

CHILDHOOD CHRONIC ILLNESS:
HOW DOES IT AFFECT THE FUTURE CAREER GOALS OF THE INDIVIDUAL?

by

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The purpose of this study is to investigate the negative impacts of chronic illness on future development and career choices in young adulthood. Young adults with a chronic illness diagnosed in childhood are challenged with illness-related stressors in addition to developmental stressors as they age. There is a need to better understand the direct impacts and potential for mediating factors that contribute to career choice in this population. The aims of this study are to emphasize the possibility of success to the future generations of children diagnosed with a chronic illness, with skills learned from childhood experiences, by pursuing healthcare careers. Secondary data was analyzed using the National Survey of Youth 1997 cohort. Overall results using regression suggest chronic illness had a significant impact on depression, limitations, and independence in adulthood. However, there is no significant relationship between childhood chronic illness and healthcare professions as a career path. Depression was found to mediate the association between childhood chronic illness and pursuing healthcare professions.

Keywords: chronic illness, career outcomes, healthcare professions, life-course theory, feminist theory, psychosocial developmental theory, child life specialists

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by

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To all who have experienced chronic illness or hospitalization; I hope that you recognize your potential to succeed in any career you pursue.

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CHAPTER 1: INTRODUCTION

In the United States alone, over 13,000 children are diagnosed with cancer and 13,000 children are diagnosed with type 1 diabetes each year (Compas et. al, 2012). Approximately 200,000 children live with either type 1 or type 2 diabetes; 9 million children suffer from asthma; 72,000 Americans (all ages) live with sickle cell disease; and approximately 225,000 to 13.5 million children suffer from recurrent abdominal pain (Compas et al., 2012; Van Cleave, Gortmaker, & Perrin, 2010). As of 2014, 10% of adolescents in the U.S. suffer from a chronic condition (Suris, Michaud, & Viner, 2014). Chronic illnesses in childhood and adolescence are causes of significant stress. The adjustment to and treatment of these conditions is a lifelong process for the child (Compas et al., 2012). How individuals view their disease is a fundamental factor in facilitating coping efforts and adjustment to life with a chronic condition (Stanton, Revenson, & Tennen, 2007; White et. al, 2018), therefore emphasis on positive outcomes for children with chronic illness needs to be examined.

A chronic illness or medical condition in childhood is defined as a health problem that lasts three months or more, affects a child's normal activities, and requires frequent hospitalizations, home health care, or extensive medical care (Mokkink et al., 2008). Chronic illnesses are continuous, they do not resolve spontaneously, and they are rarely cured completely (Stanton, Revenson, & Tennen, 2007). Recent innovations in medical technology and improvements in therapeutic possibilities have led to increasing numbers of children and adolescents who have survived congenital, perinatal or other severe medical conditions, compared to last 50 years, when these childhood illnesses had a low survival rate (Mazzucato, 2018; Mokkink et al., 2008; Perrin, Bloom, & Gortmaker, 2007). With the increased number of

children with chronic illness surviving to adulthood, there is a need for research on the developmental outcomes for this population.

Chronic illness has a large impact on development, in relation to physical and mental health, ability to gain independence, and choices related to the future (Betz, 2017; Hallum, 1995). Good health and patterns of health are established early on, which creates a foundation for future health (Sawyer et al., 2012). Daily chronic pain impacts the ability of an individual to perform their daily tasks (Hahn, Dogra, & King-Zeller, 2001) so it is important for adults to have adequate coping mechanisms developed in childhood and adolescence. Coping which includes efforts to act on the source of stress or one's emotions has shown successful adaptation to chronic illness in children and adolescents (Compas et al., 2012).

Summary

The purpose of the study is to investigate the negative impacts of chronic illness on development and career choices in young adulthood. Young adults with a chronic illness diagnosed in childhood are challenged with illness-related stressors in addition to developmental stressors as they age. There is a need to better understand the mediating factors that contribute to career choice in this population and emphasize the possibility of success to the future generations of children diagnosed with a chronic illness.

Therefore, this study explored those diagnosed with chronic illness in childhood, their mental and physical health during young adulthood, and their career outcomes. Life course theory, Erikson's psychosocial development, and feminist theory are used in this study to explain the impact of childhood experiences on young adult development and how chronic illness in childhood could have contributed to mental and physical health, independence and choice in career.

