenue appropriation to Small institutions.</td>
</tr>
<tr>
<td>SAVLOTAPP</td>
<td>Annual mean lottery appropriation to Small institutions.</td>
</tr>
<tr>
<td>SAVSTUFEE</td>
<td>Annual mean student fees collected by Small institutions.</td>
</tr>
<tr>
<td>SMALLAVFTE</td>
<td>Annual mean FTE for Small institutions.</td>
</tr>
<tr>
<td>STBOARDTOTLOTAPP</td>
<td>Amount of lottery funds appropriated to the State Board of Education annually.</td>
</tr>
<tr>
<td>STUAIDTOTLOTAPP</td>
<td>Amount of lottery funds appropriated to the student financial aid annually.</td>
</tr>
<tr>
<td></td>
<td>This figure does not include Florida’s Bright Futures Scholarship Program.</td>
</tr>
<tr>
<td>SUSTOTLOTAPP</td>
<td>Amount of lottery funds appropriated to the state university system annually.</td>
</tr>
<tr>
<td>VERYLARGEAVFTE</td>
<td>Annual mean FTE for Very Large institutions.</td>
</tr>
<tr>
<td>VLAVGENREV</td>
<td>Annual mean general revenue appropriation to Very Large institutions.</td>
</tr>
<tr>
<td>VLAVLOTAPP</td>
<td>Annual mean lottery appropriation to Very Large institutions.</td>
</tr>
<tr>
<td>VLAVSTUFEE</td>
<td>Annual mean student fees collected by Very Large institutions.</td>
</tr>
<tr>
<td>WRFRCEDTOTLOTAPP</td>
<td>Amount of lottery funds appropriated to Workforce Education annually.</td>
</tr>
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Table 3-1. Community college size categories and definitions

<table>
<thead>
<tr>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Very Large</th>
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</thead>
<tbody>
<tr>
<td>500 – 1,999 FTE</td>
<td>2,000 – 4,999 FTE</td>
<td>5,000 – 9,999 FTE</td>
<td>10,000 or more FTE</td>
</tr>
<tr>
<td>Chipola</td>
<td>Central Florida</td>
<td>Brevard</td>
<td>Broward</td>
</tr>
<tr>
<td>Florida Keys</td>
<td>Gulf Coast</td>
<td>Daytona Beach</td>
<td>FCCJ</td>
</tr>
<tr>
<td>Lake City</td>
<td>Okaloosa-Walton</td>
<td>Edison</td>
<td>Hillsborough</td>
</tr>
<tr>
<td>Lake-Sumter</td>
<td>Pasco-Hernando</td>
<td>Indian River</td>
<td>Miami Dade</td>
</tr>
<tr>
<td>North Florida</td>
<td>Polk</td>
<td>Manatee</td>
<td>Palm Beach</td>
</tr>
<tr>
<td>South Florida</td>
<td>St. Johns River</td>
<td>Pensacola</td>
<td>St. Petersburg</td>
</tr>
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<td></td>
<td>Santa Fe</td>
<td>St. Petersburg</td>
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<td></td>
<td></td>
<td>Seminole</td>
<td>Valencia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tallahassee</td>
<td></td>
</tr>
</tbody>
</table>

The Carnegie Foundation for the Advancement of Teaching calculated FTE “as full-time plus one-third part-time” (2009, ¶ 22).
The total operating revenue for the Florida community college system from fiscal year 1997-1998 through fiscal year 2008-2009 was $15,891,489,049; 7.8% of the community college system’s operating revenue from fiscal year 1997-1998 through fiscal year 2008-2009 was comprised of discretionary lottery funds. At the institutional level, the proportion of discretionary lottery funds that comprised the total operating revenue from fiscal year 1997-1998 through fiscal year 2008-2009 varied by institutional size category. Small community colleges had 7.8% of its total operating revenue from fiscal year 1997-1998 through fiscal year 2008-2009 comprised of lottery funds. Lottery funds comprised 8.2% of the total operating revenue of Medium community colleges and 8.1% of the total operating revenue of Large community colleges from fiscal year 1997-1998 through fiscal year 2008-2009. Very Large community colleges had 7.6% of its total operating revenue comprised of lottery funds from fiscal year 1997-1998 through fiscal year 2008-2009.

During the time period studied, the proportion of total operating revenue comprised of discretionary lottery funds at the community college system level ranged from 11.2% in fiscal year 1997-1998 to 6.7% in fiscal year 2003-2004. For all institutional size categories, the proportion of the total operating revenue comprised of discretionary lottery funds varied annually. From fiscal year 1997-1998 through fiscal year 2008-2009, the proportion of discretionary lottery funds comprising the total operating revenue of Small community colleges ranged from a high of 9.6% in fiscal year 1997-1998 to a low of 6.4% in fiscal year 2003-2004. The proportion of discretionary lottery funds comprising the total operating revenue of Medium community colleges from fiscal year 1997-1998 through fiscal year 2008-2009 ranged from 11.2% in fiscal year 1997-1998 to 6.6% in fiscal year 2003-2004. For Large community colleges,

The mean appropriation of lottery dollars per FTE at the community college system level from fiscal year 1997-1998 through fiscal year 2008-2009 was $375 per FTE. This amount ranged from $462 per FTE in fiscal year 1997-1998 to $315 in fiscal year 2003-2004. Categorically at the institutional size level, the mean appropriation of discretionary lottery dollars per FTE from fiscal year 1997-1998 through fiscal year 2008-2009 was $479 at Small community colleges, $397 at Medium community colleges, $383 at Large community colleges and $358 at Very Large community colleges. The mean appropriation of discretionary lottery dollars per FTE at Small community colleges ranged from $650 in fiscal year 2006-2007 to $368 in fiscal year 2002-2003. At Medium community colleges, the mean appropriation of lottery dollars per FTE ranged from $481 in fiscal year 2006-2007 to $315 in fiscal year 2003-2004. The mean amount of lottery dollars per FTE appropriated to Large community colleges ranged from $477 in fiscal year 1997-1998 to $334 in fiscal year 2003-2004. At Very Large community colleges, the mean appropriation of lottery dollars per FTE ranged from $449 in fiscal year 1997-1998 to $300 in fiscal year 2003-2004. Table 4-2 presents the mean appropriation of lottery
dollars per FTE from fiscal year 1997-1998 through fiscal year 2008-2009 by institutional size category.

