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Montessori Education: A Study on the Impact of Montessori Preschools in Washington on Short-Term Emotional Development in Children

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ABSTRACT

This research paper investigates how Montessori preschool education impacts short-term emotional development in children ages 3-5 in Washington state, compared to conventional forms of education. This study employs a multi-method approach including a quantitative parental survey measuring common adolescent behaviors on a five-point Likert scale along with a qualitative Montessori educator survey coded for key themes of Montessori education that support emotional development. The findings from the quantitative parental survey show that while both Montessori and conventional preschool students are on track for emotional development, there is a significant disparity as Montessori students were found to have higher emotional development. Furthermore, the educator survey suggests that there are four main aspects of Montessori curriculum: respect, independence/individualization, community/diversity, and conflict resolution. Overall, the results of this study provide valuable insights on the effectiveness of Montessori education in regard to promoting emotional development in preschoolers and how it could be further utilized to inform educational practices and curriculum in conventional preschools.

Introduction

In October 2017, a preschool study was conducted, monitoring children placed in public preschools, private preschools, and Montessori preschools. By the end of their preschool years (ages 3-5), a noteworthy discovery was made. The children who attended Montessori preschools had significantly higher academic achievement compared to the other children (*The Hechinger Report*, 2018). While this study introduced the notion of Montessori curriculum as a superior form of education for preschoolers, it does not address the unknown emotional implications that come with this unique form of education.

My research project aims to answer the question, how does Montessori preschool education impact short-term emotional development for children ages 3-5 in Washington state, compared to conventional forms of education? The purpose of this study is to quantitatively measure if Montessori education improves short-term emotional development in preschools compared to conventional educational approaches to help inform parents' decisions for their children's education, along with qualitatively determining what aspects of Montessori curriculum are beneficial to emotional development. I utilized a mixed method approach including a parental survey method measuring adolescent behaviors in their children on a five-point Likert scale and a qualitative survey for Montessori educators to evaluate various aspects of Montessori curriculum. Parents of children in conventional preschool education will serve as a control group to compare the results of parents of children in Montessori preschool education. I hypothesize that Montessori preschool education will be more beneficial to short term emotional development than conventional forms of education because of the focus on independent growth and individualized learning.

Literature Review

Montessori Education

The concept of Montessori education began in 1906, when Dr. Maria Montessori, an Italian educator, physician, and scientist, was invited to create a childcare center for underprivileged children. Her unique education methods and learning tools spread worldwide and gained immense popularity after numerous studies showed that Montessori education benefitted adolescent intellectual development. One such foundational study by Dr. Angeline Lillard, a psychology expert with a focus in Montessori education, found that children in Montessori preschools had exceptional standardized test scores along with other measurements of academic achievement. Lillard concluded that this was most likely due to the Montessori focus on cognitive ability, which promotes learning in a more unique and individualized way than conventional educational approaches (Lillard et al., 2017). Nowadays, there are over 5,000 Montessori schools in the US alone, serving over one million children (*History of Montessori Education,* 2013).

The key principles of Montessori education are identified as respect for the child, support for the absorbent mind, allowance of sensitive periods, support for auto-education, prepared environments, and the protection of a child's right to learn (Hiles 2018). Dr. Brooke Culclasure developed a logic model explaining the progress of Montessori ideologies and how they translate to activities in the classroom and how those activities result in specific benefits for the children. The key philosophies of Montessori education are present through structured time, work cycles, independence, self-correction, and prolonged activities (Culclasure et al., 2018). Montessori education also utilizes specified Montessori supplemental materials and stimuli for play which have been shown to have a positive impact on standardized test scores for children (Lillard 2016). Montessori education is known for having an overall positive impact on adolescent development, but focused studies have only been conducted in intellectual, cognitive, and academic development, leaving an important gap for the benefits for emotional development (Courtier et al., 2021).