CHAPTER 2: THEORETICAL FRAMEWORKS

In order to conceptualize the theoretical perspectives of this study, the life course perspective, Erikson's psychosocial development theory, and feminist theory were examined. The use of three perspectives and theories creates a unique approach in order to thoroughly explore the importance of childhood chronic illness as an individual life event impacting psychosocial development across the lifespan.

Life Course Perspective

The life course perspective aims to understand the patterns as well as the advantages and disadvantages in the paths of individual lives (Hutchison, 2005). It emphasizes the ways in which humans are dependent on others, such as parents or significant others, and focuses in on the family as the primary guide for experiencing and interpreting wider society. Parents can limit what their child is exposed to in the world, especially related to a child's healthcare, because the decisions are made by adults until the child is 18. Healthcare policies and access to healthcare can also impact how a child will cope with and react to a lifelong disease.

The life course theory has five distinct principles: (a) time and place; (b) linked lives (c) life-span development and trajectories; (d) timing; and (e) agency (Elder, 1998). The time and place of diagnosis of chronic illness can impact development. More recent innovations in technology and medical research have developed so children today who are facing a chronic childhood illness have more options than someone diagnosed with the same childhood illness 50 years ago. When someone is born and where they are born (i.e. what medical advancements and resources are available to them) coalesce to create a unique experience that form individual's experiences with their illness, medical facilities, medical professionals, and the medical

profession. These unique and individual experiences create trajectories that shape their lives, relationships, and careers as they develop into adolescents and young adults.

Lives are lived interdependently, meaning that the relationships in a person's life can impact their ability to cope and make choices into adulthood. Caregivers or parents can be heavily involved in a child's care and course of treatment, or the challenges related to caregivers' socio-economic status and geographic location can impact the quality of care a child receives. The parents, caregivers, and siblings are impacted by a child's chronic illness on a daily basis. The medical professionals involved in a child's care are also lives linked to the child with chronic illness because they determine the treatment the child receives, the perception of the hospital experience, and the resources available to the patient and family.

Early experiences, such as a chronic illness in childhood, will have enduring consequences on the life course (Elder, 1998). Transitions are experiences that create motion and in the case of chronic childhood illness, these transitions include transitions in and out of good health, in and out of hospitals, and in and out of schools, among other possibilities of transitions. The possibility for movement among children who experience chronic illness is likely to be higher than children who do not experience chronic illness and these transitions, these movements, will have a lasting impact on their development across the life course. If they have a positive experience in the hospital, perhaps due to the inclusion of a child life specialist on their care team, they may be more inclined to seek out medical care or go into the medical profession.

The life course perspective sees humans as capable of making choices and constructing their own life journeys, within systems of opportunities and constraints; these constraints could include the presence of chronic illness, parental support, and financial burdens. The agency a

child has throughout development and the role in care in the transition to adult health may determine ability to cope with and overcome barriers when living with chronic illness.

The life course perspective also recognizes the connections between childhood and adolescent experiences and later experiences in adulthood (Elder 1998; Hutchison, 2005), which could include peer experiences, negative impacts of hospitalization, and lifelong treatment plans that impact future relationships and career prospects. The theory connects early experiences as predictors of future behavior (Elder, 1998). Receiving a diagnosis in childhood can alter the child's life from that point on, as well as the lives of their parents, friends, and future relationships. That one event can alter the trajectory of that individual's life, and the timing can change that impact. Sometimes that impact is mild, other times severe, and it can be positive, or negative, depending on the child and the variables of the situation. An illness at birth may be something a child grows up with and accepts, whereas receiving a diagnosis at age 13 could completely derail an adolescents' plans for the future.

For the purpose of this study, chronic illness in childhood is examined through the life course perspective in order to determine the impact of illness on the child into young adulthood. Early experiences with the medical environment may lead children with chronic illness to find comfort in the medical field, and pursue careers they have been exposed to, such as doctors, nurses, and child life specialists.

Psychosocial Development Theory

Erik Erikson's theory has been dominant in research related to chronic illness in childhood (Mahan, Rollins, & Bolig, 2018; Thompson, 2009). Erikson's defines eight stages across the lifespan, five of which occur during childhood and adolescence. Each stage has a conflict and developmental milestones to be met. There are developmental changes that occur

across these stages that can be related to children's reactions to hospitalization. Individuals face a conflict at each stage and must resolve the conflict to advance to the next stage (Erikson, 1959). The stages from childhood to adolescence are as follows: trust versus mistrust, autonomy versus shame and doubt, industry versus inferiority, and intimacy versus isolation.

