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The effects of childhood poverty on adult health outcomes

Abstract

This paper is a review of the literature regarding the effects of childhood pove1ty on adult health, employment, and socioeconomic status. Children who grow up in lower socioeconomic homes often have fewer advantages available to them including level and quality of education, quality health care, and family support. Growing up with these disadvantages impacts in adult health outcomes, adult employment and earnings, and adult socioeconomic status. There are many direct and indirect associations between childhood poverty and adult outcomes.

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THE EFFECTS OF CHILDHOOD POVERTY ON ADULT HEALTH OUTCOMES

Ву

Melissa Meyer

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Abstract

This paper is a review of the literature regarding the effects of childhood poverty on adult health, employment, and socioeconomic status. Children who grow up in lower socioeconomic homes often have fewer advantages available to them including level and quality of education, quality health care, and family support. Growing up with these disadvantages impacts in adult health outcomes, adult employment and earnings, and adult socioeconomic status. There are many direct and indirect associations between childhood poverty and adult outcomes.

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Introduction

Poverty has been around since the beginning of time, in one form or another. Today poverty affects nearly every nation and community. Poverty is defined as less than enough income to provide basic needs (Hill & Sandfort, 1995). The World Health Organization explains that poverty exists on a relative scale (Poverty, n.d.). A great deal of research has been done regarding children in poverty – their physical and mental health, education, and environment. It is important to pay attention to the effects of poverty on children, but it is of even greater importance to understand how these effects will impact their entire tives, the lives of their children, and society as a whole. This paper examines poverty in the developed world, specifically looking at the effects of poverty in the United States.

When individuals are born into poverty they may be deprived of essential nutrients which may stunt their physical and mental growth and increase their susceptibility to disease. One reason they may be in poverty is because their parents lack education; if this is the case it is possible their parents cannot fully prepare them for kindergarten, help them with homework, or encourage them to attend and graduate from high school or college. If these individuals do not graduate from high school then their lifetime economic opportunities are severely limited. Finally, if these same individuals have children while working manual/ unskilled jobs, they may be thrown back into poverty. Payne (2005) quoted an individual who grew up in extreme poverty, "Growing up in poverty is like growing up in a foreign country. No one explains to you what you do know, what you do not know, or what you could know" (p. 15). For example, if someone grew up in a poor area it is very possible they did not know anyone who went to college; therefore, they

might not see it is an option. Without a college education they are likely to remain in poverty. This cycle of poverty has implications for future generations; it also has implications for society as a whole.

As the cycle of poverty continues, society will need to continue to support those individuals who are unable to support themselves and their families. Society will support those individuals, their children, their grandchildren, their great-grandchildren, and so forth until someone finds a solution. When these individuals fall ill because of environmental factors, society pays for medical care; when they get caught selling drugs because they are unable to feed their children, society pays for prison; when they need public assistance to pay their bills because their job does not pay enough, society pays for that too. Society as a whole would be healthier if poverty were climinated.

Looking at the social determinants of health, one may see how society would be healthier if poverty were eradicated. Social determinants of health are the conditions in which people are born and live throughout their lifetime – influenced by class, resources, and power (Progress on the implementation of the Rio Political Declaration, n.d.). For example, individuals who are born into poor families will likely live in the most inexpensive housing available which may be surrounded by violence, pollution, or lead paint – all of which may lead to poor health. Other possible social determinants of health for people in poverty might include; poor nutrition, domestic abuse, or lack access to medical care. If poverty were eliminated and people were able to avoid the social determinants of health related to poverty, society as a whole would be much healthier.

The purpose of this paper is to compare the health outcomes of adults who grew up in poverty with those who grew up above the poverty line. The 2014 poverty guidelines as defined by the U.S. Department of Health and Human Services is \$11,670 annual income for an individual or a \$23,850 annual income for a family of four (Sebelius, 2014). It is important to understand this issue completely before making new policies or programs or working with impoverished individuals.

Methodology

Recent literature from several disciplines was compiled in order to create a literature review addressing lifelong social determinants of health. Ultimately, fifteen academic articles were reviewed; one was published in 1995 and the remainder were published between 2000 and 2013 which allowed for a recent and comprehensive view of the issue. The articles selected for this literature review were chosen because of their methodological differences; seven of the studies were longitudinal in nature which captures the most accurate data of the lifelong effects of poverty, five were literature reviews themselves which multiplies the data included in this paper, two were retrospective recall survey studies which depended on the respondents' memories, and one article was written based on survey and census data. These methodologically diverse articles allowed for a well-rounded data review.

