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Benefits of Early Childhood Education on Later Adult Life

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Abstract

It has been proven that the first five years of a child's life are a critical development period, but there are currently no federal mandates requiring families to enroll their children in an Early Childhood Education program before entering kindergarten. There are many benefits for children attending a head start, preschool, or transitional kindergarten program, such as developing social skills and emotional competence, closing academic achievement gaps, and ensuring children are exposed to proper environmental enrichment that supports a range of early skills such as social, cognitive, and executive function skills. But how does early childhood education impact later adult life? This senior capstone research project will examine the benefits of early childhood education on later adult life and will seek the answer to the question, "How does early childhood education impact later adult life?" through the use of literature review and online surveys with adults, the results indicated that an early childhood education program is beneficial to adults in their later life by preparing them better for K-12, increasing their potential future income, closing gaps between socioeconomic classes, and providing a place for them to develop social and critical thinking skills, which will be useful for them throughout their entire lives.

Key Words: early childhood education, later adult life, SES-based academic gaps

Introduction and Background

Early childhood education is any educational program a child may enter prior to entering kindergarten, such as transitional kindergarten, preschool, or Head Start. There is plenty of evidence that the first five years of a child's life are crucial to their development, with states such as California taking action with the First 5 California program to help give children a better start to life, but still there are no federal mandates requiring children to be enrolled in an early childhood education program, and limited affordable options for parents. The topic of early childhood education has been a hot topic for the United States government, with President Joe Biden (2024) stating in the "State of The Union" address that to have the strongest economy in the world, the country needs to have the best education system in the world, and to give every child a good start, every three- and four- year old should have access to preschool. Are there any benefits of early childhood education to support this claim from the president in the State of the Union address?

There are several benefits associated with students attending early childhood education programs that have short-term and long-term effects, and these as well as others spillover to benefit society. Short term benefits for students include proper environmental enrichment necessary for development and closing of academic achievement gaps. Long term benefits for adults who have attended an early childhood education program include a development of several skills that are beneficial for their entire lifespan and an increase in future economical earning potential, which can help break generational cycles of poverty for future generations. Students being enrolled in an early childhood education program also benefits society by increasing the quality of skilled workers in the labor supply, positively affecting peers in their classrooms, and providing short and long term fiscal benefits for the nation.

This senior capstone research project will address the benefits of early childhood education on later adult life in regards to academics, employment, finances and family life. Results found in published literature shows that there are many benefits for children who attended an early childhood education program. ECE programs provide an environment that is designed for children to develop various social and problem solving skills that are not focused on in kindergarten, due to the increase in standardized testing in the kindergarten curriculum (Brown, Ku & Englehardt, 2023). Early Childhood Education programs also better prepare students for K-12 by providing a place to develop tools necessary to succeed in kindergarten, as social, emotional, and cognitive learning are interconnected for young students (Nissen and Hawkins, 2010). There are social and academic achievement gaps present in kindergarten that increase over a student's K-12 journey, which signifies that intervention prior to kindergarten is required to close this gap (Yoshikawa et al, 2016). Early Childhood Education Programs also increase the potential future economical earnings for students who attended by three to twenty-six percent, depending on the program the child was enrolled in (Bartik, 2014). This increase in future economical earnings can help break generational low-socioeconomic status cycles for children who have access to attend an ECE program.

The primary research question for this senior capstone project is "How does early childhood education impact later adult life?" There are five secondary research questions that will also be answered: 1. "What is early childhood education and its different types of early childhood education programs? Are there advantages and disadvantages of attending schools prior to kindergarten?", 2. "What does literature say about the benefits of early childhood education on later adult life?", 3. "How have early childhood education programs benefited adult's later adult life with regards to their academics and finances according to adults in all

stages of the adult lifespan (young adults, middle career, and retired individuals)?", 4. "Are there any correlations in terms of the benefits of later adult life for individuals who attended ECE programs as compared to those who did not attend them?", and 5. "Given the choice, what adults would choose to attend an Early Childhood Education program, and would they enroll their children in an ECE program?" These questions will be answered through literature review and data analysis.

Literature Review

There are many benefits for children to attend an early childhood education program (ECE) such as a preschool, transitional kindergarten, or Head Start. These programs ensure children are exposed to proper environmental enrichment that supports a range of early skills such as social, emotional, cognitive, and executive function skills that children will need throughout their lifetime. These programs are also crucial to closing academic achievement gaps that are apparent in kindergarten and do not close over a child's K-12 experience, which shows that intervention before kindergarten is required to help ensure equitable education for all students. The following subsequent paragraphs discuss the short term, long term, and societal benefits of ECE programs:

ECE provides a place for development. Early Childhood Education (ECE) programs offer a space designed for children to develop various skills that are required for school but no longer focused on in Kindergarten classrooms. Skills that children learn in an ECE program include emotional competence, social skills, and computational thinking.

Emotional competence has three specific components: emotional expressiveness, emotional knowledge, and emotion regulation, which all play an important role in a child's ability to interact and form relationships with other people. Emotional expressiveness is essential to emotional competence, as a positive expression of emotion aids in friendship development, and negative expressions affect relationships. Emotional knowledge involves identifying emotional expressions in others around them and reacting to others' emotions in acceptable ways, which helps peers and teachers like a child. Emotional regulation is also essential to emotional competence because emotions can easily overwhelm small children, leading to disorganized thinking and problematic behavior, which can interfere with a child's ability to interact with

others, and interfere with their ability to learn in a classroom environment. Knitzer and Lefkowitz (2005) indicated that social emotional and cognitive learning are interconnected to a greater extent in younger children. Studies indicate that many young children struggle to develop the emotional and behavioral strategies necessary to succeed in school. Consequently, building emotional competence helps children form positive social relationships and positive self-esteem, and is critical for school readiness and ongoing academic success (Nissen & Hawkins, 2010).