Adolescent Emotional Development

Emotional development is defined as learning what feelings and emotions are, understanding how and why they occur, recognizing one's own feelings and those of others, and developing effective ways for managing those feelings (*Emotional Development - Be You*, 2018). Adolescents experience the highest levels of emotional development during their preschool education years, around the ages of 3-5 years old. At this age, children are considered more emotionally developed if they can identify emotions, develop prosocial behaviors, and practice nondisruptive behavior (Maguire et al., 2016). Some common measurements of emotional development are the Emotional Development Index (EDI) and the Social and Emotional Learning Program Quality Assessment (SEL PQA). The EDI is a Likert-scale questionnaire taken by teachers to evaluate their students' emotional development. The SEL PQA focuses on the teaching methods, assessing adult leaders in creating a classroom environment suitable for social and emotional growth. Both of these surveys look at emotional development in youth regarding teaching methods and curriculum.

Preschool Education

My study focuses on preschool education because, as stated previously, preschool age (generally 3-5 years old) is the period where most children experience the highest rates of emotional development. The National Association for the Education of Young Children states that in preschool children learn fine motor skills, language and literacy skills, cognitive function, and socioemotional skills through interaction and learning with others (NAEYC, 2022). These skills are beneficial for social, emotional, and intellectual development. At Montessori preschools, there are about 25-35 children in a classroom spanning over 2 to 3 years of an age range, while more conventional forms of preschool have around 6-10 children per classroom spanning over 1 age level, which identifies a relevant difference between

Montessori and conventional education in terms of interaction and learning with others. This disparity may result in varying effects on emotional development due to differing levels of isolation versus interaction for young children during the most sensitive developmental period in their lives. No research has been fully conducted on this difference in education, much less the effects on emotional development. Researching this topic will help determine what educational approaches maximize the best possible outcome for children, both academically and emotionally.

Gap

The gap that my proposed research addresses is the lack of research done on the effect of Montessori education on emotional development specifically. While many sources have looked at how Montessori education affects intellectual development, like Block (2015) and Manner (2007), these sources only look at the academic side of development through analyzing standardized test scores and IQ tests. They also tend to focus on long term development, analyzing changes from elementary to adult age, while my research will be focused on the preschool age group of 3-5-years-old, and analyzing their short-term emotional development at a key developmental period in their life. Maguire, Niens, McCann, & Connolly (2016) and Jones, Zaslow, Darling-Churchill, & Halle (2016) look at childhood emotional development in conventional preschools, and even zero in on the same age group as my research, but no emotional development studies are focused specifically on Montessori education, just the broader realm of early childhood development.

One key source that informs my gap is Courtier et al. (2021), which discusses the effect of Montessori education on preschool academic, cognitive, and social development. This source touches most closely on my research topic but still fails to fully cover the extent to which Montessori education impacts emotional development. While emotional development does include aspects of social development, and my survey will include a minority of questions focusing on adolescent social development, social and emotional development are not interchangeable terms. Social development refers to a child's ability to create and sustain meaningful relationships with adults and other children. Emotional development is a child's ability to express, recognize, and manage his or her emotions, as well as respond appropriately to others' emotions (*Social and Emotional Development | ECLKC*, 2021). In many situations, social development is a key external sign of emotional development, meaning it will be included in my study to a certain extent, but will not be the main focus. Courtier et al. also does not fully zero in on social development, rather mentions it as one of many effects from Montessori education. In my research, my whole focus will be on the effect of emotional development, with additions to the current research on social development as some of my survey questions mention it. While it does focus on the same age group, my research is specified to short-term impacts and focuses on Washington state, although my findings will be applicable to the broader community because of my diverse survey sampling.

Method

Reasoning for Chosen Method

The first part of my chosen research method is a quantitative parental survey using a five-point Likert scale to measure the emotional development of their child. I chose to send the behavioral survey to parents instead of teachers because parents have cultivated an individual relationship with their child throughout their life and will be able to notice and reference specific behavioral norms, while teachers teach students for only a short portion of childhood and may not be able to recognize changes in behavior. Parents also spend a larger portion of the day with their child than their preschool teacher, who only sees the child for a couple hours. The choice to have parents take the survey also allows this study to see how the chosen form of education influences their child at home. I elected to design a survey specifically for a parent's point of view due to children's potential inability to comprehend the questions to the extent needed