Literature Review

While the purpose of this paper is to compare the health outcomes of adults who grew up in poverty with those who grew up above the poverty line, several of the articles reviewed included other related topics which will be briefly touched on throughout this paper. When looking at the effects of childhood poverty on adults it is important to start with understanding its effects on children. This will help create a foundation of understanding regarding the possibility of the effects of poverty lasting into adulthood.

Chen, Matthews, & Boyce (2002) found that poverty has a negative effect on children's health. The poverty rate in 2012 for children under age 18 was 21.8 percent, while the overall official poverty rate was 15.0 percent (United States Census Bureau, 2012). There is a higher percentage of children than adults living in poverty in the United States. One way of evaluating poverty is to assess one's socioeconomic status (SES). Chen, Matthews, & Boyce (2002) identified SES as "an individual's position within a social system or hierarchy" (p. 300). Their research shows the most common measures of SES are: parent income, education, occupation, car ownership, house crowding, and welfare status (Chen, Matthews, & Boyce, 2002). Their research identifies four main areas in which children are affected by poverty: physical health, and educational, mental health/behavioral and social outcomes.

Children's Physical Health Outcomes

Poor children are more likely to encounter negative health outcomes than their non-poor peers. For example, it appears that severe asthma rates are higher for lower SES children than other children throughout childhood and adolescence (Chen, Matthews, & Boyce,

2002). Lower SES children also have a higher rate of injury than other children, and a higher rate of childhood mortality (death rate) due to injury (Chen, Matthews, & Boyce, 2002). Lower average neighborhood income and greater crowding in the house are associated with higher rates of vision and hearing disorders (Chen, Matthews, & Boyce, 2002). Low SES children also have higher rates of rheumatic fever, meningitis, and parasitic diseases (Chen, Matthews, & Boyce, 2002).

One contributor to health examined by many of the articles is that of learned behaviors (i.e., smoking, nutrition, and activity level). Children are influenced by their parent's behaviors (Mäkinen, Laaksonen, Lahelma, & Rahkonen, 2006). Lower SES children younger than 12 years of age are 1.4 to 2.5 times more likely to smoke or be exposed to smoke than their peers (Chen, Matthews, & Boyce, 2002). For the range of youth aged 12 years and older, lower SES children are 1.6 to 4.5 times more likely to smoke themselves (Chen, Matthews, & Boyce, 2002). According to the Centers for Disease Control and Prevention (2014), 27.9 percent of American adults living in poverty are smokers while only 17 percent of adults above the poverty line smoke. When these statistics are broken down by education levels, the difference is remarkable. The categories and percentages of the population who are smokers are as follows: adults with 12 or fewer years of school (no diploma) – 24.7 percent smoke, adults with a GED diploma – 41.9 percent smoke, adults with a high school diploma - 23.1 percent smoke, adults with an undergraduate college degree 9.1 percent smoke, and adults with a postgraduate college degree – 5.9 percent smoke. (See Appendix A for more demographic information about smokers in the United States.)

"Lower SES women are more likely to smoke during pregnancy...[which] has been associated with higher infant mortality rates, lower birth weight, and slower growth in early childhood" (Chen, Matthews, & Boyce, 2002, p. 317). This may cause low SES children to start life with poorer health (Duncan, Ziol-Guest, & Kalil, 2010), and studies have shown that mediators in childhood may either improve or worsen health (Chen, Matthews, & Boyce, 2002). These mediators consist of the following areas: emotional (hostility and depression), attitudes (control and optimism), cognitive (information processing), social relationships (family and peer), and environmental (housing, neighborhood, child care, and stressful events) (Chen, Matthews, & Boyce, 2002), Hostility and depression are associated with cardio heart disease, asthma, ulcers, stroke, and premature mortality (Chen, Matthews, & Boyce, 2002; Harper, Lynch, Hsu, Everson, Hillemeier, Raghunathan,...& Kaplan, 2002). Loss of control may negatively affect physical and mental health; while higher levels of optimism are related to fewer incidence of cardio heart disease (Chen, Matthews, & Boyce, 2002). Cognitive ability may influence the decisions a person makes which may affect their health. Family and peers may be positive or negative influences and contributors to health. Environment can influence health through pollution, level of violence in neighborhood, living in close proximity with others increases spread of illnesses which could happen in a housing situation or childcare, lead paint in older houses can cause lead poisoning, and elevated levels of stress due to life events is associated with negative health outcomes.