Nissen and Hawkins (2010) further discussed that social, emotional, and cognitive learning are interconnected for younger children, so a student who struggles with emotional competence can easily struggle academically as well. The teacher can promote emotional competence in the classroom through interaction, examples, and by providing a comfortable space for students. Through interaction, the teacher can be a relationship builder by observing children's abilities to regulate emotional responses, establishing nurturing, individualized relationships with students, responding to children in ways that show they are valued, and tailoring interactions to the unique characteristics and needs of each child. Through leading by example, the teacher can be a coach and role model by coaching children in problem-solving during activities and peer interactions, helping children verbalize their frustrations and teaching them what language to use when solving problems, coaching students to recognize and name their feelings, and modeling appropriate expressions of emotions. By providing a comfortable space for students, the teacher can be a creator of healthy environments by establishing a "good fit" between children's needs and characteristics and the expectations of the learning environment, providing appropriate choices and challenges, creating soft spaces for children to retreat to form stress, and establishing predictable routines. Teachers can also organize an environment that encourages individuality and responsibility, provide blocks of time for free

play, build an understanding of emotions through intentional teachings, such as storytime, establish a climate of respect between students, teacher, and items in the classroom, and most importantly, believe that each child can succeed. (Nissen & Hawkins, 2010) All of these skills are necessary to be a contributing member of society.

Computational thinking is "a creative way of thinking that empowers individuals to be systematic problem-solvers, enabling them to identify problems, then brainstorm and generate step-by-step solutions that can be communicated and followed by computers *or* humans." (Lee & Pole, 2023). There are four skills that are foundational for computational thinking, decomposition, abstraction, algorithm, and pattern recognition, all of which can be supported and developed though classroom play and activities that kindergarten has less time for.

Decomposition consists of breaking down a complex problem into smaller, more manageable parts, and activities to develop this skill include puzzles, planning an event, and washing hands. Abstraction includes focusing on important information only and ignoring irrelevant details. Activities to develop this skill are storytime and games like "Simon Says", "Guess Who?", and "What Am I?". The algorithm skill consists of developing a step-by-step solution to the problem or rules to follow to solve the problem, and activities that develop this are tying shoelaces, treasure hunts, and making food with multiple ingredients like tacos. The last skill of computational thinking is pattern recognition, which promotes looking for similarities among and within problems. Tasks to develop this skill are sorting and patterning, and daily routines and tasks. The ability to problem solve is a tool that is constantly used throughout life, academically and socially, so having a space for the development of these skills is beneficial for a person's entire lifespan.

ECE better prepares students for k-12. In addition, Brown et al (2023) discussed that

kindergarten nowadays focuses on academic skills instruction and standardized testing, with pencil and paper activities replacing learning through language and hands-on activities (Brown, Ku, & Englehardt, 2023). Other researchers, such as Claessens et al (2009), Quirk et al (2017), Verguns et al (2019) have demonstrated that what occurs in kindergarten matters. For example, many have demonstrated that how children perform on reading, math, and social-emotional assessments in kindergarten impacts their later school achievement and chances for success in adult life. Moreover, these differences in kindergarteners' academic and social achievement often increases across their time in school (Brown, Ku, & Englehardt, 2023).

How a child performs in kindergarten will affect their K-12 academic achievement, and if a child is not provided with the tools necessary for kindergarten, they will struggle and not have the tools they need for their future. Given that the differences in kindergartners' academic and social achievement increase over time, it shows that intervention before kindergarten is essential to closing the present gap (Yoshikawa et al, 2016).

Increased Future Economical Earning for ECE students Since early childhood education programs are not federally mandated, they are not federally funded, so many programs have tuition costs. "An Abecedarian/Educare program costs over $18,000 per year per child, or over $90,000 for the five years. One year of high-quality full-day pre-K at age four costs around $10,000." (Bartik, 2014) In today's economy, that is a large amount of money to invest in a program designed for children from birth to five years old, but there is a proven increase in future earnings for children who are enrolled from 3-26 percent. (Bartik, 2014, p. 23)

> Comparing the present value of earnings benefits to costs for these three programs, full-day pre-K at age four for low-income children has the highest ratio of adult earnings benefits to costs, at over 5-to-1. The program increases the present value of future earnings per child by an average of slightly over $50,000, at a cost of around $10,000. (Bartik, 2014, p. 25)

These numbers show a significant increase in earnings for low-income children who were able to

attend an ECE program. A program specifically designed for low-income families, Head Start, has been shown to increase earnings for adults by 11 percent. (Bartik, 2014) Long term earnings can be predicted from a program's effects on test scores in the short run (Bartik, 2014) so there is a measurable predictor to how ECE benefits children's potential earnings in later adult life. Early childhood education programs do not solve all problems for all participants, but they "do enough good for a sufficient number of child participants that they make economic sense." (Bartik, 2014, p. 27).

This income increase helps break low socioeconomic status cycles, as children from low income families are able to get an education that allows them to make more. A child's future adult earnings are more affected by the income of the child's parents when the child is ages zero to five than by income in later years, as children are especially vulnerable to stress at this young age.

> "If we invest now in early childhood education, then that raises the earnings of former childhood participants as adults. When these former participants form their own families, their family's income will be higher. This will lead to better childhood development in the next generation, and better adult outcomes for that generation. This virtuous cycle obviously can continue." (Bartik, 2014, p. 59)

Investing in early childhood education helps break cycles for children who are born into the sinking hole that is poverty, and create better generations for the future.

Children attending ECE benefits society There are several spillover benefits to children attending early childhood education programs, such as peer effects in classrooms, an increase in quality of the labor supply, reduced crime, and fiscal benefits as well. If more children have high skills, which are developed in an ECE program, then a teacher can spend classroom time teaching to a higher standard and not having to catch individual students up to the rest of the class, which benefits other children's learning in the class. If children are able to develop social skills and emotional competence in an ECE program, then they will have the tools to be less

disruptive in the classroom, which will also increase the learning time available for the students in the classroom. (Bartik, 2014).