for accurate quantitative results. Adapting questions from the EDI and SEL-PQA, I chose questions that reference common actions and behaviors that are signs of emotional development such as "can your child label the emotions they feel" and "does your child respect the property of others" (See Appendix A for all questions). The questions are constructed so that parents do not have to guess at their child's emotions, but rather reference day-to-day behaviors to ensure more accurate data. There are 21 questions and five different categories, with four questions in the "interaction with others" category, seven questions in the "independence" category, five questions in the "following instructions" category, three questions in the "interaction with environment" category, and two questions in the "emotional understanding" category. I had parents rank each activity on a five-point-Likert-scale with 1 being never, 3 being sometimes, and 5 being always. A five-point Likert scale is ideal as opposed to a seven-point or three-point Likert scale because the value of five choices decreases participants' frustration level along with increasing response rate and quality (Babakus and Mangold 1992).

The second part of my mixed method is a qualitative survey for Montessori educators. I chose to have Montessori teachers take this survey because it asks questions regarding Montessori curriculum and how it can impact emotional development, which are questions best answered by experts in the field. Montessori educators are familiar with how the form of education can influence child development because instead of teaching in front of a classroom in a disconnected way, they lead the class in groups and form personal connections (Meinke 2019). This qualitative survey asks four questions about Montessori education. First it asks, "What parts of Montessori curriculum most support adolescent emotional development?" Second it asks, "What are three words you would use to describe Montessori curriculum?" Third it asks, "What aspects set Montessori education apart from traditional preschool?" Finally, the survey asks, "Do you personally believe that Montessori preschool education improves adolescent emotional development at higher rates than traditional preschools and why?"

This survey method is the best method for my chosen research topic because it gives me a quantitative perspective into emotional development along with a qualitative measurement from the perspective of experts. Other methods like case studies or observational tests could be interpreted incorrectly. My use of both quantitative and qualitative methods allows for easily comparable results along with keywords to recognize in Montessori curriculum. Jones et al. discusses that when assessing early childhood emotional development, if the method is based on conceptualization instead of measurement it can result in losing sight of the topic in question along with having trouble properly articulating the context of qualitative answers (Jones et al., 2016). Similar studies, such as Maguire et al., that look into gender differences in adolescent emotional development, utilize quantitative measuring tools such as the Assessment of Children Emotional Skills and the Emotional Recognition Questionnaire (Maguire et al., 2016). These tools assist in creating results that are replicable and appliable to broader contexts. Using a quantitative survey method allows me to get quantifiable results that are easily comparable to each other. In regard to my qualitative survey, this part of my method allows me to identify specific keywords in Montessori curriculum that signify particular parts of it that improve emotional development. These keywords will help to decipher what parts of Montessori curriculum are essential to emotional development, along with providing keywords for future researchers to use to identify emotional development in Montessori curriculum.

Participants

To gather data, I reached out to local Montessori preschools and conventional preschools in the state of Washington (see Appendix B) to see if they would be willing to send my survey out to parents of children attending their schools. I first screened the schools using the information on their website to ensure that the participation criteria was met. For Montessori preschools, they had to be an accredited member of the American Montessori Society and for conventional preschools, I screened their curriculum guide to ensure that they do not strictly practice Montessori methods in their teachings. After screening the schools, I had 14 Montessori schools and 12 conventional preschools as possible participants. After emailing, 2 Montessori schools and 1 conventional preschool agreed to send out the survey to parents. I included elimination criteria in my survey to make sure that all participants met the conditions of living in

Washington, having a child between the ages of 3-5, being enrolled in either form of preschool for over a year, and not having experienced any events that would hinder emotional development because that could result in error in my findings. I then asked the same schools who participated in sending out my quantitative parental survey to have their educators take my qualitative Montessori educator survey.

