

The Long-Term Psychological Effects of Homeschool Versus Public School

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Long-Term Psychological Effects of Homeschooling

The way a child is educated is extremely important for their socioemotional development and subsequent well-being in adulthood. Research by Chatham-Carpenter (1994) showed that for many children, much of the socioemotional development occurs through social interactions with peers in the context of the public school system. With the recent rise in popularity of homeschooling over the past 30 years, as Basham's (2007) research indicates, and with more families currently opting for homeschooling during the Covid-19 pandemic due to safety concerns highlighted from Eggleston (2021), parents and educators may wonder if this type of education environment fosters provides the optimal conditions for social-emotional development and future well-being. According to Eggleston (2021), the rate of homeschoolers has increased almost 6 percent in comparison to those being registered in public school from the 2019-2020 school year and the 2020-2021 school year.

The research findings provided in this review will supply parents with information about how the public school system affects a child's socio-emotional development and how homeschool impacts a child in the long-term. This review could also potentially help the department of education in terms of understanding the methods by which children learn best and in what type of environments. The information provided might help change future curriculum or push schools towards making different atmospheres in the school. One of the goals might be to make public schools geared less towards same aged peer socialization and more towards building up children's interests and allowing them to express their individualism.

Research from the National Research Council and Institute of Medicine (2000) has shown that there are many negative mental health and behavioral impacts that tie into public school such as delinquency, poor academic performance, higher substance abuse rates, and

mental health issues. While there are several factors that can contribute to these statistics, a couple of the shortcomings of the public school system would be the ratio of student to teacher, the one-size-fits-all curriculum, and the expectation of constant peer socialization.

The reasons why parents do not homeschool, cannot be ignored either. If childcare, parental involvement, or money is an issue, they might become barriers for a parent who is looking to homeschool. These barriers associated with the ability to homeschool will be discussed later on when covering the disadvantages and there will be recommendations for how to work around financial issues in order to create the most ideal homeschooling experience for the whole family.

This literature review will prove beneficial to parents and caregivers that are interested in home education, teachers looking for new methods of education, and counselors that will work with members of the homeschool community. This review will provide information that compares traditional schooling with that of home education in aspects such as mental health, behavioral impacts, and long-term effects related to the form of schooling received as children. Defining homeschooling as well as providing a brief history about homeschooling in the United States will start the review. Topics that will follow will include the process of beginning homeschooling, the general rules and regulations.

From there child development will be touched upon briefly discussing the impact of play and school readiness. Topics such as peer pressure, bullying, socialization, substance abuse, and mental health issues will be discussed as well, while comparing statistics of public-school rates versus homeschool rates. The review will wrap up at the end with how long-term homeschooling has affected graduates going into adulthood with things like college and careers.

For the sake of time and specificity, there will be some concepts of homeschooling that will not be covered or will not be discussed in depth. Some of these might include curriculum and program choices, educational resources, the paperwork to begin homeschooling as well as specific reports for *high regulation* states, all the reasons for homeschooling, or the physical impact that education can have on a child.

Background of homeschooling

Home education has been used by caregivers since the dawn of time and many cultures still use this as their main educational system. According to Basham (2007) for hundreds of years leading up to the late 1800s parents oversaw their children's academics. The parents got to decide what their children learned, in what ways and at which times. Basham's (2007) research shows as well that during the 1960s and 1970s, many Christians chose the homeschooling path for religious reasons. In many countries around the world, the only form of education was that of home education, especially underdeveloped countries. According to Basham (2007) the United States officially legalized and accepted homeschooling as a form of education in 1993. It had been illegal for many years before that, and 3 of the 50 states in 1989 still considered homeschooling to be a crime.

The last 30 years has provided a fantastic foundation for current homeschoolers. Studies conducted throughout the late 80s and early 90s, such as Bliss (1989) provided in depth studies of the socialization children receive through both homeschool and public school. The findings from this study showed that 93% of the homeschool families interviewed, involved their children in upwards of three non-family groups, exposing them weekly to any of their 6-10 peers.