Low income is also related to food insecurity which is associated with obesity at all ages (Duncan, Ziol-Guest, & Kalil, 2010). Poor nutrition during pregnancy may cause the fetus to be undernourished which is associated with low birth weight and slow growth in

the first two years (Duncan, Ziol-Guest, & Kalil,, 2010). Additionally, lower SES children are more likely to live in low cost, older houses which contain lead paint and have higher blood lead levels than higher SES children (Chen, Matthews, & Boyce, 2002). Even with all of these negative health outcomes, poor children are less likely to receive medical care, receive poorer quality of care, or receive delayed medical care (Chen, Matthews, & Boyce, 2002). These types of medical care may lead to a more severe medical situation (Chen, Matthews, & Boyce, 2002). For example, if cancer went undetected for a significant amount of time, it would be more difficult to treat once it was discovered. Furthermore, lower SES children have been shown to comply with treatment or medical guidance less often (Chen, Matthews, & Boyce, 2002). Ultimately, children in lower SES households are more likely than their higher income peers to die from conditions such as asthma, pneumonia, other respiratory disorders, influenza, cancers, congenital anomalies (birth defects), and heart disease than their peers. These higher rates of illness affect the education of lower SES children. They miss more days of school than other students as a result of upper respiratory or ear infections (Chen, Matthews, & Boyce, 2002).

Children's Educational Outcomes

Lower SES children are less successful in school (Duncan, Ziol-Guest, & Kalil, 2010;), they are more likely to fail tests, fail courses, and drop out of school compared to higher SES children (Chen, Matthews, & Boyce, 2002; Hill & Sandfort, 1995). Poorer school achievement is also associated with poorer perceived physical health (Chen, Matthews, & Boyce, 2002). Poor circumstances early in life may create disparities in school readiness and academic achievement that could continue or widen throughout childhood (Duncan,

Ziol-Guest, & Kalil, 2010; Hill & Sandfort, 1995). Duncan, Ziol-Guest, & Kalil (2010) argue that a parent's ability to purchase books, toys, and enriching activities during early development is vital in preparing children for success in school. The authors also argue that parent's cognitive ability allows for a better learning environment for their children no matter how much or how little they spend on books, toys, and enriching activities. The first argument suggests that buying books and other educational materials will help prepare children for school while the second argument suggests that does not matter – it is the parent's cognitive ability that is important.

Children's Mental Health/Behavioral Outcomes

Because of the hardships lower SES children face, it is no wonder they experience higher levels of depression than their peers (Chen, Matthews, & Boyce, 2002). Lower SES children are more likely to perceive hostile intent and anger during confusing social situations (Chen, Matthews, & Boyce, 2002). It is likely that home life is more difficult for lower SES children than for their peers. Lower SES children are more likely to face domestic conflict to a higher degree, and to have fewer positive interactions with family (Hill & Sandfort 1995), and either over-regulation or under-regulation of their environment (Chen, Matthews, & Boyce, 2002). Examples of over-regulation of one's environment might be a parent or guardian micromanaging their child's life, demanding perfect grades, or demanding perfection in other areas of their child's life (i.e. cleanliness or manners). Under-regulation of one's environment may consist of a parent or guardian showing little or no concern about the child or their welfare. Over-regulation and under-regulation can be stressful. Stress affects people of all ages – including children. Stress is linked to health problems such as susceptibility to infection (Chen, Matthews, & Boyce,