> [Neidell and Waldfogel] find that for every additional child who was enrolled in pre-K, the overall increase in test scores in the kindergarten class is from 16 to 50 percent higher than would be predicted based on the individual effect on that child (Bartik, 2014, p. 57).

Children attending an ECE program also increases the quality of labor supply because the workforce would have developed skills such as computational thinking that are crucial to the technological state of the world. "...when skills of one group increase, this enhances overall wages of most workers. The underlying reason is that the number of good jobs is not fixed. Good jobs will expand in response to the supply of persons with good skills." (Bartik, 2014, p. 54) Children attending ECE programs not only increases their earnings, but their skills increase the wages of those around them as well.

Early childhood education also helps reduce crime. When provided with legal earning prospects, an individual's probability that they will become involved in criminal activity will be reduced. Evidence even suggests that educational investments such as public early childhood education may be a more cost-effective way to fight crime than longer prison sentences. (Bartik, 2014)

As for fiscal benefits, there are long term and short term benefits for children attending Early Childhood Education Programs. Long term benefits are that the increased earnings due to early childhood education will be taxed by federal, state, and local governments, and will lower welfare usage, which will lower government spending. A drop in criminal activity would also reduce prison costs and criminal justice system spending. Short term benefits for children attending ECE programs are that it may help reduce remedial education costs, as "several studies suggest that early childhood education reduces special education costs." (Bartik, 2014, p. 58)

Special education can be an extra $10,000 per year per student, and studies show that early childhood education could bring that price down 23 to 86 percent.

Method and Procedures

My population in my study were adults over the age of 18 who had been in the United States school system. I selected this population as my topic is on the benefits of Early childhood education on later adult life, so I needed data from adult participants. I constructed a google form survey (See Appendix A ~ Survey Questions to Adult Participants) and distributed the link on Facebook and MyRaft, and collected answers for four days, which resulted in 45 responses. This approach gave me data on who did and did not attend an early childhood education program (See Appendix B ~ Survey Participants General Information), and how that impacted their later adult life through aspects of academics (See Appendix C ~ Survey Participants Academic), such as grade average, diploma attainment, and level of higher education, and finances (See Appendix D ~ Survey Participants' Finance), such as family socioeconomic status growing up and current salary (See Appendix E ~ Survey Participants' Attitudes toward Early Childhood Education). I also asked participants if they would enroll their children in an ECE program, which shows the current thoughts about ECE importance.

Data from the Google Form (Appendix A ~ Survey Questions to Adult Participants)) will show comparisons between adults who did and did not attend an early childhood education program in aspects such as childhood family socioeconomic status, average letter grade in K-12, attainment of a high school diploma, higher education level pursued after high school, and current salary range. This survey had 45 participants, with 40 women and five men responding. The average age of participants was 40 years old, with the minimum age being 18

and the maximum age being 77. Of the 45 Participants, 22 had attended an early childhood education program and 23 had not attended an ECE program. The average age for those who did attend an early childhood education program was 33 years old, and the average age for those who did not attend an ECE program was 46 (Appendix B). The results from this survey compare participants who did attend an early childhood education program to those who did not attend an ECE program in their academics, financials, and attitudes towards early childhood education programs.

Results and Findings

The data collected will aid in answering the three of the five secondary research questions for this senior capstone research project by comparisons between participants who did attend an early childhood education program to those who did not attend an ECE program prior to kindergarten. To answer the secondary research question #3, "How have early childhood education programs benefited adult's later adult life with regards to their academics and finances according to adults in all stages of the adult lifespan (young adults, middle career, and retired individuals)?" participants of the two groups will be compared using their responses to academic related questions about their average grade letter in K-12, high school diploma attainment, higher level of education attainment. Participants of the two groups will also be compared using their responses to financial related questions about their family's socioeconomic status growing up and their current salary range. These comparisons will also answer secondary research question #4, "Are there any correlations in terms of the benefits of later adult life for individuals who attended ECE programs as compared to those who did not attend them?". Participants were also asked questions regarding their attitudes towards early childhood education programs, and reposes to those questions will be compared to answer secondary research question #5, "Given

the choice, what adults would choose to attend an Early Childhood Education program, and would they enroll their children in an ECE program?".

Student academics (Appendix C ~ Survey Participants' Academics) Participants were asked what their average letter grade was when they were in k-12, and the grade average for participants who attended an early childhood education program was a 2.9 GPA, with 14 participants marking Bs, 4 participants marking As, 3 participants marking Cs, and one participant marking F, but he also marked that he graduated high school, which you can't do by failing through school so I'm not sure how seriously to take that answer. The grade average for participants who did not attend an ECE program was a 3.1 GPA, with 9 participants marking they were an A student, 8 participants marking they were a B student, and 6 participants marking they were a C student. These results do not show enough of a difference to claim whether or not participants got better grades for being in an early childhood education program.

Participants were also asked if they had graduated high school and obtained their high school diploma. Of the participants who attended an early childhood education program, 86.4 percent or 19 out of 22 participants graduated high school and 13.6 percent or 3 out of 22 participants did not, however one of the participants who did not graduate high school later got her G.E.D. Of the participants who did not attend an early childhood education program, 95.7 percent or 22 out of 23 participants graduated high school and 4.3 percent or 1 out of 23 participants did not graduate high school. These results show that students who did not attend an early childhood education program had a higher graduation rate than those who did attend an ECE program. The average age of participants who did not attend an ECE program was 46, and the average age for participants who did attend an ECE program was 33, so I believe this shows evidence of a generational difference.