There are many methods of homeschooling that provide children with all the necessary skills they need to move forward in their life. Some of these styles of homeschooling align with

premade curricula, while other forms of homeschooling support approaches such as the Montessori technique. In accordance with Willcott's (1968) research of the American's reception of the methods used by Dr. Montessori, the technique showed education was received through individualized play with little to no structured discipline. In a homeschooling environment, a child will often show an interest in a particular subject, topic, or idea. The parent will then provide tools for the child about how to better learn about and expand on those interests.

Morrison (2016) explains that homeschooling can be just as formal as public school in the sense that some parents will choose to use materials that follow a set curriculum. This could mean that a child uses materials like textbooks and workbooks, a structured and or purchased curriculum, has created a designated space for learning, and has assignments to complete just as a teacher would assign homework.

According to Morrison (2016) parents describe *unschooling* as a form of living which supports learning through play and exploration. The best way to describe families that unschool is that in the end the goal would be to foster a love of learning and create an eager approach to obtaining new information. Homeschooling is about supporting a child's interest and helping them expand their horizons. Morrison (2016) also explains that some forms of unschooling also use the outdoors as their learning environment. This allows the children to explore nature, learn from their environment while also getting to have hands-on learning experiences on field trips.

There are many forms of homeschooling that parents can choose from and the path which is right for the family comes down to several factors. Religion, geographic location, personal preferences, children's learning approach and the regulations that states will hold the parent accountable for are some, to name a few.

Rules and Regulations

The process to begin homeschooling one's child is rather easy. It does however, differ from country to country and state to state. For sake of simplicity, this literature review will focus primarily on the United States. Basham (2007) highlights three important standards of regulation for the United States in regards to homeschool requirements. Each state has different rules and regulations of what constitutes homeschooling. The research conducted by Basham (2007) stated that there were 41 states that were considered low regulation states. This meant that parents did not need to report to the state about what they were teaching their children and in what ways. Although not peer-reviewed, the Home School Legal Defense Association (2021) provides the most updated research from collected information about regulations from all states. This site highlights that 28 states currently have no to low regulation requirements. The other 32 states have moderate to high regulation standards.

Basham (2007) defines the three regulations as low, moderate, and high regulations. Low regulations means that the parents do not have to report their child's education to the state. Moderate regulations require some involvement of the state such as reporting of any testings or evaluations completed in the school year that have been used to track the student's progress. High regulation states are on a different level completely. Basham (2007) explains that high regulation states require that the parents be certified as a teacher of some sorts or meet criteria that enables them to be qualified enough to teach. The high regulation also requires parents to follow all the same laws as the public school meaning, maintaining attendance, use approved curriculums, administer standardized tests, and also require the parent to yearly submit intent to homeschool.

Home education is not to be used as a way of not educating a child, but instead a way to make a child more comfortable in their environment. Regulations are in place mainly for the purpose of keeping track of the child's progress in school. Aside from that, if followed appropriately, they also help the schools in case of future enrollment of previously homeschooled children. Without following these protocols, the department of education will decide that the education of the child is not being taken seriously and will begin to take legal actions against the parents for negligence.

Parental choices to home educate

There are a plethora of reasons that a parent would decide to take their child out of the public school system. According to Montes (2006), some of the immediate reasons would be differences in religion, concerns about the safety, overcrowding, contrasting views about discipline, providing a better learning environment for special needs children, avoidance of negative peer pressure, the ability to devote more time to develop a child's talents and or interests, and lastly, beliefs that school curricula are ineffective and or irrelevant. Due to the variety of reasons behind wanting to homeschool, every individual's homeschool journey will differ. Some parents choose to homeschool one child and send the other to a brick and mortar. These are all decisions that need to be made by the individual family.