2002) and could have adverse effects on future health (Duncan, Ziol-Guest, & Kalil, 2010). Poverty and its related stressors have the potential to influence the neurobiology of the developing child (Duncan, Ziol-Guest, & Kalil, 2010; Kim, Evans, Angstadt, Ho, Sripada, Swain...& Phan, 2013). This means their brains can physically change (for example, new pathways or decreased capacity) because of the stressors of poverty. Kim et al. (2013) use the term "chronic stress" to describe exposure to stressors over a long period of time; chronic stress has long-term negative effects on stress regulatory systems. These stress regulatory systems include brain structures such as the amygdala and prefrontal cortex which are used in stress and emotion regulation (Kim et al., 2013). Similarly, mother-child interactions are significant in the development of young children's emotion regulation, which may have an impact on achievement, behavior, and health (Duncan, Ziol-Guest, & Kalil, 2010). Evans & Schamberg (2009) used the term "allostatic load" to discuss the physical effect chronic stress has on the body. The longer a child is in poverty, the higher the allostatic load, and the poorer the working memory when the child becomes a young adult (Evans & Schamberg, 2009).

Children's Social Outcomes

Low SES children begin more social exchanges than their peers (Chen, Matthews, & Boyce, 2002). Additionally, low SES children are more often drawn to peer relationships and are vulnerable to peer influence (Chen, Matthews, & Boyce, 2002). These peer relationships are being built outside the home which can be problematic because low SES children are more likely to live in areas with higher incidences of violence (Chen, Matthews, & Boyce, 2002). While they are spending more time outside the home in these

areas of increased violence, it is no wonder lower SES children report more frequent stressful life events (Chen, Matthews, & Boyce, 2002).

Similar to the child outcomes of poverty, adult outcomes of childhood poverty consist of physical health, mental health, and economic status / employment.

Adult Physical Health Outcomes

Each level on the socioeconomic spectrum is associated with poorer health than the one above it (Chen, Matthews, & Boyce, 2002; O'Neill, Jerrett, Kawachi, Levy, Cohen, Gouveia,...& Schwartz, 2003). For example, higher SES individuals have better health outcomes than middle SES individuals and those with middle SES status have better health outcomes than lower SES individuals. Low SES in childhood may negatively impact adult health (Case, Fertig, & Paxson, 2005; Kim et al., 2013; Mäkinen, Laaksonen, Lahelma, & Rahkonen, 2006; O'Neill et al., 2003; Poulton Caspi, Milne, Thomson, Taylor, Sears, & Moffitt, 2002). This relationship remained after controlling for infant health and adult SES (Poulton et al., 2002). The longer a child spends in poverty the higher probability of morbidity and premature mortality in adulthood (Evans & Schamberg, 2009; Galobardes, Lynch, & Smith, 2008; O'Neill et al., 2003). In other words, the effects of poverty are greater the longer one spends in poverty. Also, the effects of poverty appear to accumulate across generations (Galobardes, Lynch, & Smith, 2008). Put differently, an individual may be affected not only by their own poverty, but by the poverty of their parents and grandparents.

Childhood SES and adult mortality are inversely related, which means the lower the child's SES the higher the risk of premature mortality (Galobardes, Lynch, & Smith,

2008; Marmot, Shipley, Brunner, & Hemingway, 2001). An interesting discovery from the research was that with adopted individuals, the biological parent's SES was associated with risk of premature mortality while the adopted parent's was not (Galobardes, Lynch, & Smith, 2008). The only variation of this data was suicide – which was greater among adopted families with higher SES (Galobardes, Lynch, & Smith, 2008). Studies show that poor health in childhood is associated with poorer health, less education, and less employment in adulthood (Case, Fertig, & Paxson, 2005). Early life circumstances impact adult social circumstances which impact disease risk (Case, Fertig, & Paxson, 2005; Duncan, Ziol-Guest, & Kalil, 2010; Marmot, Shipley, Brunner, & Hemingway 2001). Case, Fertig, & Paxson (2005) suggest using health as a potential mechanism for evaluating intergenerational poverty. Their study of over 17,000 individuals in a birth cohort in Great Brittan found that children born into poorer families had poorer childhood health, lower investment in human capital, and poorer adult health, all of which were associated with less employment and fewer carnings in middle-age. Human capital is "the collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for the individuals, their employers, or their community" (Human Capital, n.d.). Examples of human capital might be good education and social skills. A father's social class appears to be related to adult health. Children with unskilled fathers are more likely to have fair or poor health in adulthood than children of professionals (Case, Fertig, & Paxson, 2005). For the sake of this paper, professional means any occupation above that of a manager who is over laborers. Men with unskilled fathers have a higher risk of mortality from external causes, but this is explained entirely by adult SES (Galobardes, Lynch, & Smith, 2004). Also, men whose

fathers worked in manual jobs had a higher risk of suicide – again, explained by adult SES (Galobardes, Lynch, & Smith, 2004). Similarly, suicide was more prevalent in individuals who grew up in poverty than in those who did not (Galobardes, Lynch, & Smith, 2004).