Participants were also asked in the survey if they had pursued any form of higher education after high school. Of the participants who attended an early childhood education program, 72.7 percent or 16 out of 22 participants had obtained degrees, ranging from an AA to a Master's degree, and 27.3 percent or 6 out of 22 participants did not have a degree. Results from the survey from participants who did not attend an ECE program show that 65.2 percent or 15 out of 23 participants had obtained degrees, ranging from an AA to a PhD, and 34.8 percent or 8 out of 23 participants did not have a degree. These results show that students who attended an early childhood education program have a 7.5 percent higher likelihood of obtaining a form of higher education than those who did not attend an ECE program.

Student Financials (Appendix D ~ Survey Participants' Finances) Participants were asked a series of questions about their financial status throughout their lives. One question on the survey asked the participants what their family's socioeconomic status was growing up. Of the participants who had attended an early childhood education program, 36.4 percent or 8 out of 22 participants grew up in lower class families, and 63.6 percent or 14 out of 22 participants grew up in middle class households. Of the participants who did not attend an ECE program, 43.5 percent or 10 out of 23 participants grew up in lower class households and 56.5 percent or 13 out of 23 participants grew up in middle class families. These results show evidence that early childhood education is not easily accessible to lower class families, so children in low income households miss out on the opportunity to attend an ECE program that other children have greater access to.

Participants were also asked what their current salary range was, from less than $12,000 to greater than $84,000. Results from participants who attend an early childhood education had no participants earning between $48,001 and $60,000 or $72,001 and $84,000, but 31.8 percent

or 7 out of 22 participants had a salary less than $24,000, 40.9 percent or 9 out of 22 participants had a salary between $24,001 and $48,000, and 27.3 percent or 6 out of 22 participants earn more than $60,001. Results from participants who did not attend an early childhood education program had no participants earning between $12,001 and $24,000 or $60,001 to $72,000, but 26.1 percent or 6 out of 23 participants earned less than $24,000, 26.1 percent or 6 out of 23 participants have a salary between $24,001 and $48,000, 21.7 percent or 5 out of 23 participants have a salary between $48.001 and $60,000, and 26.1 percent or 6 out of 23 participants earn more than $72,000. These results show that participants who attended an early childhood education program earn less than those who did not attend an ECE program, but I do believe the average age difference between the groups is a factor as to why this is shown.

Attitudes towards Early Childhood Education programs (Appendix E ~ Participants' Attitudes towards Early Childhood Education) Lastly, participants were asked a couple questions about their attitudes towards early childhood education. One question asked participants if they would choose to attend an early childhood education program if it were up to them. Results from participants that attended an ECE program show that 95.5 percent or 21 out of 22 participants would choose to attend and 4.5 percent or 1 out of 22 participants would not choose to attend. Results from the participants who did not attend an early childhood education program show that 56.5 percent or 13 out of 23 participants would choose to attend an ECE program and 43.5 percent or 10 out of 23 participants would still not attend. These results show that understanding of the long term benefits of early childhood education is not known to those who did not attend, and those who did attend would attend again.

Lastly, participants were asked if they would enroll their children, current or future, into an early childhood education program. Of participants who did attend an ECE program, 95.5

percent or 21 out of 22 participants would choose to enroll their children and 4.5 percent or 1 out of 22 participants would choose not to. Results for participants that did not attend an ECE program show that 82.6 percent or 19 out of 23 participants would enroll their children in an early childhood education program and 17.4 percent or 4 out of 23 participants would not enroll their children in an ECE program. These results show that most people understand how early childhood education is beneficial to children, but these results could also be due to the increase in employment of both parents in families.

Discussion

I believe the data corresponds to what literature I have reviewed on this topic, and helps support the claim that enrolling children in early childhood education programs has benefits to their later adult life. Adults who attended ECE programs had a 7.5 percent higher likelihood to obtain a higher education degree than those who were not enrolled in an early childhood education program, which results in them having higher paying jobs. These adults with higher levels of education have a higher quality of skills, which increases the quality of the job force, as discussed by Bartik (2014).

Problems and Limitations

My first limitation to my data was the source of collecting and distributing my survey. I shared the link to my survey on my Facebook page and on CSUMB MyRaft, but most of my responses came from Facebook which resulted in a predominantly female sample with an average age of 40 years old. I also only had 45 participants, so my sample size could have been larger to provide more data to help clarify trends. I only allowed responses for four days because I waited too long to start my data collection, and had to start working on my paper. I was worried about offending anyone or putting myself out there to collect the data and asking for help from

my community to spread the survey to others, so I was a problem to my project as well. I believe my data sufficed to answer the questions I sought to answer, my two groups were even, and graphing the data showed evidence for the concepts discussed in the literature discussed in this senior capstone research project.

Recommendation

Literature and data shows there are many benefits to attending an early childhood education program that affect the child for their entire lifetime, which signifies that ECE should be federally mandated and funded to help make it accessible to all children. Implementing Early Childhood Education programs into the public school system would ensure all students attended an ECE program prior to kindergarten, which would provide all students with the same education, regardless of their family's socioeconomic status. With the increase of both parents of a household having to work due to the state of the economy, it is crucial to provide quality care for the children of those who have to make sacrifices to hold the country together, and build better future generations.

Conclusion

There are many benefits of early childhood education that impact students throughout their entire lives. Early childhood education programs provide a place for children to develop, providing the proper environmental enrichment that supports a range of skills from social skills, emotional competence, computational thinking, and cognitive skills, which are all interconnected for young children. Interactions from the teacher and peers help develop children and prepare them for their lives as adults. ECE programs also benefit a students K-12 education by better preparing them for the academic boot camp that kindergarten has become, and closing academic achievement gaps that increase from kindergarten on.