A simultaneous multiple regression analysis was conducted to determine if variations in discretionary lottery funds appropriated to the community college system were correlated with general revenue, student fees, or FTE. At the community college system level, the analysis did not yield significant results (R² = .604, F[3,8] = 4.070, p = .05). However, statistically significant results were reached when the same simultaneous multiple regression analysis was conducted for each institutional size category. For Small institutions, variations in appropriations of discretionary lottery funds were significantly correlated with variations in general revenue, with a Pearson Correlation coefficient of .798 and student fees with a Pearson Correlation coefficient of .762 (R² = .807, F[3,8] = 11.141, p <.05). For Medium institutions, variations in appropriations of discretionary lottery funds were most significantly correlated with variations in student fees, with a Pearson Correlation coefficient of .724 (R² = .724, F[3,8] = 7.002, p <.05). The analyses conducted for Large institutions (R² = .596, F[3,8] = 3.935, p >.05) and Very Large institutions (R² = .524, F[3,8] = 2.937, p >.05) did not yield statistically significant results. The correlation matrix for each analysis run at the community college system level, the Small institutional size category level, the Medium institutional size category level, the Large institutional size category level, and the Very Large institutional size category level is provided in Table 4-3, Table 4-4, Table 4-5, Table 4-6 and Table 4-7 respectively.

The relationship between the Florida Lottery’s net sales and transfer of lottery funds to the EETF from fiscal year 1997-1998 through fiscal year 2008-2009 was examined with a bivariate regression analysis using net sales as the predictor variable. A strong positive, linear correlation was found between the variables. The coefficient of determination was .987 and was highly
significant \( (p = .000) \), indicating that 98.7\% of the variability in the transfer of funds to the EETF from fiscal year 1997-1998 through fiscal year 2008-2009 was explained by the Florida Lottery’s net sales.

The relationship between the Florida Lottery’s net sales and appropriations of lottery funds from the EETF to the community college system was examined with a regression analysis using net sales as the predictor variable. There was no linear correlation found between the variables. The coefficient of determination was .305 indicating that the proportion of variability in the appropriation of lottery funds to the community college system explained by net sales was low (30.5\%) but was statistically significant \( (p < .05) \). The relationship between the amount of funds transferred to the EETF and appropriations of lottery funds to the community college system was examined with a regression analysis using transfers to the EETF as the predictor variable. There was no linear correlation found between the variables. The coefficient of determination was .308 indicating that only 30.8\% of the variability in the appropriation of lottery funds to the community college system was explained by the amount of funds transferred to the EETF but was statistically significant \( (p < .05) \).

A simultaneous multiple regression analysis was conducted to determine if variations in lottery funds appropriated to the community college system were correlated with the appropriations to earmarked beneficiaries, namely public schools, workforce education, the state university system, the State Board of Education, Florida’s Bright Futures Scholarship Program, First Generation in College Matching Grant Program, and state student aid. The \( R^2 \) value was .99 and the significance was high \( (p = .001) \) indicating that, together, the independent variables in the equation explained 99\% of the variance in lottery funds appropriated to the community college system \( (R^2 = .990, F[7,4] = 55.104, p < .05) \). Results indicated that appropriation of funds to the
state university system was the most significant predictor of variability in the amount of lottery funds appropriated to the community college system with a Pearson Correlation coefficient of .949. The correlation matrix is provided in Table 4-8.

The relationship between expenditures at the community college system level and lottery fund appropriations to the community college system was examined with a regression analysis using lottery appropriations as the predictor variable. There was no linear correlation found between the variables. The coefficient of determination was .359 indicating that the proportion of variability in the community college system explained expenditures by lottery appropriations to the community college system was low (35.9%) but statistically significant ($p < .05$).
Table 4-1. Proportion of total operating revenue comprised of discretionary lottery funds annually fiscal year 1997-1998 through fiscal year 2008-2009 by size category

<table>
<thead>
<tr>
<th>FY</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Very Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>0.096</td>
<td>0.112</td>
<td>0.115</td>
<td>0.111</td>
</tr>
<tr>
<td>1998-1999</td>
<td>0.082</td>
<td>0.096</td>
<td>0.099</td>
<td>0.095</td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.077</td>
<td>0.088</td>
<td>0.092</td>
<td>0.085</td>
</tr>
<tr>
<td>2000-2001</td>
<td>0.076</td>
<td>0.087</td>
<td>0.092</td>
<td>0.086</td>
</tr>
<tr>
<td>2001-2002</td>
<td>0.072</td>
<td>0.080</td>
<td>0.084</td>
<td>0.078</td>
</tr>
<tr>
<td>2002-2003</td>
<td>0.065</td>
<td>0.073</td>
<td>0.077</td>
<td>0.071</td>
</tr>
<tr>
<td>2003-2004</td>
<td>0.064</td>
<td>0.066</td>
<td>0.070</td>
<td>0.065</td>
</tr>
<tr>
<td>2004-2005</td>
<td>0.082</td>
<td>0.073</td>
<td>0.072</td>
<td>0.068</td>
</tr>
<tr>
<td>2005-2006</td>
<td>0.080</td>
<td>0.070</td>
<td>0.070</td>
<td>0.066</td>
</tr>
<tr>
<td>2006-2007</td>
<td>0.084</td>
<td>0.085</td>
<td>0.074</td>
<td>0.070</td>
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<tr>
<td>2007-2008</td>
<td>0.078</td>
<td>0.077</td>
<td>0.068</td>
<td>0.065</td>
</tr>
<tr>
<td>2008-2009</td>
<td>0.088</td>
<td>0.086</td>
<td>0.076</td>
<td>0.071</td>
</tr>
<tr>
<td>1997-1998-2008-2009</td>
<td>0.078</td>
<td>0.082</td>
<td>0.081</td>
<td>0.076</td>
</tr>
</tbody>
</table>