Montes (2006) conducted a qualitative study that was administered through a series of questionnaires given to parents across the nation. These surveys asked about early childhood education and participation, adult education and learning, school readiness, school safety, adult and youth civic involvement, and extracurricular activities. This research concluded that many parents felt that homeschooling their younger children was better to develop their personality, their sense of morality, and create a strong sense of character. This information gathered showed

that statistically that younger children, specifically in the Kindergarten through third grade level, were three times as likely to be homeschooled as opposed to older students.

In addition, Redford et al. (2017), conducted a qualitative study which was a residential, address-based sample survey covering the 50 states and the District of Columbia. The census of 2012 collected data from students ages 20 and under that were enrolled in school or had an educational equivalent such as homeschool. Two questionnaires were released to gather academic information from enrolled students and homeschool families. Out of the 17,563 students, approximately 900 of them were reported homeschoolers. The survey that was geared towards homeschoolers asked about information such as the student's experiences of homeschooling and the reasons why parents chose to homeschool. This questionnaire showed that one of the main reasons parents choose home education was that of safety. Redford et al. (2017) concluded that many of the safety concerns parents had were related to behavioral issues such as the introduction to drugs, early sexual activity, and or negative peer pressure.

The next largest reason selected by homeschool parents was that they wanted to provide more religious instruction in their child's education. This can be seen in survey results such as Montes (2006) and Redford et al. (2017). According to Basham (2007), christianity had been the primary religion for a long time that chose to homeschool for religious reasons. Over the past three decades, more people from different religions like Muslim, Judaism, Buddhism and other spiritual paths, have chosen to educate their children at home as to include more in-depth relationships between education and their beliefs.

The most effective ways a child develops

Many studies have been conducted that discuss the ways that children best learn and develop. According to Morrison (2016) the concept of free play and children learning through

play are related to the Montessori and Reggio Emilio approaches of free-schooling. The Montessori approach is defined by Chattin-McNichols (1981) as a child-led environment where the curriculum serves as a guide to foster independence, citizenship, and accountability. Reggio Emilio's approach as explained by Morrison (2016) suggests that there is no curriculum in this form of education but instead puts emphasis on the artistic and creative solutions to everyday problems that children might encounter. Both forms of education however, put an emphasis on using a child's senses and interests to move forward with academia.

According to Hoskins and Smedley (2019), play is an essential part of a child's cognitive, social, and emotional development. Their research was conducted based on the Froebelian theory of development. Hoskins and Smedley (2019) defined Froebel's theory as the belief that play in a self-directed manner, was an expression of the child's imagination, creativity and understanding of the world around them. Froebel was in fact the founder of kindergarten which was not meant for school readiness preparation, but instead it was meant to observe children's natural curiosities and expand their responsibilities through the interaction with a communal garden. Followers of the Froebelian theory believe that the first few years of a child's life should be spent playing, exploring, and socializing.

Not many public schools take this approach to education however. According to Finn Jr. et al. (2001) public school systems are required to hold certain standards and achieve specific results. While each state makes its own standards for the most part, there are general requirements. Finn Jr. et al. (2001) explained that many states however, had similar standards for english and math, that became what is known as the Common Core Curriculum which is federally regulated. Due to the fact that public schools need to produce certain requirements, curriculums are formed so that all children learn the same material, in the given amount of time,

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without wasting limited resources. A general curriculum also has little to no wiggle room. That means that all children are required to learn a certain number of things by a certain age.

According to Smith and Glass (2019), in the year 2000, standards had been formed to make sure that children were prepared to start school by the age of kindergarten. School readiness is defined by factors such as health, socio-emotional well-being, learning approaches, language skills, cognition and general knowledge of literacy. Their review suggested that early education and exposure to formal settings made kindergarten transitions easier on those who entered into the public school system. No data has been empirically tested to see about homeschooled children's reactions to early education exposure.