Ethical Practices

To ensure that this research complies with ethical practices, many steps were taken to fully protect participants and information. Firstly, this research was approved by the Institutional Review Board (IRB) at my institution of education (see Appendix C). All participants also signed an informed consent form (see Appendix D) that detailed an overview of the study, a description of subject involvement, possible risks, possible benefits, confidentiality, storage of information, and contact information. By signing this form, participants were voluntarily agreeing to their data being included in the research but remaining confidential by referring to participants as Participant X, Participant Y, etc. instead of using their personal information. To ensure that risk was minimized, participants were allowed to skip any questions they did not feel comfortable answering and could contact the researcher at any point to withdraw their consent.

Coding Results

The same survey was sent to both Montessori parents and conventional education parents using an online survey creator called SurveyMonkey, and responses were collected over a nine-week period. These responses were coded using the equation below, and results were stored in a Microsoft Excel spreadsheet on a password protected device. The equation below takes the Likert score for each question and adds them together, meaning that children that are more emotionally developed will have a higher score than children that are not. If questions were left unanswered, their Likert-scale score was counted as 0 so it did not skew the results when making percentages.

$$\sum_{i=Q_1}^{Q_{21}} A_i = S$$

$$Q_x = number\ question \quad A = Likert\ scale\ score\ \ (0-5) \quad S = sum$$

I chose this coding method to provide quantitative data to easily compare results and have unbiased numerical data. In regard to current methods of measurement in the psychological field of emotional development, quantitative methods are preferred to have understandable and impartial statistics. For example, in the EDI, data is coded quantitatively which helps create results that show what percentile of emotional development each child is in (*How to Interpret EDI Results | Early Development Instrument*, 2013). After coding, I turned these scores into percentages using the equation below and compared the Montessori results with regular preschool children, because they are being used as the control group in this experiment for comparison. This equation takes the total sum of Likert points from each question and divides by the highest possible amount of points per question multiplied by the total number of questions answered, to result in a fractional value that is then multiplied by 100 to result in a percentage.

$$P = 100\left(\frac{S}{5(Q_a)}\right)$$

$$P = percentage \quad S = sum \quad Q_a = number\ of\ questions\ answered$$

I calculated my data with percentages because parents are not required to answer all questions to comply with ethical research practices. I also gathered general demographic data like age, gender, and type of schooling to help categorize the data and see if, along with the comparison between Montessori and conventional preschool, there are correlations in age or gender that could prompt further research.

For my qualitative survey for Montessori educators, I also used SurveyMonkey to send them out. To code these results, I measured the relative abundance at which key words/phrases appear in each response. I measured relative abundance by identifying each instance in which an aspect of Montessori curriculum was mentioned in a positive manner. Examples of instances would be "true community", "collaborative classroom, or "individualized curriculum". These key words/phrases were put into categories based on how often each category came up in the educator responses. This essentially establishes how important each aspect of Montessori curriculum is to adolescent emotional development, in the opinion of Montessori educators.

Limitations

The sample size and restricted geographic location could result in limited generalizability with my results. Since this study was located in Washington state, the results could only be applicable to this specific area, but because there is no identifiable emotional development differences between state to state, these results should be able to be generalized and applied to other areas. There are also limitations concerning having parents accurately and honestly answer the survey questions. Whether to skew their child's results to portray them as more emotionally developed than they truly are, or due to not fully understanding what the questions are asking, inaccurately answering questions can create inaccurate results. To minimize these inaccuracies, I added a section above the survey asking participants to please answer accurately and honestly, and my informed consent form discusses how children's individual scores will not be referenced in the study, rather they will be compiled together with a group. While it is theoretically impossible to fully ensure that participants answer accurately, offering reminders and reassuring concerns helps to eliminate internal bias.

Another large limitation was finding participants. While I found many schools that met my criteria, some did not respond, and others were not able to participate for personal reasons. While the amount of results I received was on the smaller end, the population of my sample group (Montessori students in Washington) is also quite small, so my sample size did not have to be large, it only had to occupy a viable percentage of the entire population. Using a sample size calculator from SurveyMonkey and the size of my population (3–5-year-old preschool students in western Washington), I determined that with a margin of error of 15%, a confidence level of 85% based on how well I believe my survey represents the attitudes of the population as a whole, and a population size of 1500 students, my ideal sample size would be 23 participants.