Table 4-2. Mean appropriation of lottery dollars per FTE annually fiscal year 1997-1998 through fiscal year 2008-2009 by size category

<table>
<thead>
<tr>
<th>FY</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Very Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>513</td>
<td>468</td>
<td>477</td>
<td>449</td>
</tr>
<tr>
<td>1998-1999</td>
<td>464</td>
<td>421</td>
<td>430</td>
<td>412</td>
</tr>
<tr>
<td>1999-2000</td>
<td>451</td>
<td>400</td>
<td>407</td>
<td>399</td>
</tr>
<tr>
<td>2000-2001</td>
<td>462</td>
<td>416</td>
<td>426</td>
<td>410</td>
</tr>
<tr>
<td>2001-2002</td>
<td>416</td>
<td>355</td>
<td>369</td>
<td>341</td>
</tr>
<tr>
<td>2002-2003</td>
<td>368</td>
<td>328</td>
<td>346</td>
<td>311</td>
</tr>
<tr>
<td>2003-2004</td>
<td>390</td>
<td>315</td>
<td>334</td>
<td>300</td>
</tr>
<tr>
<td>2004-2005</td>
<td>478</td>
<td>354</td>
<td>344</td>
<td>318</td>
</tr>
<tr>
<td>2005-2006</td>
<td>504</td>
<td>363</td>
<td>350</td>
<td>332</td>
</tr>
<tr>
<td>2006-2007</td>
<td>650</td>
<td>481</td>
<td>406</td>
<td>381</td>
</tr>
<tr>
<td>2007-2008</td>
<td>590</td>
<td>431</td>
<td>364</td>
<td>344</td>
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<tr>
<td>2008-2009</td>
<td>626</td>
<td>445</td>
<td>380</td>
<td>352</td>
</tr>
</tbody>
</table>

Table 4-3. Pearson Correlation matrix: Community college system level

<table>
<thead>
<tr>
<th></th>
<th>CCSYSTLOTAPP</th>
<th>CCSYSTFTE</th>
<th>CCSYSTSTUFEE</th>
<th>CCSYSTGENREV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSYSTLOTAPP</td>
<td>1.000</td>
<td>.428</td>
<td>.582</td>
<td>.462</td>
</tr>
<tr>
<td>CCSYSTFTE</td>
<td>.428</td>
<td>1.000</td>
<td>.960</td>
<td>.854</td>
</tr>
<tr>
<td>CCSYSTSTUFEE</td>
<td>.582</td>
<td>.960</td>
<td>1.000</td>
<td>.907</td>
</tr>
<tr>
<td>CCSYSTGENREV</td>
<td>.462</td>
<td>.854</td>
<td>.907</td>
<td>1.000</td>
</tr>
</tbody>
</table>

CCSYSTLOTAPP: Amount of lottery funds appropriated to the community college system annually; CCSYSTFTE: Annual community college system FTE; CCSYSTSTUFEE: Amount of student fees collected annually by the community college system; CCSYSTGENREV: Amount of general revenue appropriated to the community college system annually.
### Table 4-4. Pearson Correlation matrix: Small institutional size category level

<table>
<thead>
<tr>
<th></th>
<th>SAVLOTAPP</th>
<th>SMALLAVFTE</th>
<th>SAVSTUFEE</th>
<th>SAVGENREV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVLOTAPP</td>
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<td>.223</td>
<td>.762</td>
<td>.798</td>
</tr>
<tr>
<td>SMALLAVFTE</td>
<td>.223</td>
<td>1.000</td>
<td>.724</td>
<td>.500</td>
</tr>
<tr>
<td>SAVSTUFEE</td>
<td>.762</td>
<td>.724</td>
<td>1.000</td>
<td>.907</td>
</tr>
<tr>
<td>SAVGENREV</td>
<td>.798</td>
<td>.500</td>
<td>.907</td>
<td>1.000</td>
</tr>
</tbody>
</table>

SAVLOTAPP: Annual mean lottery appropriation to Small institutions; SMALLAVFTE: Annual mean FTE for Small institutions; SAVSTUFEE: Annual mean student fees collected by Small institutions; SAVGENREV: Annual mean general revenue appropriation to Small institutions.

### Table 4-5. Pearson Correlation matrix: Medium institutional size category level

<table>
<thead>
<tr>
<th></th>
<th>MAVLOTAPP</th>
<th>MEDIUMAVFTE</th>
<th>MAVSTUFEE</th>
<th>MAVGENREV</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAVLOTAPP</td>
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<td>.613</td>
<td>.742</td>
<td>.697</td>
</tr>
<tr>
<td>MEDIUMAVFTE</td>
<td>.613</td>
<td>1.000</td>
<td>.967</td>
<td>.871</td>
</tr>
<tr>
<td>MAVSTUFEE</td>
<td>.742</td>
<td>.967</td>
<td>1.000</td>
<td>.922</td>
</tr>
<tr>
<td>MAVGENREV</td>
<td>.697</td>
<td>.871</td>
<td>.922</td>
<td>1.000</td>
</tr>
</tbody>
</table>

MAVLOTAPP: Annual mean lottery appropriation to Medium institutions; MEDIUMAVFTE: Annual mean FTE for Medium institutions; MAVSTUFEE: Annual mean student fees collected by Medium institutions; MAVGENREV: Annual mean general revenue appropriation to Medium institutions.