Children who attend an early childhood education program also benefit from increased future economical earnings, as shown by John Bartik (2014) and results from the survey (Appendix D). John Bartik (2014) stated that the increase was from 3-26 percent, and results from my survey showed a 7.5 percent increase in participants who obtained a form of higher education between those who did and did not attend an early childhood education program, which yields higher paying jobs. An income increase helps children from low income families break family socioeconomic status cycles and aids in better lives for future generations.

Children attending an early childhood education program also benefits society, as the increase in income will generate more taxes, and the quality of the labor supply will increase because attending an ECE program increases the likelihood of people attending a form of higher education, which will raise the wages around them as well. Early childhood education also reduced crime because it helps put students on a path to legal forms of earning income, which would lower prison costs and criminal justice system spending.

People understand the importance of early childhood education for students, as shown by results from the survey conducted (Appendix E) where most participants would choose to enroll their children in an ECE program. Results from the survey (Appendix E) also show that the long term effects and benefits that follow children into adulthood are still not as known, as 43.5 percent of participants who did not attend early childhood education would choose to still not attend if it were up to them.

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Appendix A

Survey Questions

What is your age?

What is your gender?

County of Residence?

County Attended School?

What was your average letter grade as a k-12 student? A, B, C, C, D, F

Did you graduate high school and obtain a high school diploma? Yes or No?

If you did not graduate high school, did you later obtain your G.E.D.? Yes or No?

Have you pursued a higher education after high school? None

Some

Bachelor's Degree

Trade School

Master's Degree

PhD

What is your current job title or field?

What is your current salary range? $x > \$12,000$

$\$12,001 < x < \$24,000$

$\$24,001 < x < \$36,000$

$\$36,001 < x < \$48,000$

$\$48,001 < x < \$60,000$

$\$60,001 < x < \$72,000$

$\$72,001 < x < \$84,000$

$\$84,000 < x$

Did you attend an Early Childhood Education Program? Yes or No

What class was your family growing up? Lower Middle Upper

If it were up to you, would you choose to be enrolled in an ECE program before entering Kindergarten? Yes or No

Do you have children? Yes or No

Would you enroll your child (current or future) in an ECE program? Yes or No

Appendix B

Survey Participants General Information

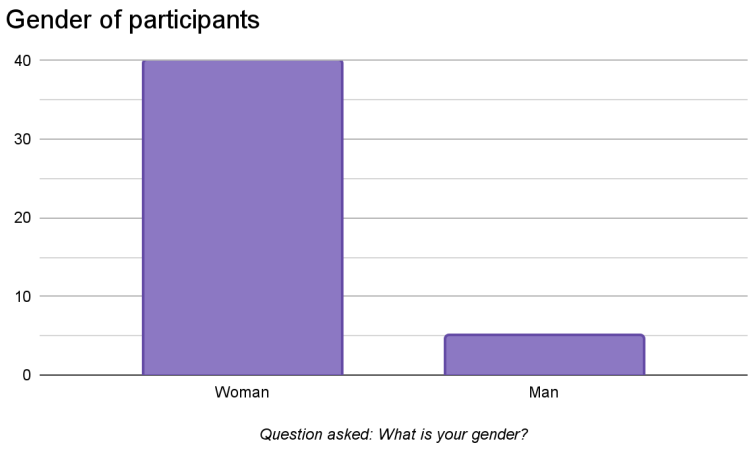
AGE

Most frequent age value: 59 and 21 with 4 participants each

Min Median Max: 18/38/77

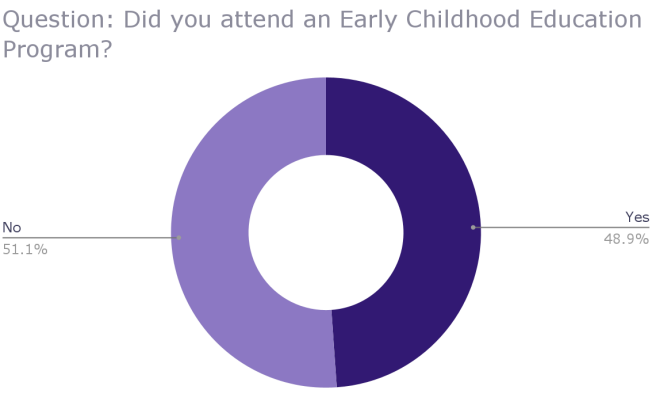
Average: 40 (Facebook)

GENDER



40 women 5 men

Did attend vs. Didn't attend ECE program



Yes: 22 participants

No: 23 participants

Average age of those who attended ECE: 33

min/med/max: 18/31/59

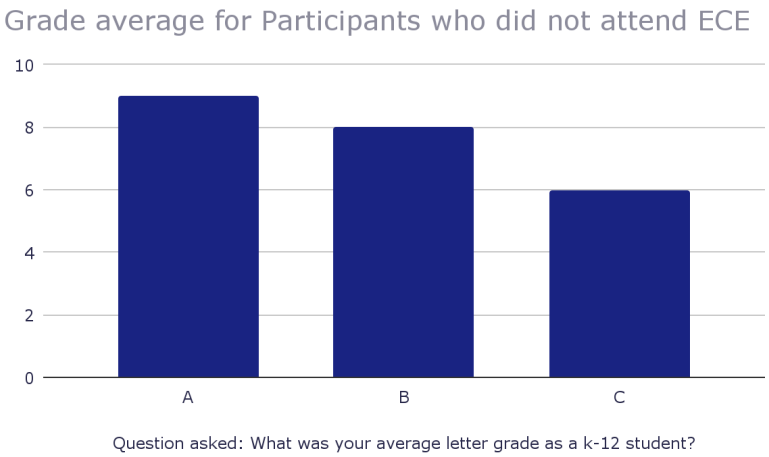
Average age of those who did not attend ECE: 46