Results

Quantitative Parental Survey Results

After surveying and considering the elimination criteria, I had 20 participants in my quantitative parental survey. There were 8 participants who were eliminated based off of the elimination criteria. 4 participants were parents of Montessori-educated preschoolers, and 16 participants were parents of conventionally educated preschoolers. 3 of the Montessori participants were female and 1 Montessori participant was male. 6 of the conventional participants were female and 10 conventional participants were male. 1/4 of the Montessori respondent's children were age 3, 2/4 of the Montessori respondent's children were age 4, and 1/4 of the Montessori respondent's children were age 5. 4/16 of the conventional respondent's children were age 3, 4/16 of the conventional respondent's children were age 4, 7/16 of the conventional respondent's children were age 5, and 1/16 of the conventional respondents elected to not answer this question.

After coding the behavioral Likert-scale questions and converting them to percentages using my coding equations, I averaged all of the Montessori percentages and averaged all of the conventional percentages to see the broad view of results. The main result was that the average emotional development percentage for Montessori-educated respondents was 84.05% and the average emotional development percentage for conventionally educated respondents was 78.39%

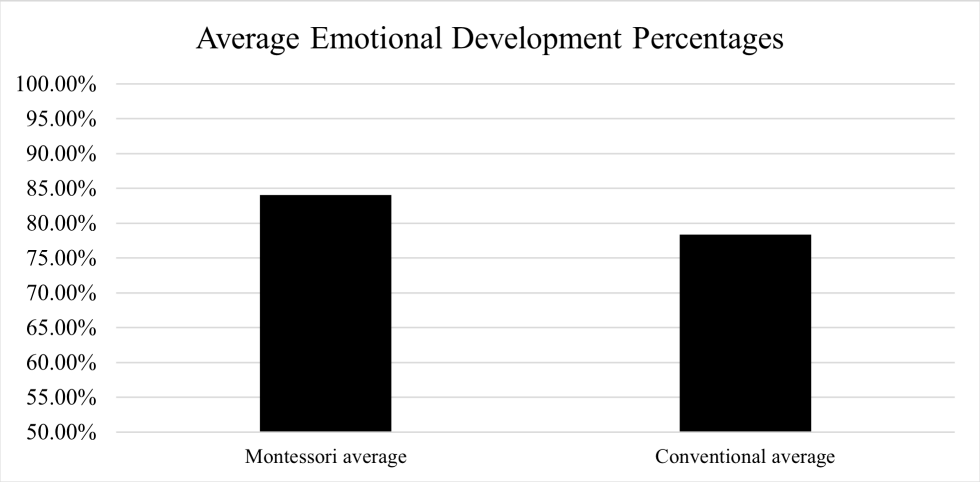

Figure 1

Another important trend that was found during the coding of these results is that the average emotional development percentage for males across both conventional and Montessori education was 76.19%, significantly lower than the average for females across both types of education, which was 83.59%.