Negative childhood circumstances are strongly related to an increase in stomach cancer, stroke, mortality from respiratory infections (i.e. tuberculosis), liver cancer, lung cancer, diabetes, and coronary heart disease (CHD) (Galobardes, Lynch, & Smith,, 2004; Galobardes, Lynch, & Smith, 2008). Interestingly, the same article stated that childhood SES was not related to adult cancer mortality (Galobardes, Lynch, & Smith, 2008). In other words, there is higher incidence of specific cancers, but lower rate of mortality due to cancer among individuals who came from lower SES backgrounds.

Additionally, height is associated with health disorders in adults. In the Case, Fertig, & Paxson (2005) study, they found a strong positive connection between height at age 16 and fathers' education and SES. In other words, the shorter an individual at age 16, the lower their father's education and level of SES. Similarly, Marmot, Shipley, Brunner, & Hemingway's 2001 study of over 7,000 individuals found positive connections between current and early life height and SES. They also found a statistically significant association between height and incidence of CHD – taller men were less likely to have CHD than shorter men (Marmot et al., 2001). There was no relationship between height and chronic bronchitis or depression (Marmot et al., 2001). Not only is short height a predictor of CHD, but also of premature mortality (Marmot et al., 2001). CHD in adulthood is also associated with childhood circumstance (Galobardes, Lynch, & Smith, 2004); specifically, cigarette smoking (or exposure to smoke), high blood pressure, and

physical inactivity (Chen et al., 2002). In contrast, Galobardes, Lynch, & Smith, (2004) and Marmot, Shipley, Brunner, & Hemingway (2001) suggest weak and inconsistent connections are seen between childhood circumstances and CHD. Children whose parents worked in unskilled jobs had a higher risk for CHD in adulthood after controlling for adult SES characteristics (Galobardes, Lynch, & Smith, 2004). Still, SES in both childhood and adulthood contributes to CHD mortality in adults (Galobardes, Lynch, & Smith, 2004; Melchior, Moffitt, Milne, Poulton, & Caspi, 2007). Hostility is associated with CHD incidence, severity, and premature mortality in adults; and clevated hostility levels are associated with lower SES (Chen, Matthews, & Boyce, 2002; Harper et al., 2002).

Adult Mental Health Outcomes

Mental health and physical health are interconnected. Low SES has been associated with elevated levels of hostility (Harper et al., 2002), hopelessness, and depression in both adults and children (Chen, Matthews, & Boyce, 2002). Others argue depression is influenced by adult SES and not by childhood SES (Harper et al., 2002; Marmot et al., 2001; Melchior, Moffitt, Milne, Poulton, & Caspi, 2007; Poulton et al., 2002). Hopelessness is linked to heart disease, atherosclerosis, hypertension, cancer, and myocardial infarction (Harper et al., 2002). Depression is linked to asthma, arthritis, ulcers, heart attacks (Chen, Matthews, & Boyce, 2002), stroke, cardiovascular mortality, hypertension, and gastrointestinal disease (Harper et al., 2002). Individuals with higher SES report higher levels of optimism, and are less likely to develop CHD (Chen, Matthews, & Boyce, 2002). Lower SES individuals report feeling a lower sense of control, which might negatively affect physical and mental health (Chen, Matthews, &

Boyce, 2002). Economic difficulties in childhood were associated with limited adult mental functioning, such as cognitive disabilities and impairments (Mäkinen, Laaksonen, Lahelma, & Rahkonen, 2006). Limited adult mental functioning would presumably affect educational and employment outcomes.