### Table 4-6. Pearson Correlation matrix: Large institutional size category level

<table>
<thead>
<tr>
<th></th>
<th>LAVLOTAPP</th>
<th>LARGEAVFTE</th>
<th>LAVSTUFEE</th>
<th>LAVGENREV</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAVLOTAPP</td>
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<td>.238</td>
<td>.408</td>
<td>.193</td>
</tr>
<tr>
<td>LARGEAVFTE</td>
<td>.238</td>
<td>1.000</td>
<td>.959</td>
<td>.855</td>
</tr>
<tr>
<td>LAVSTUFEE</td>
<td>.408</td>
<td>.959</td>
<td>1.000</td>
<td>.891</td>
</tr>
<tr>
<td>LAVGENREV</td>
<td>.193</td>
<td>.855</td>
<td>.891</td>
<td>1.000</td>
</tr>
</tbody>
</table>

LAVLOTAPP: Annual mean lottery appropriation to Large institutions; LARGEAVFTE: Annual mean FTE for Large institutions; LAVSTUFEE: Annual mean student fees collected by Large institutions; LAVGENREV: Annual mean general revenue appropriation to Large institutions.

### Table 4-7. Pearson Correlation matrix: Very Large institutional size category level

<table>
<thead>
<tr>
<th></th>
<th>VLAVLOTAPP</th>
<th>VERYLARGEAVFTE</th>
<th>VLAVSTUFEE</th>
<th>VLAVGENREV</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAVLOTAPP</td>
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<td>.416</td>
<td>.550</td>
<td>.428</td>
</tr>
<tr>
<td>VERYLARGEAVFTE</td>
<td>.416</td>
<td>1.000</td>
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<td>.849</td>
</tr>
<tr>
<td>VLAVSTUFEE</td>
<td>.550</td>
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<td>1.000</td>
<td>.904</td>
</tr>
<tr>
<td>VLAVGENREV</td>
<td>.428</td>
<td>.849</td>
<td>.904</td>
<td>1.000</td>
</tr>
</tbody>
</table>

VLAVLOTAPP: Annual mean lottery appropriation to Very Large institutions; VERYLARGEAVFTE: Annual mean FTE for Very Large institutions; VLAVSTUFEE: Annual mean student fees collected by Very Large institutions; VLAVGENREV: Annual mean general revenue appropriation to Very Large institutions.
Table 4-8. Pearson Correlation matrix: All earmarked lottery beneficiaries

<table>
<thead>
<tr>
<th></th>
<th>CCSYST TOTLOTAPP</th>
<th>PUBSCHLS TOTLOTAPP</th>
<th>WRKFRCED TOTLOTAPP</th>
<th>SUS TOTLOTAPP</th>
<th>STBOARDED TOTLOTAPP</th>
<th>BRFUT TOTLOTAPP</th>
<th>STUAID TOTLOTAPP</th>
<th>FIRSTGEN TOTLOTAPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSYST TOTLOTAPP</td>
<td>1.000</td>
<td>.580</td>
<td>.012</td>
<td>.949</td>
<td>-.291</td>
<td>.621</td>
<td>.576</td>
<td>.095</td>
</tr>
<tr>
<td>PUBSCHLS TOTLOTAPP</td>
<td>.580</td>
<td>1.000</td>
<td>.237</td>
<td>.638</td>
<td>-.033</td>
<td>.793</td>
<td>.924</td>
<td>.327</td>
</tr>
<tr>
<td>WRKFRCED TOTLOTAPP</td>
<td>.012</td>
<td>.237</td>
<td>1.000</td>
<td>.259</td>
<td>-.189</td>
<td>.598</td>
<td>.326</td>
<td>.821</td>
</tr>
<tr>
<td>SUS TOTLOTAPP</td>
<td>.949</td>
<td>.638</td>
<td>.259</td>
<td>1.000</td>
<td>-.246</td>
<td>.790</td>
<td>.629</td>
<td>.323</td>
</tr>
<tr>
<td>STBOARDED TOTLOTAPP</td>
<td>-.291</td>
<td>-.033</td>
<td>-.189</td>
<td>-.246</td>
<td>1.000</td>
<td>.005</td>
<td>.024</td>
<td>-.131</td>
</tr>
<tr>
<td>BRFUT TOTLOTAPP</td>
<td>.621</td>
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<td>.598</td>
<td>.790</td>
<td>.005</td>
<td>1.000</td>
<td>.844</td>
<td>.543</td>
</tr>
<tr>
<td>STUAID TOTLOTAPP</td>
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<td>.924</td>
<td>.326</td>
<td>.629</td>
<td>.024</td>
<td>.844</td>
<td>1.000</td>
<td>.364</td>
</tr>
<tr>
<td>FIRSTGEN TOTLOTAPP</td>
<td>.095</td>
<td>.327</td>
<td>.821</td>
<td>.323</td>
<td>-.131</td>
<td>.543</td>
<td>.364</td>
<td>1.000</td>
</tr>
</tbody>
</table>

CCSYST TOTLOTAPP: Amount of lottery funds appropriated to the community college system annually; PUBSCHLS TOTLOTAPP: Amount of lottery funds appropriated to public schools annually; WRKFRCED TOTLOTAPP: Amount of lottery funds appropriated to Workforce Education annually; SUS TOTLOTAPP: Amount of lottery funds appropriated to the state university system annually; STBOARDED TOTLOTAPP: Amount of lottery funds appropriated to the State Board of Education annually; BRFUT TOTLOTAPP: Amount of lottery funds appropriated to Florida’s Bright Futures Scholarship Program annually; STUAID TOTLOTAPP: Amount of lottery funds appropriated to the student financial aid annually; FIRSTGEN TOTLOTAPP: Amount of lottery funds appropriated to the First Generation in College Matching Grant Program.
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

From fiscal year 1997-1998 through fiscal year 2008-2009, $13,230,142,290 in lottery funds were appropriated to earmarked beneficiaries (Florida Department of Education, 2009). Of that total, Florida’s community college system received 11% of appropriated lottery funds. The purpose of this study was to determine the extent to and manner in which the appropriation of lottery revenue to the earmarked beneficiary, Florida’s community college system, impacted the funding of Florida’s 28 community colleges from fiscal year 1997-1998 through fiscal year 2008-2009.