min/med/max: 21/48/77

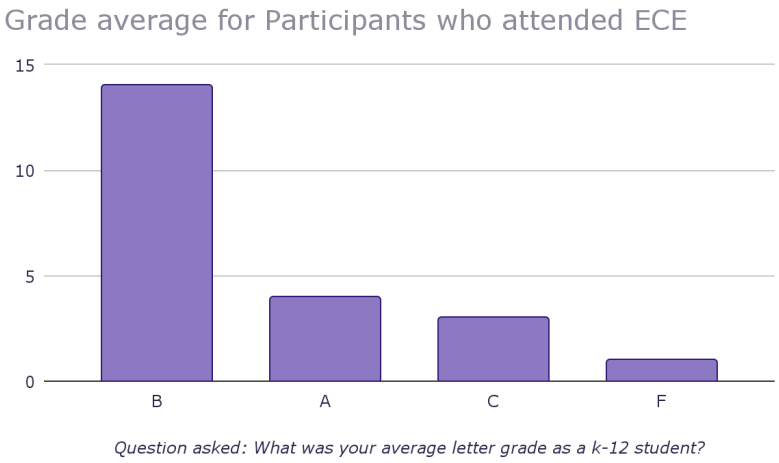
Appendix C

Survey Participants Academics

Grade average comparison between noECE vs ECE

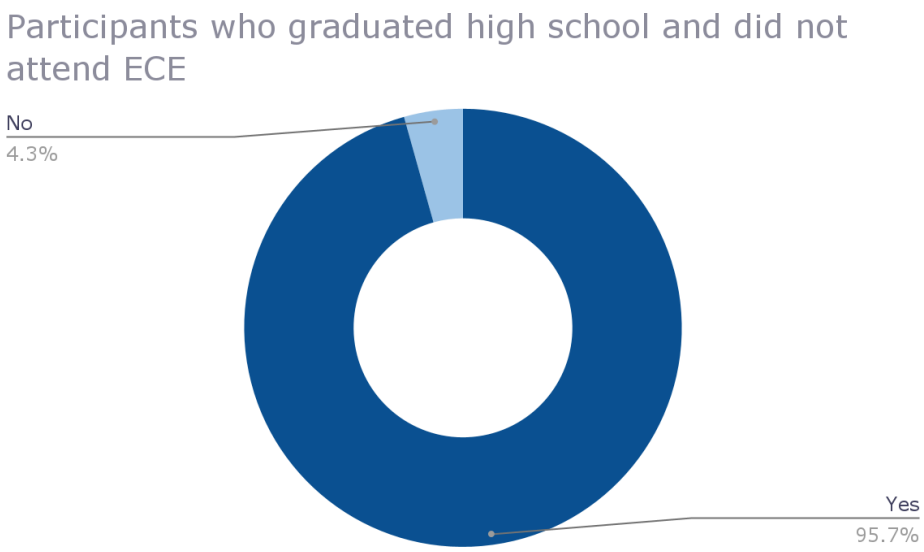


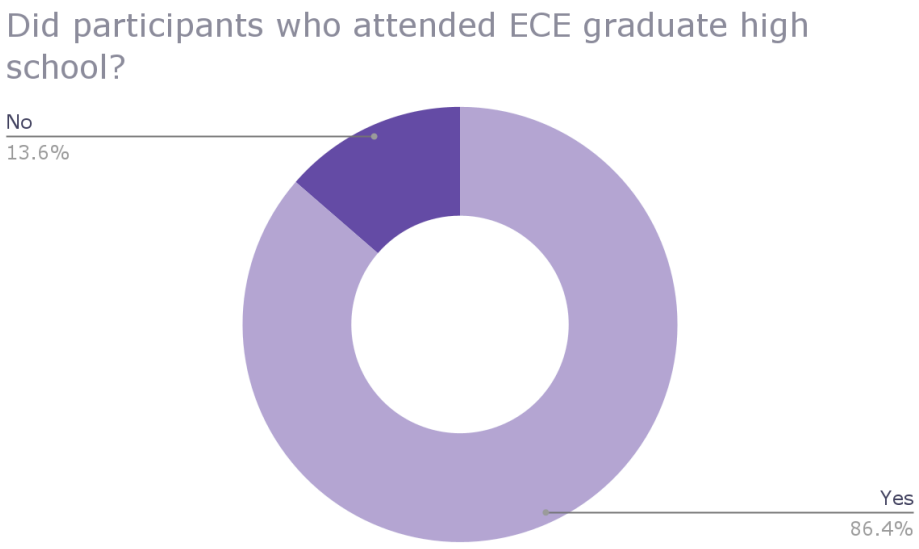
3.1 GPA



2.9 GPA

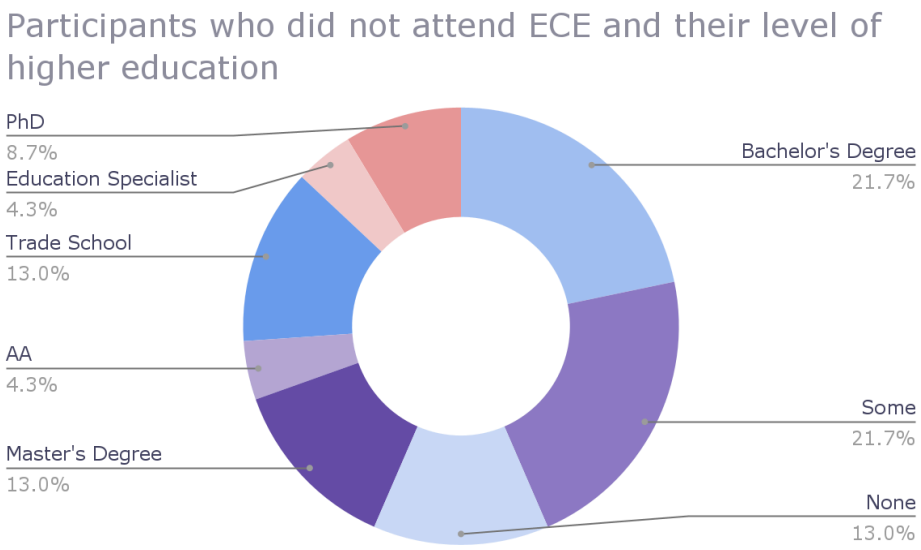
High school diploma comparison between noECE vs ECE