Children's reactions to hospitalization are stressful and can pose a threat to development across the stages, which can lead to age specific fears and misconceptions. Issues can be related to specific stages, for example in stage one, trust vs mistrust, a hospitalized child experiences separation from their caregivers, pain, and or lack of stimulation, which can result in attachment issues, mistrust, and anxiety.

Feminist Theory

In this study, theoretical parallels will also be drawn to feminist theory, specifically in that focusing on individual lived experience. An individual will not always react, think, or feel the same way about a shared experience, though the stressor is the same (White, Martin, & Adamsons, 2019). The experience is central and provides a foundation for knowledge on the subject. The best way to learn about the impacts of chronic illness on adult decisions is to examine the choices of those who have lived it (White, Martin, & Adamsons, 2019). This theory values the insight that the individual can have on their own experience from their personal point of view. In this study, the individual's career choices will help to identify the resilience and challenges faced by those diagnosed with a chronic illness in childhood.

In order to capture a full picture of the theoretical perspectives of this study, life course, Erikson's psychosocial development and feminist theory are intertwined. Life course examined a broad scope of the impacts of chronic illness throughout a child's transition into adulthood and throughout life, such as medical technology and access to resources, psychosocial development

according to Erikson explored specific obstacles related to stages of development, leading to possible regression or isolation, and feminist theory tied the two together as the view into the unique individual experience of coping with chronic illness, and the individual's perception of their capacity to achieve their goals. These three theories provided a unique lens in order to frame children's hospitalization experiences as impactful life events and determined their relevance to adult development and career outcomes.

CHAPTER 3: LITERATURE REVIEW

Chronic illness impacts various domains across development, whether that be physical or mental, due to the increased stressors related to hospitalization and treatment. These factors can impact an individual's independence and future directions in adulthood. This chapter will examine these mediating factors and explore the unique experience of living with a chronic illness after being diagnosed in childhood.

Effects of hospitalization

Research between 1963 and 1983 showed the occurrence of psychological problems in children following discharge from the hospital (Mahan, Rollins, & Bolig, 2018; Thompson, 2009). This manifested in behavioral changes, increased separation anxiety, increased sleep anxiety, increased aggression toward authority, and impaired basic trust (Mahan, Rollins, & Bolig, 2018). Hospitalization contributed to children's loss of autonomy due to restriction of movement during procedures, lack of control, and regression, along with stress related to their conditions, such as negative body image and fear of mutilation (Mahan, Rollins, & Bolig, 2018).

To combat these negative effects, child life specialists were put in place to act as the buffer for these negative experiences. A child life specialist is a healthcare professional trained in child development to provide support and advocate for children facing hospitalization (Mahan, Rollins, & Bolig, 2018; Thompson, 2009). Child life specialists have proven to be helpful in improving children's behavior and promoting resilience for future procedures (Humphreys & LeBlanc, 2016; LeBlanc et al., 2014). Once a child reaches adolescence, access to these supports is no longer offered, which makes the transition to adult care not only difficult, but frightening, and adherence to treatment less likely, which may impact adult outcomes.

However, exposure to negative experiences in childhood can also lead to resilience. Resilience refers to the process of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with risks (Fergus & Zimmerman, 2005; Humphreys & LeBlanc, 2016), which leads us to believe that adults with a chronic illness diagnosed in childhood may have the ability to be successful in their careers and lives in adulthood. Resilience is gained related to the illness experience, reconciling and reconstructing the life journey, and connecting with others. Reflection on, interpretation, and validation of experiences with chronic illness can lead to a strong sense of self-worth, the ability to learn from experiences and the capacity to be adaptable in the future (Kralik, van Loon, & Visentin, 2006).