Conclusions

As earmarked lottery revenue recipients, lottery funds impacted the level of financial support provided to Florida’s community colleges. Although the proportion of operating revenue comprised of lottery revenue and lottery dollars per FTE varied by institutional size, the amount of lottery dollars appropriated to Florida’s community colleges could not be deemed insignificant; lottery dollars had become an integral part of the community colleges’ operating budgets from fiscal year 1997-1998 through fiscal year 2008-2009. As Land and Alsikafi noted in 1999, “when education funding is tied to a state lottery, the fiscal stability of educational programs often becomes a critical concern” (¶ 19). In Florida at the time of this study, demand for lottery funds increased as the lottery’s revenue plateaued and began to decline, making the concern regarding “fiscal stability” even more critical.

Beginning in 1991, Florida’s community colleges were provided a portion of the lottery revenue transferred to the Educational Enhancement Trust Fund (EETF) as lump-sums with each institution given responsibility “to use the funds for educational enhancement” (Florida Department of Education, 2008, p. 6). These lump-sums became an integral part of the Florida
community college operating budget along with student fees and general revenue appropriations. From fiscal year 1997-1998 through fiscal year 2008-2009, these lump-sums of discretionary lottery funds comprised 87% of the lottery funds appropriated to the community college system. The remaining 23% were appropriated as nondiscretionary funds for special initiatives and grants. Those Florida community colleges that received lottery-funded grants or participated in lottery-funded initiatives did receive some benefit from earmarked lottery dollars in the form of supplemental, grant-derived revenue.

Unlike nondiscretionary lottery funds awarded through grants or earmarked for community college related initiatives, discretionary lottery funds were appropriated by the state to community colleges as part of their total operating revenue during the time period studied. The total operating revenue for the Florida community college system from fiscal year 1997-1998 through fiscal year 2008-2009 was $15,891,489,049; 7.8% of the community college system’s operating revenue from fiscal year 1997-1998 through fiscal year 2008-2009 was comprised of discretionary lottery funds. Lottery funds were an inextricable part of each Florida community college’s operating budget and did not positively impact spending. This finding echoed those found in the studies of Allen (1991), Bobbitt (2007), Borg, Mason and Shapiro (1991), Erekson, DeShano, Platt and Ziegert (2002), Garrett (2001), Mikesell and Zorn (1986) Spindler (1995), Stark, Wood and Honeyman (1993), and Summer, Honeyman, Wattenbarger and Miller (1995), that lottery revenue earmarked for education did not result in a dollar for dollar increase in expenditures as would be the case if the funds were supplemental. Furthermore, this study confirmed that these earlier findings, derived from statewide or K-12 data analysis, were also evident at a community college system level that had a mature lottery system providing it with revenue.
While lottery funds by no means fully funded education in general, nor community colleges in particular, earmarking lottery funds for Florida’s community colleges created a dependency upon them for a sizeable proportion of community colleges’ operating revenue. Earlier studies that included Florida in their examinations, namely those of Borg, Mason, and Shapiro (1991) and Jones and Amalfitano (1994), concluded that lottery funds were too small in amount to impact educational funding in a significant way. Those studies did not examine the effect on community colleges. This study indicated a strong impact of discretionary lottery dollars at the community college level. Utilizing size categories as defined by the Carnegie Foundation for the Advancement of Teaching’s 2009 classification definitions, on average from fiscal year 1997-1998 through fiscal year 2008-2009 discretionary lottery funds comprised 7.8% of Small community colleges’ operating revenue, 8.2% of the total operating revenue of Medium community colleges, 8.1% of the total operating revenue of Large community colleges, and 7.6% of the operating revenue of Very Large community colleges in Florida. The proportion of discretionary lottery funds comprising the total operating revenue ranged from a high of 9.6% in fiscal year 1997-1998 to a low of 6.4% in fiscal year 2003-2004 for Small community colleges, from 11.2% in fiscal year 1997-1998 to 6.6% in fiscal year 2003-2004 for Medium community colleges, from 11.5% in fiscal year 1997-1998 to 6.8% in fiscal year 2007-2008 for Large community colleges and from 11.1% in fiscal year 1997-1998 to 6.5% in fiscal years 2003-2004 and 2007-2008 for Very Large community colleges. The mean appropriation of discretionary lottery dollars per FTE also varied by institutional size. From fiscal year 1997-1998 through fiscal year 2008-2009 the mean appropriation of discretionary lottery dollars per FTE was $479 at Small community colleges, $397 at Medium community colleges, $383 at Large community colleges.
The appropriation of lottery funds to Florida’s community colleges did not affect community college expenditures positively or negatively from fiscal year 1997-1998 through fiscal year 2008-2009. Lottery funds were transferred to institutions from the EETF for colleges “to use the funds for educational enhancement” (Florida Department of Education, 2008, p. 6). If “enhancement” was measured by increased spending, this did not occur from fiscal year 1997-1998 through fiscal year 2008-2009. This finding confirms the statement by Clotfelter, Cook, Edell, and Moore that “there is reason to doubt if earmarked lottery revenues in fact have the effect of increasing funds available for the specified purpose” (1999, p.2). However, it must be noted that, unlike Summers’ earlier examination of the Florida lottery’s influence on community college spending, this study did not find the decrease in spending Summers reported in 1993. So, while this study found no correlation between lottery funds and community college expenditures, the fact that a negative correlation no longer existed is worth noting and may indicate community colleges’ increasing reliance on lottery funds as an integral part of their general operating budgets; a source of funds which was neither supplemental nor detrimental but essential.