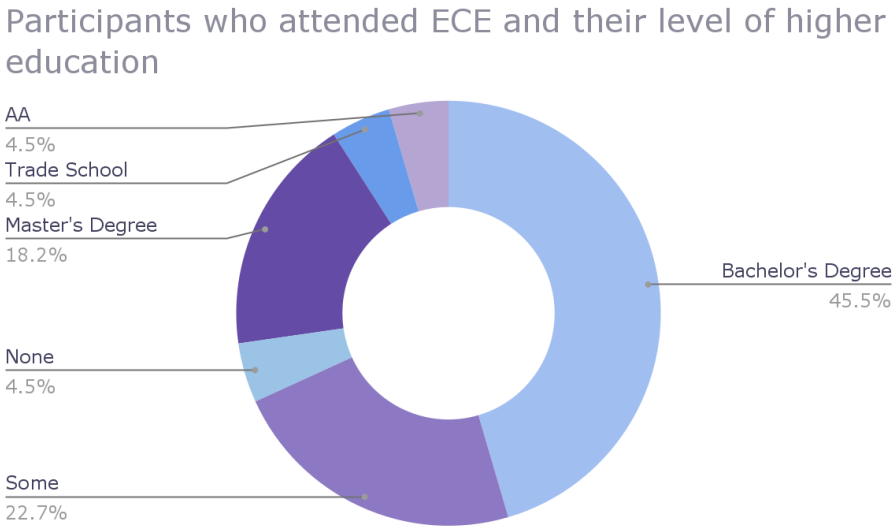
One Participant did not graduate high school but later got their GED