Adult Economic/ Employment Outcomes

Case, Fertig, & Paxson, (2005) found a significant association between chronic health in childhood and adult employment/social status. They found that each additional chronic condition in adolescence significantly lowered the likelihood of employment in adulthood. Childhood poverty significantly decreases an individual's economic productivity in adulthood (Hill & Sandfort, 1995). In fact, men who were raised in lower SES environments earned 25-40 percent lower annual incomes than their peers who were raised in middle and upper class environments (Hill & Sandfort, 1995). Men with unskilled fathers are five percentage points less likely to have a job in middle age than men with professional fathers (Case, Fertig, & Paxson, 2005). Father's education and SES influence son's educational attainment as well (Case, Fertig, & Paxson, 2005). Lower educational attainment was associated with manual lower paying jobs (Hill & Sandfort, 1995), and with a higher probability of toxic exposures at work (Galobardes, Lynch, & Smith, 2004). Family income in adolescence is associated with men's adult SES, and this relationship grows stronger as men age (Case, Fertig, & Paxson, 2005). Health may also affect employment and earnings because of working fewer hours, time off, and inability to work (Case, Fertig, & Paxson, 2005).

Pollution Impact

Pollution is also a contributor to health. Lower SES neighborhoods seem to remain lower SES neighborhoods through many generations, especially when they are in a high pollution area (Dorling, Mitchell, Shaw, Orford, & Smith, 2000. In their study of Inner London, they observed a higher premature mortality rate than average and concluded "the longer people spend both in poverty and in poor places [i.e., polluted places], the earlier they tend to dic" (p. 1550). Studies suggest that living in polluted areas may cause reduced life expectancy, increased premature mortality and hospital admissions, birth outcomes, and asthma (O'Neill et al., 2003). Additionally, low SES individuals may be more susceptible to the negative impacts of pollution than others because of their disadvantage and psychosocial stress (O'Neill et al., 2003). For example, they may live in a food desert with no access to fruits and vegetables which provide antioxidants to protect against the negative impacts of pollution (O'Neill et al., 2003). Another example is lack of access to medical care. This could prevent someone from receiving proper treatment for respiratory illnesses such as asthma which would worsen in a high pollution environment without proper treatment (O'Neill et al., 2003).

Discussion

While the data were not always consistent, these articles indicated that adults who grew up in poverty may have more negative health outcomes than adults who did not. In addition, adult health is linked to adult income level which is linked to childhood SES.

Again, adult health is linked to educational attainment which is linked to childhood SES.

Furthermore, adult health is linked to adult mental health which is linked to childhood SES. Everything seems to be interconnected.

Children in poverty more often face lack of familial support, lack of proper nutrition, negative peer influence, dangerous neighborhoods, polluted neighborhoods, less access to medical care, and less and poorer education than their non-poor peers. These negative influences work together to constitute a greater disadvantage for these children. When they go to school hungry or afraid of the violence that surrounds them, they are unable to focus on the lessons and therefore perform less well in school than their non-poor peers. If parents of low SES children grew up in poverty themselves then they might have a difficult time teaching their children proper nutrition, preparing them for school, or offering the support they need. One cannot teach what they do not know. It seems that the effects of poverty can be seen in not only the children of the disadvantaged, but also in their grandchildren, the effects of poverty are generational. Because low SES children did not learn proper nutrition, or receive school preparation and family support, they will likely not be able to teach these things to their own children. Because of the greater disadvantage low SES children face, they often have more health issues and more severe health issues than non-poor children. These health issues may carry into adulthood. The disadvantages may also cause some of these individuals who grew up in poverty to have lower paying jobs than their peers who did not grow up in poverty. Having lower wages in adulthood may also affect your health outcomes.

It is interesting that every social group has better health than the group just below them on the social status spectrum. This speaks to the advantages and opportunities that come with higher social class. With these advantages and opportunities, or lack thereof, it is no

wonder people don't often move between social classes in their lifetime – it is about more than money. It is about education, parental support, parental networking connections, proper nutrition, and medical care. Some of the health problems faced by adults who grew up in poverty are higher incidence of specific cancers, diabetes, stroke, respiratory infections, and coronary heart disease than their non-poor peers.

Height was also a factor discussed in several articles. It seems that lower than average height is associated with lower childhood SES. Height is also associated with several negative health outcomes; thus another connection between low childhood SES and negative adult health outcomes. This connection could mean low SES children are malnourished which is causing low height and negative health outcomes. More research is needed to discover the causes for the connections between low SES, height, and health.