Each community college was responsible for deriving its own budget utilizing the funds provided by the state of Florida. By appropriating lottery funds as non-categorical lump sums annually, the legislature transferred the responsibility of using lottery funds to pay for essential college functions to the institution receiving those funds. While it can be argued that community colleges were left with no choice but to use lottery funds to pay for basic operating costs, the legislature made no such stipulation other than accounting for lottery funds as a part of the community colleges’ operating revenue.
While this study found that lottery funds were not utilized by community colleges as supplemental sources of revenue, it could not be concluded that lottery funds supplanted general revenue funds that would have been appropriated to community colleges had it not been for the availability of lottery funds. Given the prediction by Florida Lottery officials that “policy makers may face, for the first time, the very real possibility of not having enough lottery-generated revenue to underwrite desired education programs without an impact to general revenue funds” (DiBenigno, 2007, p. 11), and given that, at the time of this study, Florida was facing decreasing general revenue funds in recessionary conditions, it was reasonable to conclude Florida’s community colleges would face decreases in funding as lottery funds became unavailable and Florida’s general revenue funds were insufficient to replace the loss of lottery revenue entirely.

Florida’s community colleges, like all community colleges facing decreasing state support regardless of the revenue sources from which that state support is derived, need to explore new sources of revenue. Tuition and student fees, new or increased foundation support, and sale of customized, niche-market training are all readily available sources of community college revenue. Community colleges can begin generating revenue by raising tuition. While in Florida and California raising tuition can only occur within the confines established by the legislature, lobbying efforts must be undertaken to persuade the legislature to allow more fiscal local control. In Florida, the legislature made community colleges responsible for determining the uses of the funds appropriated by the state, it should further grant community colleges the ability to set tuition and fees in a manner that will help offset decreases in state appropriated revenues. To offset some of the negative consequences of higher tuition, including potential loss of enrollment, community college foundations should provide increased need-based assistance and scholarships. In an effort to increase available funds, foundations should cultivate alumni as a
source of gifts and endowments in addition to seeking support from local corporate partners. Community colleges must also become more entrepreneurial. Community colleges are in a unique position to gauge the needs of local businesses and respond quickly with customized instructional products that are too often outsourced to private industry. In addition to serving the training needs of local businesses, community colleges should provide programs that address the recreational and life-long learning needs of the communities served. Continuing education programs could not only raise considerable revenue but foster awareness within the community that could benefit community college foundation fund-raising efforts and garner local tax support. There is no single course of action that will suit all community colleges, but community colleges have several existing commodities that can be maximized to produce revenue that will allow the colleges to become less dependent upon state appropriated funds.

Finally, community colleges that do not currently receive local tax support may want to investigate doing so. While there are issues of equity and fiscal stability associated with the use of local taxes as a funding source, during the time of this study, community colleges in 29 states were receiving revenue from local taxes. Nationally, lotteries were marketed by legislators and viewed by many voters as an alternative to new taxes (Barker & Britz, 2000; Berry & Berry, 1990; Borg, Mason & Shapiro, 1991; Jones & Amalfitano, 1994; Karcher, 1992; McGowan, 1994; Nelson & Mason, 2007; Nibert, 2000; Von Herrmann, 2002). However, the public perception of the lottery’s impact on education was often inflated. Allen (1991), Chiles (as quoted in Bobbitt, 2007, p. 62), and D’Alemberte (2008) contended the Florida public was mislead, and this public misperception inhibited efforts to raise taxes to support education. Bobbitt stated, “Florida found that public support for education funding suffered because of the misperception that the lottery was a windfall for education” (p. 62) and that only two years after
the lottery’s adoption in Florida, bond issues that had met with success before the lottery’s inception failed thereafter (2007). In order for local tax support to either be adopted or remain a popularly supported form of revenue for community colleges, this misperception must be remedied. Furthermore, community colleges must be viewed within their communities as vital institutions that provide tangible benefits and are, therefore, worthy of local tax support.

Whether or not community colleges wish to receive local tax revenue, in those states where lottery funds are earmarked for education, the public needs to be informed of the true proportion of each educational sector’s budget that is comprised of lottery funds. Stakeholders, including the public, must also be made aware that lottery funds are, at the community college level at least with Florida serving as an example, a small but not insignificant and integral part of community colleges’ operating revenue that cannot be lost or reduced without negatively impacting institutional operations or negatively impacting the communities served through the resulting decrease in accessibility or services, higher tuition rates, and new or increased local taxes.

**Recommendations for further study**

At the time of this study, the Florida legislature was proposing changes to Florida’s Bright Futures Scholarship Program. The proposed changes were intended to decrease program costs through a variety of measures including more stringent eligibility requirements. If legislative changes were made to Florida’s Bright Futures Scholarship Program, the effect on the availability of lottery funds to all earmarked beneficiaries should be examined. It should also be determined if the changes in eligibility requirements affected the level of enrollment of Bright Future award recipients at Florida’s community colleges, thereby affecting the FTE and general revenue of Florida’s community colleges.