Homeschooling gives children more choices about what kind of classes they want to take and expand on. For example, an English requirement could be fulfilled by anything related to literature such as creative writing, comprehensive literature, children's literature, or maybe public speaking. Creative classes can help students find the way that they best learn. For example, if a child is having trouble sitting still in class because the class is focused on reading through textbooks, perhaps they would be better in an auto shop class or woodworking. These are stimulating courses that give hands-on learning. These could help create interests, hobbies, and outlets for students as well. A child who might not be doing great in math class, might end up being good in a pottery class or creative writing. One person cannot be perfect in every subject. There will be classes that they can't understand while others they switch like a light! Homeschooling is all about sparking an interest and taking time to work with a child, which happens to be the best way to develop a child's positive mental health. These activities and creative classes can help spark those interests.

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Rothermel (2004), conducted a study using the Performance Indicators in Primary Schools assessment to determine the differences in learning experiences of younger children. During this study, 35 students from home education backgrounds were provided the PIPS assessment. The results showed that the home educated children ages four to five, ranked higher than their traditional school counterparts. The belief behind the results was that the home educated students had a more flexible approach and a high level of parental interaction to their academics as opposed to their public schooled counterparts.

Socio-Emotional Mental Health

One of the major impacts during a child's life is their self-esteem. As defined by American Psychological Association (2020), self-esteem is the view a person has of their accomplishments, capabilities, values, and their perception of their successes. A person's self esteem might also rely upon the ways in which others view and respond to that person. Self-esteem can be related to a person's confidence levels and their abilities to accomplish tasks. The definition from the American Psychological Association (2020) explains that poor self-esteem can put anyone at risk of developing mental health disorders. Two of the most common disorders are anxiety and depression. According to the National Institute of Mental Health (2018) almost half of all mental health illnesses begin in early adolescence and increase by 25% by mid 20s.

Drenovsky and Cohen conducted a research study in 2012 that measured the self-esteem and depression levels as well as compared academic success rates between homeschool and public schooled children. Their results showed that there were no differences that could be seen in the self-esteem aspects between the educations but there was a lower depression rate in the

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homeschooled children. As for the academic successes, it was shown that the homeschooled students ranked higher with their GPAs and had a generally more positive experience with academia.

Gutterman and Neuman (2017) took a look at the emotional and behavioral problems, depression, and attachment securities in both home educated children and those who had formal public school. The results of this study proved that homeschooled children showed lower levels of depression, and that there was no difference in the attachment security. In terms of the emotional and behavioral problems, public schooled children found to have more externalization problems, but both homeschooled and public schooled children had similar internalization problems.

On a different note, but still related to socioemotional needs, Riley (2015) created a study that was based on two theories of *intrinsic motivation*. As defined by the American Psychology Association (2020) this is when someone wants to participate in an activity due to pure interest or desire instead of based solely on a reward for doing the task. The Cognitive Evaluation Theory coined by Ryan and Deci is designed to identify what social and environmental factors facilitate intrinsic motivation. Riley's study was to find out if there was a difference between the competence, autonomy, and relatedness needs of homeschooled young adults in comparison to those who had been educated traditionally. The research was quantitative in that 100 people participated in the study, 58 being home educated, one had no education reported, and the other 41 being public schooled. The data was collected through the use of the Basic Psychological Needs Scale. The results showed that homeschooled individuals showed higher rates of competency and autonomy satisfaction levels while there was no statistical difference about the relatedness satisfaction between the two groups.

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There is a lack of quantitative data for the mental health risks of homeschool. While there is a large amount of studies that include qualitative data gathered through surveys and questionnaires, much of that information can be interpreted differently if there are biases within the research team. It is important that more research be conducted on long term mental health impacts and it is possible that with the growing popularity of this educational movement, more homeschoolers will be inclined to share their experiences. Depression and anxiety are often tested, however homeschoolers are not specifically targeted in most of the research.

Behavioral Health Impacts

Behaviors are defined as a person's reaction or way that a person responds to different stimuli. These are different from socioemotional health, yet are often impacted by them. Some major behavioral problems are caused by peer pressure such as substance use/abuse, risky sexual engagement leading to teenage pregnancy, early crime involvement resulting in delinquency, and in some cases aggressive behaviors.