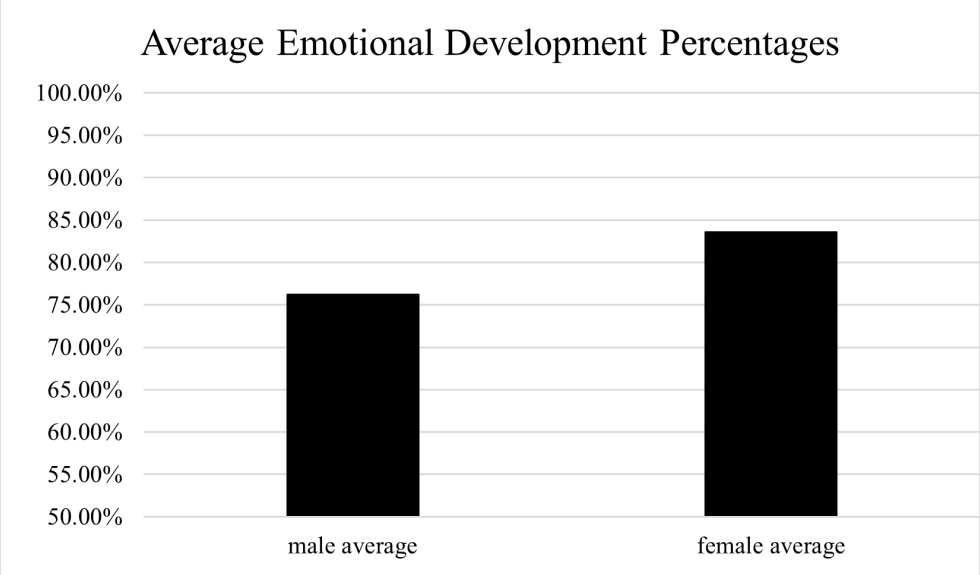

Figure 2

Finally, I compared the average emotional development percentages for the different ages represented in this survey, three-years-old, four-years-old, and five-years-old. Since one participant did not answer this question regarding their child, they will not be included in these percentages. The average emotional development percentage for 3-year-olds was 81.14%, for 4-year-olds it was 81.75%, and for 5-year-olds, it was 77.75%.

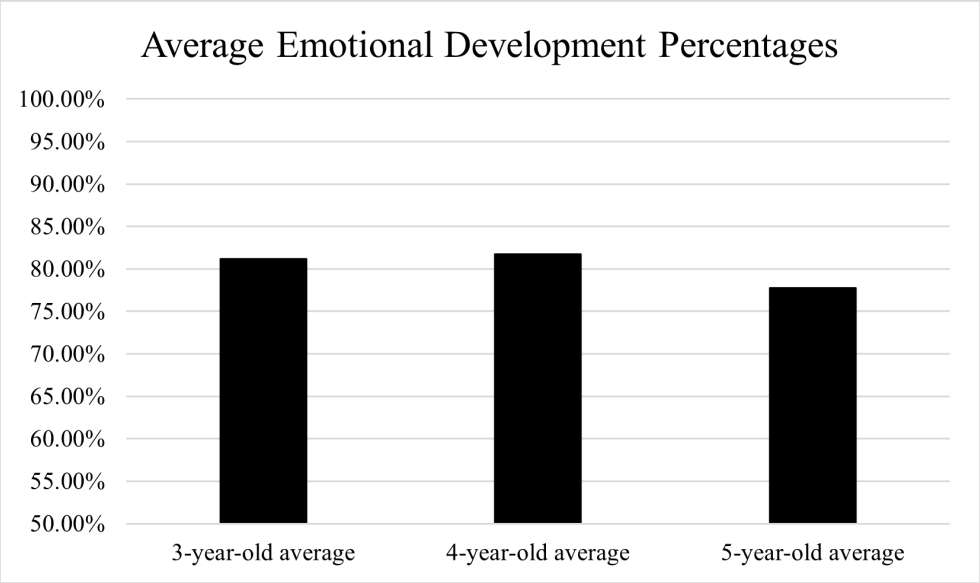

Figure 3

Qualitative Educator Survey Results

My qualitative educator survey received 3 responses from local Montessori teachers over a one-week period. While this number of responses may seem small, researcher Professor Sushil from the Indian Institute of Technology says that "in order to avoid bias with a single interview, as a thumb rule, a minimum of 3-5 interviews need to be conducted" (*How Many Interviews Are "Enough" in Qualitative Research? (Case Study/Studies) | ResearchGate*, 2017). This survey was designed to ask interview-style questions and requires in-depth responses for accuracy, accounting for the small amount of participants while avoiding bias.

I coded these qualitative educator survey results for key words/phrases that were referenced in regard to what aspects set Montessori education apart and support emotional development (see Appendix F for full coding). The four main ideas that were mentioned were community/environment, independence/individualization, conflict resolution, and respect. Independence/individualization was the most prevalent theme in the responses, appearing 10 times throughout all participants responses. The theme of community/environment appeared 7 times throughout all participant responses, the theme of conflict resolution appeared 3 times, and the theme of respect appeared 3 times.