This study found that the proportion of a community college’s operating budget comprised by discretionary lottery revenue varied by institutional size. It was also found that lottery dollars
per FTE varied by institutional size. These findings raised the question of fiscal equity. Stark (1991) studied the effect of lottery funds on the fiscal equity of Florida’s K-12 institutions and the studies of Brown (1999) and Yancey (2002) examined the effects of performance-based funding on the fiscal equity of Florida’s community colleges. It should be determined if the appropriation of discretionary lottery funds to Florida’s community colleges affected the horizontal fiscal equity of Florida’s community colleges.

Florida’s community college system at the time of this study was in a period of transition. At the time of this study, 18 of Florida’s 28 community colleges were offering or had received approval to offer baccalaureate degrees (Florida Department of Education, 2010). It remained to be determined if the community college system would remain its own entity or be divided on the basis of granting four-year degrees. It also remained to be seen if new funding formulae would be created as a result of adding baccalaureate programs. At the time of this study, distinctions were not being made among community colleges based upon degree offerings and the community college system remained unified as a division within the Florida Department of Education. However, given the possibility that four-year granting community colleges may be reorganized, being placed under the state university system or within a new administrative entity, attention should be paid by community college officials and lobbyists to the precedent of providing the majority of lottery fund appropriations as nondiscretionary funds to the state university system. There may be a time when appropriations to community colleges revert to being primarily nondiscretionary funds. It must then be determined if this change was positive (if, as Summers found in 1993, that colleges received more state dollars when lottery funds were distributed as nondiscretionary funds) or if the change negatively affected community college funding.
APPENDIX A
SUMMARY OF STATE LOTTERY BENEFICIARIES, FISCAL YEAR 2008
<table>
<thead>
<tr>
<th>State</th>
<th>First Year Generating Sales</th>
<th>Fiscal Year 2008 Beneficiary</th>
<th>Reported Percent of Lottery Revenue Transferred to Beneficiary Category through Fiscal Year 2007</th>
<th>Total Lottery Dollars Transferred to All Beneficiaries from Inception through Fiscal Year 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>1981</td>
<td>Multiple, Some Education</td>
<td>30.27%</td>
<td>$2.1 billion</td>
</tr>
<tr>
<td>California</td>
<td>1985</td>
<td>Education</td>
<td>34.6%</td>
<td>$20 billion</td>
</tr>
<tr>
<td>Colorado</td>
<td>1983</td>
<td>Multiple, Some Education</td>
<td>25.35%</td>
<td>$1.92 billion</td>
</tr>
<tr>
<td>Connecticut</td>
<td>1972</td>
<td>General Fund</td>
<td>29%</td>
<td>$6.2 billion</td>
</tr>
<tr>
<td>Delaware</td>
<td>1975</td>
<td>General Fund</td>
<td>34%</td>
<td>$2.6 billion</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>1982</td>
<td>General Fund</td>
<td>25.6%</td>
<td>$1.4 billion</td>
</tr>
<tr>
<td>Florida</td>
<td>1988</td>
<td>Education</td>
<td>30.7%</td>
<td>$18 billion</td>
</tr>
<tr>
<td>Georgia</td>
<td>1993</td>
<td>Education</td>
<td>26.8%</td>
<td>$9.9 billion</td>
</tr>
<tr>
<td>Idaho</td>
<td>1989</td>
<td>Education</td>
<td>24%</td>
<td>$367.5 million</td>
</tr>
<tr>
<td>Illinois</td>
<td>1974</td>
<td>Multiple, Some Education</td>
<td>33%</td>
<td>$14.1 billion</td>
</tr>
<tr>
<td>Indiana</td>
<td>1989</td>
<td>Multiple, Some Education</td>
<td>27.37%</td>
<td>$3.3 billion</td>
</tr>
<tr>
<td>Iowa</td>
<td>1985</td>
<td>Multiple, Some Education</td>
<td>33.23%</td>
<td>$1.1 billion</td>
</tr>
<tr>
<td>Kansas</td>
<td>1988</td>
<td>Multiple, Some Education</td>
<td>29%</td>
<td>$982.8 million</td>
</tr>
<tr>
<td>Kentucky</td>
<td>1989</td>
<td>Multiple, Some Education</td>
<td>26.4%</td>
<td>$2.5 billion</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1991</td>
<td>Education</td>
<td>36.2%</td>
<td>$1.9 billion</td>
</tr>
<tr>
<td>Maine</td>
<td>1974</td>
<td>General Fund</td>
<td>22.4%</td>
<td>Data not available</td>
</tr>
<tr>
<td>Maryland</td>
<td>1973</td>
<td>General Fund</td>
<td>31.3%</td>
<td>$10.2 billion</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1972</td>
<td>Multiple</td>
<td>23%</td>
<td>$12.49 billion</td>
</tr>
<tr>
<td>Michigan</td>
<td>1972</td>
<td>Education</td>
<td>32.6%</td>
<td>$14.3 billion</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1990</td>
<td>Multiple</td>
<td>26.4%</td>
<td>$1.5 billion</td>
</tr>
<tr>
<td>Missouri</td>
<td>1986</td>
<td>Education</td>
<td>25.2%</td>
<td>$3 billion</td>
</tr>
<tr>
<td>Montana</td>
<td>1987</td>
<td>General Fund</td>
<td>27.4%</td>
<td>$141 million</td>
</tr>
<tr>
<td>Nebraska</td>
<td>1993</td>
<td>Multiple, Some Education</td>
<td>25.6%</td>
<td>$319 million</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>1964</td>
<td>Education</td>
<td>29.8%</td>
<td>$1.16 billion</td>
</tr>
<tr>
<td>New Jersey</td>
<td>1970</td>
<td>Multiple, Some Education</td>
<td>35%</td>
<td>$16.4 billion</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1996</td>
<td>Education</td>
<td>23.4%</td>
<td>$351.9 million</td>
</tr>
<tr>
<td>State</td>
<td>First Year Generating Sales</td>
<td>Fiscal Year 2008 Beneficiary</td>
<td>Reported Percent of Lottery Revenue Transferred to Beneficiary Category through Fiscal Year 2007</td>
<td>Total Lottery Dollars Transferred to All Beneficiaries from Inception through Fiscal Year 2007</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------</td>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>New York</td>
<td>1967</td>
<td>Education</td>
<td>32.9%</td>
<td>$34.2 billion</td>
</tr>
<tr>
<td>North Carolina</td>
<td>2006</td>
<td>Education</td>
<td>35.9%</td>
<td>$375 million</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2004</td>
<td>General Fund</td>
<td>27.8%</td>
<td>$19.4 million</td>
</tr>
<tr>
<td>Ohio</td>
<td>1974</td>
<td>Education</td>
<td>29.62%</td>
<td>$15 billion</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2005</td>
<td>Education</td>
<td>32.28%</td>
<td>$138.3 million</td>
</tr>
<tr>
<td>Oregon</td>
<td>1985</td>
<td>Multiple, Some Education</td>
<td>34% or less*</td>
<td>$4.6 billion</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>1972</td>
<td>Multiple</td>
<td>30.9%</td>
<td>$17.4 billion</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>1974</td>
<td>General Fund</td>
<td>17.74%</td>
<td>$2.94 billion</td>
</tr>
<tr>
<td>South Carolina</td>
<td>2002</td>
<td>Education</td>
<td>28.05%</td>
<td>$1.74 billion</td>
</tr>
<tr>
<td>South Dakota</td>
<td>1987</td>
<td>Multiple</td>
<td>17.5%</td>
<td>$1.5 billion</td>
</tr>
<tr>
<td>Tennessee</td>
<td>2003</td>
<td>Education</td>
<td>27.19%</td>
<td>$892.5 million</td>
</tr>
<tr>
<td>Texas</td>
<td>1992</td>
<td>Education</td>
<td>27%</td>
<td>$15 billion</td>
</tr>
<tr>
<td>Vermont</td>
<td>1978</td>
<td>Education</td>
<td>22.4%</td>
<td>$387 million</td>
</tr>
<tr>
<td>Virginia</td>
<td>1988</td>
<td>Education</td>
<td>32%</td>
<td>$3.4 billion**</td>
</tr>
<tr>
<td>Washington</td>
<td>1982</td>
<td>Multiple, Some Education</td>
<td>23.75%</td>
<td>$2.5 billion</td>
</tr>
<tr>
<td>West Virginia</td>
<td>1986</td>
<td>Multiple, Some Education</td>
<td>38%***</td>
<td>$3.6 billion</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1988</td>
<td>Multiple</td>
<td>31.4%</td>
<td>$2.622 billion</td>
</tr>
</tbody>
</table>