The safety of the child is one of the major reasons that parents choose to homeschool. Keeping their children away from delinquent behaviors is top of their list. Homeschool appears to provide that safe environment that parents are looking for based on the results of a study conducted in 2015 by Vaugh et al.. This study was to determine the access to, the exposure to as well as the attitude students had to drugs, alcohol, or other illicit drugs. The findings were interesting to say the least.

In the 2015 study Vaugh et al. conducted, homeschooled adolescents showed disapproving attitudes towards peer drinking and usage of marijuana. With the results pointing towards the disapproval of substance use, it is no surprise that homeschoolers also reported less cases of using tobacco, alcohol, marijuana, and other illicit drugs. Homeschoolers had less cases

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of substance abuse and addiction disorders and they also explained that they had smaller chances of exposure or access to drugs. Public schooled teenagers showed higher rates for all of the above surveys. This aligned with the cross-sectional, explanatory study mentioned by Ray (2017) that was conducted in 2016 by Thomson and Jang which had more results that homeschoolers ages 13-17 were less likely to engage in underage drinking.

Larry E. Shyers did a cross-sectional, explanatory, matched-pair study in 1992, and discovered that homeschooled students in the age group of 8-10 have fewer behavioral problems such as passive or aggressive assertion during social interaction. This study however also tested a hypothesis about self-concept and how it related to the social anxiety a child in the 3rd grade range might experience. The findings of this study yielded no significant statistical differential.

Rates of delinquency have a lot to do with the environment that a child is exposed to according to the National Research Council and Institute of Medicine (2000). One of the biggest factors that contribute to the juvenile delinquency rates is the academic performance of the students. According to the findings of the National Research Council and Institute of Medicine (2000), factors such as academic deficits, truancy, and leaving school at a young age all contribute to the delinquency of the younger generation. Their research found that academic deficits such as reading or oral skills can be linked to peer victimization. These students that fall behind can often be mislabelled as failures and begin to look for outlets such as drug use, aggression, or criminal behaviors. The academic failures lead to a student's lack of interest in the learning process and falters their commitment to continued formal schooling.

The National Research Council and Institute of Medicine (2000), gathered information from multiple studies for a meta-analysis, that suggested that the severity of school failure may impact the level of delinquent behavior. It is believed that the more violent, aggressive, or serious

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a delinquent is, the higher chances the child would have with having school performance issues.

The study continues from the foundation of delinquency to the results of peer association.

Delinquents that are associated with like-minded peers will oftentimes continue in the deviant pathway or perhaps move onto more serious crimes in search of attention.

The link between interaction and socialization has been looked at as a source of delinquency. There are a number of factors that have proven to be hard to control, such as home life, academic expectations, and the homeschooling equivalences of the delinquencies, leading to inconsistencies in the data collected. Much of the data seen however, does infer that socialization has much to do with the amount of juvenile behavior being seen.

Socialization

As discussed by Medlin (2013), socialization has been a concept that most worries many people from outside the homeschool communities. Public schools are places that are designed to socialize children consistently. This could be through class participation, recess, lunch, study halls, extracurricular clubs, and sports. Public schools are highly populated so no matter where someone looks there are more people. In a homeschool environment, the children are most often exposed to those who are in the home.

Homeschooling has grown in popularity leading more people to band together to create a positive community. One thing that has come about in recent years are co-ops that are available that allow homeschooled students to learn together. According to Basham (2007) events such as field trips, dances, parties and extracurriculars that the children can get involved in such as sports teams, varieties of clubs, playground hang outs, all contribute to a homeschooler's socialization exposure. Aside from the events specific to homeschoolers, many school districts will allow

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homeschool students to participate in some extracurricular programs hosted through the public school.

A quantitative study conducted by Chatham-Carpenter (1994) questioned the socialization of homeschooled children in comparison to that of their public school peers. This research wanted to see if the socialization received by the homeschoolers matched or exceeded or significantly fell behind that of public school children. The results were primarily based on the parents' estimation for their children's interactions. However, there were a series of 3 separate tests that were taken.