One of the measurements used for social class in many of the articles was the father's occupation. This seemed to be an accurate gauge of family income level. There was also a connection between the father's occupation and their child's adult occupation/income level as well as the child's adult health. One can see there are many different pathways in which childhood SES affects adult health outcomes.

Conclusion

With children and adults dying from complications of poverty, it is astonishing that more has not been done to eradicate poverty. There have been many attempts to eradicate poverty with unsuccessful results. Many articles addressed this as "increased mortality"

which means they have greater chances of dying prematurely, which is linked back to childhood poverty. With over a fifth of the children in the United States living below the poverty line, what does that mean for the future? From these articles one could expect adults to have more physical health problems, lower employment, and lower education in the future. This means society will be paying medical expenses, financial assistance, and other support for that one fifth of the population and their children, which would be a heavy burden to bear. A solution which would allow these children greater advantage is essential.

Several of the articles talked about solutions to childhood poverty. Education seems to be a solution to ease the effects of childhood poverty on adults (Galobardes, Lynch, & Smith, 2008; Mäkinen, Laaksonen, Lahelma, & Rahkonen, 2006). Programs such as Head Start, public schools, special education programs will decrease the effects of poverty, but will not completely remove them (Hill & Sandfort, 1995). While these are positive supports, they cannot be the only supports or they will fail. As discussed earlier, if children do not have proper nutrition or feel unsafe they will not be able to focus in school, and will not gain the full benefit an education has to offer. Safer schools, safer neighborhoods, and access to proper nutrition are issues policy makers should seriously consider supporting.

As social workers we fight for social justice for vulnerable populations who may not be able to advocate for themselves. Children are considered vulnerable populations; low income individuals and families are also considered vulnerable populations. Therefore low income children are especially vulnerable. These children are strong, resourceful, hardworking, and full of potential. Poverty has a way of decreasing that potential over

time, so social workers need to help advocate for resources which help the child reach their full potential. These resources have the potential to positively affect generations. It is important to look at an individual's life holistically to better understand their needs. Because of their disadvantage from childhood they may not be aware of possible available resources. Social workers and other professionals also need to understand that these children and adults may have come from a different background than the professional and may not have had similar life experiences. Cultural competence is important as social workers enter the lives of their clients. It is also important to understand that many of these individuals have a past history with helping professionals – some positive experiences and some negative. To create more positive experiences it is important to collaborate with other agencies and other professionals. Working together with other professionals involved in that child's life (teacher, school social worker, doctor, therapist, child protective services) will help create a stronger, more stable affect. Collaboration will allow for more awareness of resources and better practices which will benefit the client.

Finally, additional research is needed regarding best practices for ending poverty. There are many models and theories designed to end poverty, but research is needed to prove their efficacy and to compare them with each other.

References

- Centers for Disease Control and Prevention. (2014, February 14). Adult cigarette smoking in the United States: Current estimates. Retrieved August 1, 2014, from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm.
- Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. *Journal of Health Economics*, 24(2), 365-389.
- Chen, E., Matthews, K.A., & Boyce, W.T. (2002). Socioeconomic differences in children's health: How and why do these relationships change with age? *Psychological Bulletin*, 128(2), 295.
- Dorling, D., Mitchell, R., Shaw, M., Orford, S., & Smith, G.D. (2000). The ghost of Christmas past: Health effects of poverty in London in 1896 and 1991. *British Medical Journal*, 321(7276), 1547-1551.
- Duncan, G.J., Ziol-Guest, K.M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. *Child Development*, 81(1), 306-325.
- Evans, G.W., & Schamberg, M.A. (2009). Childhood poverty, chronic stress, and adult working memory. *Proceedings of the National Academy of Sciences*, 106(16), 6545-6549.
- Galobardes, B., Lynch, J.W., & Smith, G.D. (2004). Childhood socioeconomic circumstances and cause-specific mortality in adulthood: systematic review and interpretation. *Epidemiologic Reviews*, 26(1), 7-21.
- Galobardes, B., Lynch, J.W., & Smith, G.D. (2008). Is the association between childhood socioeconomic circumstances and cause-specific mortality established? Update of a systematic review. *Journal of Epidemiology and Community Health*, 62(5), 387-390.
- Harper, S., Lynch, J., Hsu, W.L., Everson, S.A., Hillemeier, M.M., Raghunathan, T.E., ... & Kaplan, G.A. (2002). Life course socioeconomic conditions and adult psychosocial functioning. *International Journal of Epidemiology*, 31(2), 395-403.
- Hill, M.S., & Sandfort, J.R. (1995). Effects of childhood poverty on productivity later in life: Implications for public policy. *Children and Youth Services Review*, 17(1), 91-126.
- Dictionary.com (n.d.). *Human capital*. Retrieved August 19, 2014, from http://dictionary.reference.com/browse/human%20capital?s=t