A limitation while coding these results is that some participants would reference the same theme multiple times in one answer. I chose to code these responses so that each individual mention of a theme counted as a different appearance, but if the mentions referred to the same behavior/aspect of Montessori education or repeated something stated previously, it only counted as one appearance. For example, participant 1's answer to question 2 referenced independence/individualization twice. The first mention referred to individualized curriculum while the second mention referred to teachers responding and evaluating students as individuals, so those two mentions both counted as separated instances of the theme of independence/individualization. As I am an individual researcher, I did all the coding myself, which could result in internal bias. To combat this bias, I had a peer researcher complete a secondary coding to confirm my results and eliminate any bias that could have showed up, and their coding matched up with mine.

Analysis

Evaluation of Data

The results of the quantitative parental survey reveal many important trends regarding preschool emotional development in regard to education. Referencing Figure 1, there is an evident trend where students of Montessori preschool education have higher emotional development percentages than students of conventional preschool education. With Montessori educated students having an average percentage of 84.05% and conventionally educated students having an average percentage of 78.39%, there is a large enough difference to warrant notice. According to the EDI, the survey that the questions and coding were based off of, any child between 75%-100% of emotional development is on track for ages 3-5 (*How to Interpret EDI Results | Early Development Instrument*, 2013). While my results tended to skew slightly higher than EDI results based off of the formatting and amount of my questions, this baseline for results helps to show that while there is a significant difference between the emotional development of Montessori students and conventional students, neither group is in an at-risk category where they are falling behind in terms of emotional development. While a Montessori education seems to be more beneficial for a child's adolescent emotional development, a conventional education is by no means harmful to a child's emotional development.

Another important trend seen in Figure 2 is the difference between emotional development between male and female students. Female students across both Montessori and conventional education averaged 83.59% emotional development while male students across both type of education averaged 76.19% emotional development. My research has shown a secondary pattern where female preschool schools have more short-term adolescent emotional development while male preschool students have less short-term adolescent emotional development. In reference to Figure 3, there seems to be no significant difference between the different ages of 3, 4, and 5-years-old. While the 5-year-old average of 77.75% is slightly lower than the 3-year-old average of 81.14% and the 4-year-old average of 81.75%, this could be attributed to the aforementioned gender trend, as 75% of the 5-year-olds are male.

The qualitative educator survey identified the key parts of Montessori education that promote emotional development, with the identified key words being independence/individualization, community/environment, conflict resolution, and respect. These identified themes reveal what aspects of Montessori education can be utilized in conventional preschools to improve their students' emotional development. Overall, the quantitative parental survey shows that there is not necessarily a need to implement Montessori curriculum into conventional preschools, as both forms of education are on track for emotional development in Washington state, but could be implemented to offer children the best possible education. [Key Montessori principles, manifestos, and outcomes identified by Elisabeth Hiles, classified each key theme with the aspect of curriculum it falls under.] The identified theme of respect ("respect for the child" per Hiles) is seen in the Montessori educator survey responses when they state, "doing and learning this for themselves without unnecessary help or interruption, having long time blocks during the day, choosing their own materials, working at their own pace, and becoming fully engrossed in what they are working on". The identified theme of independence/individualization ("support for auto-education" per Hiles) is seen in the Montessori educator survey responses when they state, "children teaching themselves, self-directed curriculum, avoidance of external rewards, and absence of preselected courses". The identified theme of conflict resolution ("allowance of sensitive periods" per Hiles) is seen in the Montessori educator survey responses when they state, "children [being] allowed to intensely focus their energy and attention on specific aspects of the environment to the exclusion of others". Finally, the identified theme of community/environment ("prepared environments" per Hiles) is seen in the Montessori educator survey responses when they state, "well-organized and equipped classrooms; availability of didactic, hands-on, and developmentally appropriate materials; and immediate learning feedback" (Hiles 2018). Hiles' research on the principles of Montessori education and how they are manifested in the classroom support my findings by connecting the key themes that strengthen adolescent emotional development with the specific action in the classroom that represents the themes. It is important to mention that Hiles also found two other principles of Montessori education, support

for an absorbent mind and protection of a child's right to learn, but they did not align with my established themes derived from my Montessori educator survey, so they will not be analyzed in reference to emotional development.