*Oregon combines prizes paid to winners and transfers made to beneficiaries. Combined, by law, they must be 84% of lottery revenue with at least 50% being designated for prizes. ** Since 1999. ***Cumulative since the lottery’s inception.
APPENDIX B
LOTTERY REVENUE PROCUREMENT METHODS BY STATE, FISCAL YEAR 2008
<table>
<thead>
<tr>
<th>State</th>
<th>Online Games</th>
<th>Scratch-off Tickets</th>
<th>PullTabs</th>
<th>Video Lottery</th>
<th>Keno</th>
<th>Raffle(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$1 $2 $3 $5 $7 $10 $15 $20 $25 $30 $50</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Arizona</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>California</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Colorado</td>
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</tr>
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<td>Connecticut</td>
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<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Florida</td>
<td>X</td>
<td>X X X X X X</td>
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<td></td>
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<td>X</td>
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<tr>
<td>Georgia</td>
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<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
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<td>Idaho</td>
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<td>X</td>
</tr>
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<td>Illinois</td>
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<td></td>
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<td>X</td>
</tr>
<tr>
<td>Indiana</td>
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<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
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<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Kansas</td>
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<td>X</td>
</tr>
<tr>
<td>Kentucky</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Louisiana</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Maine</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Maryland</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>X</td>
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<td>X</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Michigan</td>
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<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Minnesota</td>
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<td>X X X X X X</td>
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<td></td>
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</tr>
<tr>
<td>Missouri</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td>Montana</td>
<td>X</td>
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<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Nebraska</td>
<td>X</td>
<td>X X X X X X</td>
<td>X</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>New Hampshire</td>
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<td>X X</td>
<td></td>
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</tr>
<tr>
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<td>X X X X X X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Online games were lotto-style games which involved matching the numbers on a player’s generated ticket with those selected in a secure drawing. Online games included state lotto games and multistate lotto games. Online game drawings were held daily, multiple times each week or once each week, depending upon the game and were often broadcast on television. Scratch-off tickets were pre-printed tickets with a latex coating that the player scratched-off to instantly reveal a potential prize. PullTabs were pre-printed tickets with a paper cover which the player removed to instantly reveal the potential prize beneath. PullTabs were the least expensive games offered, with ticket prices starting at 25 cents each. Video lottery terminals were instant games similar to slot machines. The outcome of video lottery games were predetermined once the button was pressed and was not affected by any decision-making on the part of the player. Keno games involved matching the numbers or selected icons on a player’s generated ticket with those selected in drawings that were broadcast every four to five minutes within the retail location. Both Keno and video lottery games were termed “video crack” by their critics, due to their reportedly addictive nature (Stodghill & Nixon, 2007, ¶ 38).
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Christina Will received her Bachelor of Arts degree from the University of Delaware. She received her Master of Science degree in Library and Information Studies from Florida State University. Upon graduating from Florida State University in 1995, she began working as a Public Services Librarian for St. Johns River Community College. In 1998, she was promoted to Campus Librarian, a position she maintained through the completion of this study.