- Kim, P., Evans, G.W., Angstadt, M., Ho, S.S., Sripada, C.S., Swain, J.E., ... & Phan, K.L. (2013). Effects of childhood poverty and chronic stress on emotion regulatory brain function in adulthood. *Proceedings of the National Academy of Sciences*, 110(46), 18442-18447.
- Mäkinen, T., Laaksonen, M., Lahelma, E., & Rahkonen, O. (2006). Associations of childhood circumstances with physical and mental functioning in adulthood. *Social Science & Medicine*, 62(8), 1831-1839.
- Marmot, M., Shipley, M., Brunner, E., & Hemingway, H. (2001). Relative contribution of early life and adult socioeconomic factors to adult morbidity in the Whitehall II study. *Journal of Epidemiology and Community Health*, 55(5), 301-307.
- Melchior, M., Moffitt, T.E., Milne, B.J., Poulton, R., & Caspi, A. (2007). Why do children from socioeconomically disadvantaged families suffer from poor health when they reach adulthood? Λ life-course study. *American Journal of Epidemiology*, 166(8), 966-974.
- O'Neill, M.S., Jerrett, M., Kawachi, I., Levy, J.I., Cohen, Λ.J., Gouveia, N., ... & Schwartz, J. (2003). Health, wealth, and air pollution: advancing theory and methods. *Environmental Health Perspectives*, 111(16), 1861.
- Payne, R.K. (2005). A framework for understanding poverty. Highlands, TX: aha! Process, Inc.
- Poulton, R., Caspi, A., Milne, B.J., Thomson, W.M., Taylor, A., Sears, M.R., & Moffitt, T.E. (2002). Association between children's experience of socioeconomic disadvantage and adult health: a life-course study. *The Lancet*, 360(9346), 1640-1645.
- World Health Organization. (n.d.). *Poverty*. Retrieved August 17, 2014, from http://www.who.int/topics/poverty/en/
- World Health Organization. (n.d.). Progress on the implementation of the Rio Political Declaration. Retrieved August 17, 2014, from http://www.who.int/social_determinants/en/
- Schelius, K. (2014, January 17). Annual update of the HHS poverty guidelines.

 Washington, DC: Federal Register. Retrieved August 25, 2014, from https://www.federalregister.gov/articles/2014/01/22/2014-01303/annual-update-of-the-hhs-poverty-guidelines
- United States Census Bureau. (2012). Income, poverty and health insurance in the United States: 2012. Retrieved August 1, 2014, from http://www.census.gov/hhes/www/poverty/data/incpovhlth/2012/highlights.html

Appendix A

Percentage of adults who were current* cigarette smokers in 2012:

By Gender

20.5% of adult men

15.8% of adult women

By Age

17.3% of adults aged 18-24 years

21.6% of adults aged 25-44 years

19.5% of adults aged 45-64 years

8.9% of adults aged 65 years and older

By Race/ Ethnicity

21.8% of American Indians/ Alaska Natives (non-Hispanic)

10.7% of Asians (non-Hispanic; excludes Native Hawaiians and Pacific Islanders)

18.1% of Blacks (non-Hispanic)

12.5% of Hispanics

19.7% of Whites (non-Hispanic)

26.1% of Multiple race individuals

By Education

24.7% of adults with 12 or less years of education (no diploma)

41.9% of adults with a GED diploma

23.1% of adults with a high school diploma

9.1% of adults with an undergraduate college degree

5.9% of adults with a post graduate college degree

By Poverty Status

27.9% of adults who live below the poverty level

17.0% of adults who live at or above the poverty level

^{*} Current smokers were defined as having smoked 100 or more cigarettes in their lifetime and at the time of the interview reported smoking every day or some days. (Centers for Disease Control and Prevention, 2014, February 14)