The first test conducted by Chatham-Carpenter (1994) was to determine how many people each of the students came in contact with within a month, along with the range of different ages of the contacts. The results of this first test determined that homeschooled children had a larger variety of ages while public schoolers had more peer aged contacts. However, there wasn't a large difference in the quantity of contacts made between public school children and homeschooled children. The second test was to determine the frequency of which the contacts were interacted with. With monthly and less than monthly contact, homeschoolers had higher statistics while daily interaction with contacts was higher in public schooled children. The last test was to determine the rate of intimacy or closeness with the contacts they each had. Public school students had significantly more intimate relationships with their contacts most likely due to the daily interaction with them.

Earlier mention of the quantitative study conducted by Bliss (1989) provided a base for more expansion. This study was conducted through parental reports and general record keeping from the children. Questionnaires were the primary source of reception of information and they were sent out to approximately 200 home educating families. Questionnaires covered several

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topics including socialization. The results for that showed that social interaction with their children was regular with all different demographics not specific to one group of people.

Basham (2007) also discusses the usage of technology by homeschoolers and public schoolers. The national average in that decade was that a public schooled child might spend up to 3 hours in front of technology while a homeschooled child might spend 1.6 hours in front of a screen. This electronic interaction can interfere with social skills and times available for socializing. This article also provided results from Smedley's (1992) personal interaction and communications research. Smedley's research showed data that homeschooled students end up becoming more mature and better socialized as adults as opposed to the students who had attended traditional schooling.

Medlin (2013) continues on to highlight several other studies about socialization in his own review of research dating back 20 years. Many of the studies conducted on children's social skills used the Social Skills Rating System which was founded by Gresham & Elliott in 1990. This system measured children's social skills through two surveys, one given to the parent and the other to the child. Both of these surveys were set up to have each person rate the child's cooperation, assertion, responsibility, self-control, empathy, and problem behaviors. The control for this system is approximately 4,000 students that have been attending public schools.

The results following the studies that used the Social Skills Rating System had no statistically significant difference between the social skills of homeschooled and public schooled children. In some cases, elementary homeschooled children had higher volumes of empathy than those in the public system. Based on the results, it is fair to say that children who are homeschooled are not affected by limited socializing capabilities and they are very much similar to their public schooled peers.

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Long-Term Higher Education Outcome

Homeschool prepares students for a kind of thinking that allows them to use outside the box thinking and problem-solving skills. Homeschooling allows parents to teach their children real world skills, determination, confidence, and problem-solving skills. The wonder of homeschool provides children with the skills they need to figure out any problem. Parents have the opportunity to teach their children the process of *how* to find answers instead of making them memorize a set list of required information. Ray (2017) found through review of sixteen other studies, that homeschooled children attend and succeed in college at an equal to or higher rate than those who attend from public or private schools.

According to Saunders (2009), there was a qualitative study conducted to determine the social experiences and persistence rates of students entering into their freshman year of high school. The data collected was from surveys taken directly from homeschooled freshmen and public-schooled freshmen. The results were then compared. Students who had previously been homeschooled for upwards of 10 to 12 years of their previous academics showed lower depression rates, higher satisfaction with their college experience, along with a subsequent institutional commitment as opposed to their public schooled peers.

According to Ray (2015) he had conducted a quantitative, exploratory, cross-sectional, and explanatory non-experimental study, to determine the success rates of black homeschooled children in the grade levels between fourth and eighth, versus their public-school counterparts. During this study, children from both educational backgrounds were given standardized tests (ITBS: Iowa Test of Basic Skills) that were to be examined. The findings of the test results determined that the homeschooled children outperformed the public schooled children in almost

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every subject. Furthermore, the ITBS test results provided data that showed the black homeschool children scored the same or higher than all races/ethnicities in the general school-age public.