Higher education level pursued comparison between noECE vs ECE



15/23 participants with degrees

8/23 participants with no degree



16/22 participants with degrees

6/22 participants with no degree

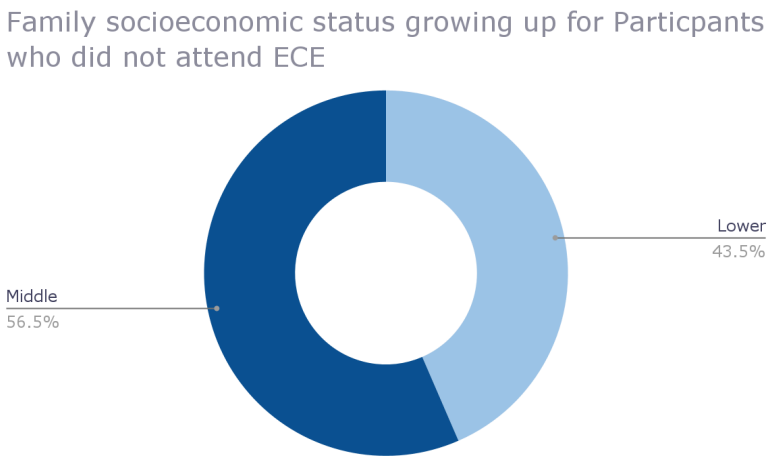
Appendix D

Survey Participants Financial

Family socioeconomic status growing up comparison between noECE vs ECE

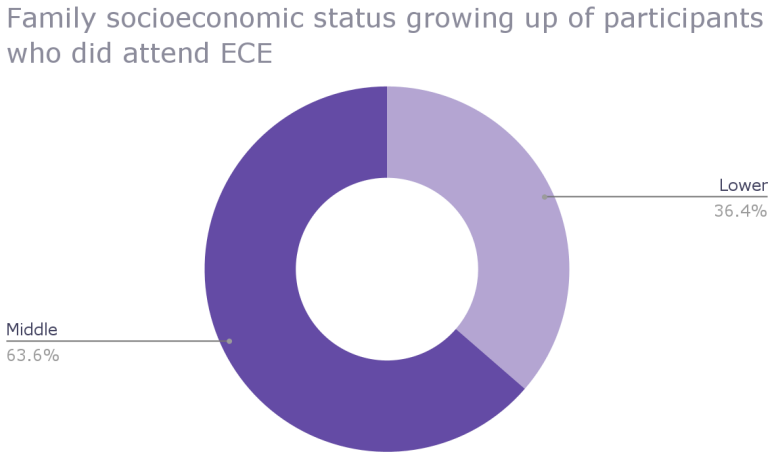
10/23 lower class

13/23 middle class

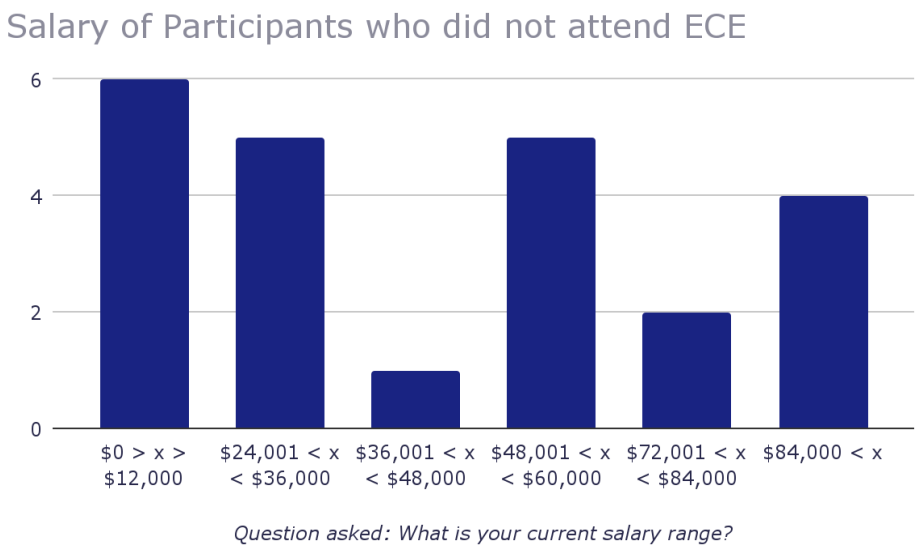


8/22 lower class

14/22 middle class

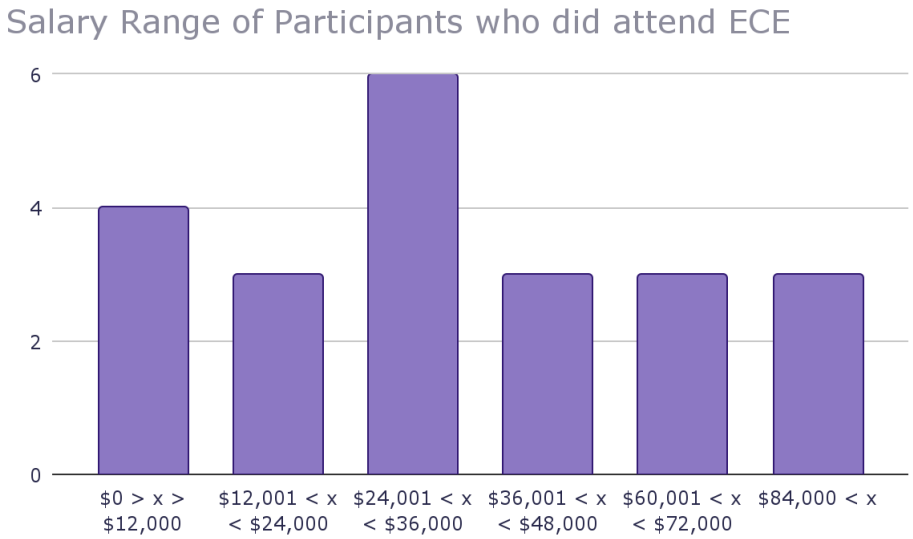


Current Salary Range comparison between no ECE vs ECE



No participants in salary ranges $12,001 < x < $24,000

$60,000 < x < $72,000



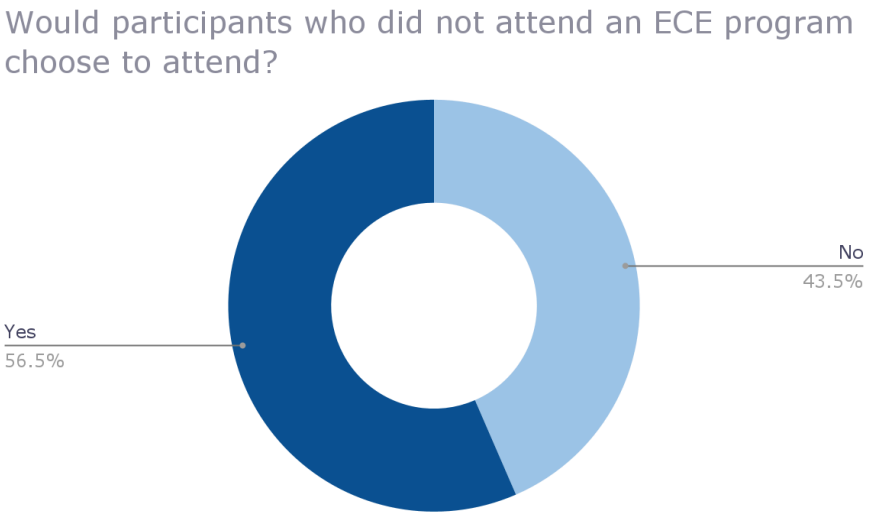
no participants in salary ranges $48,001 < x < $60,000

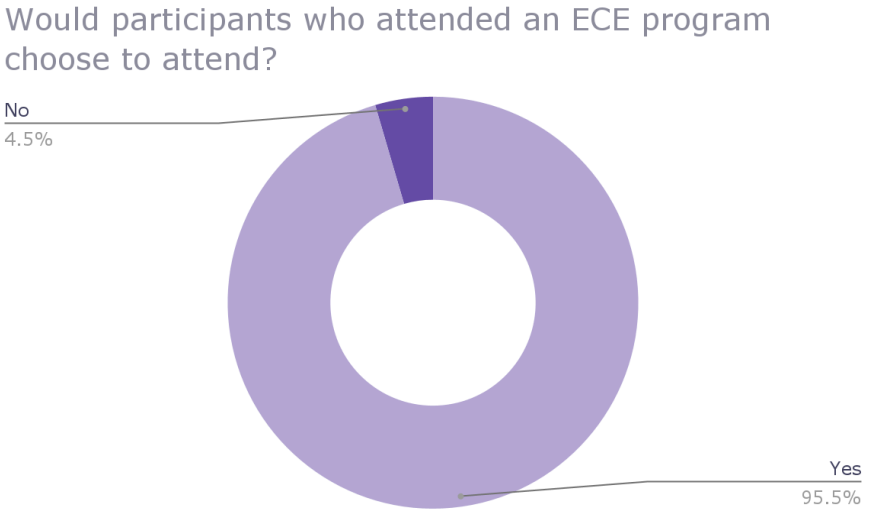
$72,001 < x < $84,000

Appendix E

Participants Attitudes towards Early Childhood Education

Who would and would not attend an ECE program comparison between noECE and ECE participants





Enrollment of future children in ECE programs comparison between noECE and ECE participants