Conclusion

Future Implications

Using both my quantitative and qualitative data, I came to a conclusion regarding how this information can be implemented into schools. The qualitative data in Figure 1 exemplifies the trend that Montessori preschool students have higher emotional development than conventional preschool students. With the knowledge of this trend, it is evident that there can be changes implemented in conventional preschools based off of Montessori curriculum to even out the disparity. While it is important to reiterate that neither Montessori nor conventional students were in an at-risk category for emotional development, the slight disparity is still significant enough to warrant changes. Based off of my qualitative data and the corresponding Montessori curriculum aspects from Hiles, future implications are supplied for conventional preschools. Conventional preschools should implement the Montessori curriculum aspects that correspond to the recognized themes of Montessori education that support emotional development. Essentially, conventional preschools should implement the Montessori practices of having long and uninterrupted time blocks, choosing their own materials, self-directed curriculum, refrainment from external rewards, allowing periods of intense focus, organized and equipped classrooms, and avoidance of unnecessary help (Hiles 2018). Fundamentally, this means having conventional preschools introduce more individually guided play time, letting children find their own path and avoiding unnecessary help, classrooms being equipped with stimuli, and incorporation of Montessori supplemental materials. Specifically, in regard to the stimuli and supplemental materials, these have already been proven to be beneficial to adolescent standardized test scores (Lillard 2016), but my study adds to this research by establishing the connection between higher emotional development and the use of stimuli and supplemental materials from Montessori curriculum. Using Hiles' aspects of curriculum in alignment with the themes identified from my qualitative research, Montessori educational characteristics are in support of benefiting emotional development for youth, along with the previously researched benefit to intellectual development. This means that Montessori education is in support of well-rounded development in multiple aspects of a child's life.

Further Research

Looking back at Figure 2, there is an important secondary finding from my quantitative parental survey. There is a significant disparity between female and male emotional development. Female students had an average emotional development percentage of 83.59% and male students had an average emotional development percentage of 76.19%, a difference of 7.4%. This disparity shares a characteristic with the Montessori and conventional education disparity, as all groups analyzed are "on track" for emotional development. In other words, while male students have lower emotional development than female students, neither groups are at risk. As my study does not fully focus in on this topic, further research could be conducted. Using a similar quantitative survey method and focusing in on one type of education, most likely conventional preschool to prevent too many independent variables, the same study could be conducted comparing male and female students. This could prove that there is a short-term emotional development difference between genders. Secondly, further research could be conducted towards long-term emotional development instead of short term. Utilizing a similar survey and adjusting questions to fit different age ranges, Montessori and conventional preschool students could take these surveys periodically from preschool to high school to see if the type of preschool education they choose has a long-term effect into adulthood. Finally, due to limitations in my research regarding small sample size because of my local lens and independent research, more precise results could be

concluded by conducting the same research with a larger sample size from a broader geographic range so the results would be applicable widely without generalization.

Final Thoughts

The research question, "How does Montessori preschool education impact short-term emotional development for children ages 3-5 in Washington state compared to conventional forms of education?" can be answered using the quantitative data gathered from my method. By seeing the disparity between Montessori emotional development averages and conventional preschool emotional development averages, the research question is answered with the data that Montessori education impacts short-term emotional development in a more beneficial way than conventional education. The wording "a more beneficial way" is utilized in this conclusion because based off of EDI coding, both types of education are on track, with Montessori educated students being seen as more so than conventionally educated students in this study. My hypothesis that Montessori preschool education will be more beneficial to short term emotional development than conventional forms of education because of the focus on independent growth and individualized learning, is correct, but too vague to fully encompass the nuances of this idea. While I identified the theme of independence/individualization in my hypothesis, I failed to consider the other aspects of Montessori education that could support emotional development, including community/environment, conflict resolution, and respect, as seen in the qualitative educator surveys. These findings are necessary to make the quantitative results applicable to a broader real-life context because they provide concrete aspects of Montessori education that support emotional development and could be utilized in conventional classrooms.

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