There are many conflicting studies about the success rates of homeschooled children versus public schooled when introduced to college life. For example, there was a study conducted in 2007 by Qaqish that compared the scores of both education forms in the ACT mathematics testing. The test was meant to determine the capability of the children in solving equations for a range of mathematics such as pre-algebra, elementary algebra, intermediate algebra, coordinate geometry, plane geometry, and trigonometry. The results showed that students that had prior home education performed less efficiently than those with public or private school backgrounds. These results however, were not able to be finite because there might have been differences in the way that the math has been taught. It is also believed that there could have been a difference in the results due to the number of years homeschooled before the exam, or not enough exposure to similar standardized tests.

A multiple regression analysis conducted by Cogan in 2010 discovered that homeschoolers that entered into college achieved higher first and fourth year GPAs. This study was conducted by controlling factors such as demographics, previous college experience, engagement, and first-term academic curricula. The evidence collected was through observations and comparisons of ACT scores, GPAs and final graduations statistics. The final qualitative results hailed no differences between the types of previous educational experience when looking at the fall to fall retention and fourth-year graduation rates.

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Though yet again, another study conducted in 2016 by Yu, Sackett, and Kuncel got different results using a cross-sectional, explanatory, and matched-sample study design in order to determine the first year GPA and retention rates during college. In their study, 140 colleges were analyzed and 732 students from public education backgrounds were selected to match the 732 homeschooled students available for the research. Students were selected based on their enrolled institution to make the results as accurate as possible. These students were matched by four demographic variables, High School grade point averages and their final SAT scores. What the results yielded was that both previously homeschooled and those with other traditional schooling shared similar results to the point no statistically differences were seen. See table one at the end of the paper that is a comprehensive list of studies about the college success rates comparing each form of school academia. The previously mentioned studies are included as well as others.

Long-term Career Outcomes

There has not been enough empirical evidence collected to support long term career outcomes. Generally speaking, there have been many people throughout history that have shown their successfulness thanks to their home education. The data that has been able to be collected however, shows positive results for adulthood. According to Ray's (2017) meta-analysis, out of the research he reviewed approximately 69% of the peer-reviewed studies that looked into the success of adults after being homeschooled, showed adults were highly successful and performed statistically significantly better than those who attended public or private schools.

Ray (2017) also highlighted that adults that were always homeschooled throughout their childhood participated in community services, attended more public meetings, and registered to

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vote for not only the federal levels but the local levels as well. Part of his research as well was to understand the psychological impacts of homeschool in the later adult stage of life. One result was found that homeschooled adults tended to internalize the values and beliefs of their parents that were instilled upon them at a young age, much more than children from other educational backgrounds.

According to Basham (2007), research conducted in 1991 had shown no adulthood disadvantages. The participants he got his data from were all working class citizens who were almost always meeting their age appropriate goals and set life stages. There has not been enough empirical research conducted in more recent times to confirm the findings from this historical study. It has been found through Basham (2007) amongst other research included, that those who had received home education had a higher self-esteem, less peer dependency, a friendlier outlook, and all around had become generally more well adjusted, socially and emotionally.

Medlin's (2013) review provided no empirical statistics showing that adults who were home educated are no different than their publicly educated counterparts when it comes to interaction within their communities and their civic duties. There is not enough data that has been collected in the past 30 years that provide concrete evidence of homeschoolers successes in later adulthood. While there are some, much of the information is qualitative and regards those entering college or further education. Career outcomes have not been thoroughly researched qualitatively.

Conclusion

This literature review served to create a basic understanding of the long term psychological impacts of homeschooling versus public schooling. There were other aspects covered during this review such as the behavioral impacts of children in traditional school versus

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the home atmosphere and some early childhood education. Several empirical studies had been mentioned about the positives and negatives of different aspects of the homeschool movement. Findings showed that in most cases homeschooled children received higher marks on standardized tests (Snyder, 2013), achieved higher GPAs in high school and college (Snyder, 2013), and were more politically adjusted to many social interactions (Cheng, 2014).

Some major qualitative studies such as those conducted by Drenovsky and Cohen (2012) and White et al. (2007) include data that highlights that homeschooled children have lower rates of depression and anxiety, allowing them to adjust and adapt to their schooling surroundings more adequately. Delinquency rates have also been proven by the National Research Council and Institute of Medicine (2000) to be lower amongst homeschooled children including exposure to substances and aggressive behaviors. Overall, homeschooling can be extremely beneficial to children through the stages of their development leading into early adulthood.

Due to the lack of qualitative research available in regards to the homeschool community, more studies should be conducted. Some recommendations on what information to follow up on would be topics such as the depression and anxiety levels of current homeschoolers and adults who had previously been homeschooled; expansion on the rates of academic success in regards to homeschool versus public school; developmental differences of homeschooled versus public schooled children; the benefits to a free-play approach to early childhood education; and lastly, career success rates of previously homeschooled adults

In order to receive accurate results, many of these studies would need to be conducted over a series of years. Several factors would need to be controlled during the studies such as home environment, curriculums, length of program, or any exposure to early childhood education (such as preschool). In order to measure these studies properly, groups would need to

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be arranged by gender, age, disability and type of education being received. This would allow there to be more accurate results without hidden variables.

Perhaps, a hypothesis like public school curriculums lead to higher academic achievement as opposed to homeschool curriculums, might be tested. This allows specific measurements to be taken by means of separation. Results could be measured through standardized tests or other forms of examination. The test would be a blind study so that there would be no bias, meaning that the person who were to grade the tests would have no concept of which student completed which test.

Yearly census provides statistics about how many homeschooled students are in America. If researchers could reach out to a large quantity of families to involve in observation, there might be a higher success rate in these studies. In years to come, the popularity in homeschooling might eventually lead to more qualitative studies.

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Table Figure 1

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Study (Author/Year)	Design	Subjects' grade levels or ages	Background variables controlled?	Findings
Almasoud and Fowler (2016)	Cross-sectional, explanatory; matched sample	College, ages 17–28	Yes	College final GPA higher for HS, effect size 0.62
Yu et al. (2016)	Cross-sectional, explanatory, matched sample	College	Yes	No difference first-year GPA & retention
Wilkins, Wade, Sonnert, and Sadler (2015)	Cross-sectional, explanatory	College	Yes	Calculus course grade higher for HS
Cheng (2014)	Cross-sectional, explanatory	College	Yes	HS more politically tolerant than Public; HS no different from Private
Snyder (2013)	Cross-sectional, descriptive	College	No	SAT & ACT scores & GPA higher for HS compared to Public & Catholic school
Drenovsky and Cohen (2012)	Cross-sectional, descriptive	College	No	Less depression, more positive college experience, & higher GPA for HS; no difference in self-esteem
Cogan (2010)	Cross-sectional, explanatory	College	Yes	Higher first- and fourth-year GPAs for HS; no difference in fall-to-fall retention & four-year graduation rates
Jones (2010)	Cross-sectional, descriptive	College	No	No differences in college entrance exam scores, GPA, & activities involvement
White, Moore, and Squires (2009)	Cross-sectional, descriptive	College	No	HS more agreeable, conscientious & open than Conventional; no difference in extraversion & neuroticism
Uecker (2008)	Cross-sectional, explanatory	Ages 13–17	Yes	Involvement in religious community & Private religiosity higher for HS
Qaqish (2007)	Cross-sectional, explanatory	College-bound	Yes	ACT math scores higher for Conventional
White et al. (2007)	Cross-sectional, explanatory	College	Yes	In college adjustment measures, HS less anxious than Conventional; no differences other 8 measures
Jones and Gloeckner (2004)	Cross-sectional, explanatory, match-sample	College	Yes	No differences in ACT scores, first-year GPA, retention, & first-year credit earned
Ray (2004)	Cross-sectional, descriptive	Ages 16–69	No	Various variables (e.g., civic involvement, life satisfaction) more positive for HS
Sutton and Galloway (2000)	Cross-sectional, explanatory	College	Yes	More positions of leadership for HS; no difference in GPA
Oliveira, Watson, and Sutton (1994)	Cross-sectional, descriptive	College	No	No differences in critical thinking skills