Transition of care

Treatment of chronic illness is complex, requiring a strict adherence to taking medication, diet, and exercise. Patients must be informed about their illness and treatment options because once the child reaches adulthood, as they are the primary, direct provider of their own care (Connelly, 1993). Learning to manage a chronic condition is an additional stressor throughout the adolescent's development into adulthood, and the transition is difficult, in part, due to the necessity of advocating for involvement in healthcare decisions. Adolescents often find it difficult to communicate with the doctors and nurses, so seeking care can become an uncomfortable situation (Betz & Coyne, 2020; Essig et al., 2016; Shearer et al., 2013). When an adolescent does not have a therapeutic relationship with their care provider, or does not feel comfortable asking questions, this can have an impact on motivation to adhere to treatment (Shearer et al., 2013). However, participating in healthcare decisions creates opportunities for increased independence (Shearer et al., 2013), and if adolescents are given a voice by being

involved in the identification of their health issues and development of appropriate solutions, they will also be able to be more involved in their lives, communities (Sawyer et al., 2012), and potentially, careers. In “typical” adolescent situations, we would advocate for them experiences consequences (such as losing privileges). With children and adolescents with chronic illnesses, adults in their lives believe the limitations of their illness are too great to give these children much autonomy (Compas et al., 2012).

Illnesses and their treatment present children, adolescents, and their parents with significant sources of chronic stress that can contribute to emotional and behavioral problems and can compromise adherence to treatment (Compas et al., 2012; Hoving et al., 2010). Many pediatric illnesses are intensified by external stress encountered in the other aspects of children's lives, which can lead to other problems that reciprocally affect their chronic condition, and can have negative impacts in the future (Compas et al., 2012; Vuotto et al., 2017), such as inability to leave the household and pursue a career.

Effect on physical health and endurance

Chronic illness is often comorbid with physical symptoms such as breathlessness, chest pain, fainting, fast heart rate, and exhaustion (Elissa et al., 2018). Effects on growth and puberty are common to most chronic illnesses related to malnutrition and chronic inflammation, and permanent growth loss may occur. Chronic illnesses can also distort the physical body (e.g. with stomas or scars) or require treatments that may distance individuals with chronic illness from others (Suris, Michaud, & Viner, 2014). A child with a chronic illness may be unable to participate in strenuous activities such as running and some may experience difficulty walking and using stairs (Elissa et al., 2018). These difficulties require that children and adolescents have limitations during physical education classes and recess activities in school (Bai et al., 2017; Wei

et al., 2016), and frequent visits to the hospital can result in greater school absences, which can lead to increased stress and impact educational attainment (Compas et al., 2012). Physical limitations in adolescence could potentially impact an individual's ability to complete daily activities, achieve educational goals, and potentially perform occupational tasks in adulthood. However, research also shows that though it may be difficult, or take a longer period of time, these goals are attainable.

Effect on mental health

Chronic pain is significantly associated with anxiety, and chronic illnesses can lead to increased stress. Children with chronic illness often have feelings of being devalued due to their disease, which influences their interaction with peers and can result in social isolation (Compas et al., 2012; Gurney et al. 2009). Restriction of physical and recreational activities create a sense of loneliness, and teachers who expose the child's restrictions in front of other classmates can cause negative effects for the child (Elissa et al., 2018). Social isolation and loneliness can lead to poor mental health outcomes, such as depression, anxiety, and suicide (National Academies of Sciences, Engineering, and Medicine, 2020).

Concerns about changes in appearance, and pain and soreness from medical procedures can be negative experiences that lead children to feel stressed and stigmatized (Compas et al., 2012). Delayed puberty can also result in low self-esteem in boys and difficulty in separating from parents. Adolescents affected by delayed puberty may be treated as less mature by the adults in their lives. Girls with chronic illness were more likely to have emotional problems, and in general adolescents with chronic illness are more likely to develop psychiatric and behavioral disorders than healthy adolescents (Ferro, Gorter, & Boyle, 2015; Suris, Michaud, & Viner 2014; Vuotto et al. 2017). Due to the increase risk for mental health comorbidity, childhood chronic

illness can impact future goals. Impaired mental health can cause concerns for both career opportunities and attainment (Organization for Economic Co-operation and Development, 2013).

Parental Support

Parents play an important role in determining how a child perceives their chronic condition. Some parents prevent their children from participating in highly energetic activities such as running, and inform the school to not push their children too hard during sports and physical activity to avoid exhausting the child, which limits the opportunities for their children to participate and feel normal (Elissa et al., 2018). Parental reinforcement of pain complaints, or enabling them (e.g., allowing children to skip chores or homework during episodes of pain, or giving a child special gifts or privileges), can affect their role in the household (Compas et al., 2012). The child or adolescent needs to maintain their role as the child, not as the “sick child” (Connelly, 1993). In order to emphasize normalization, parents need to work as a team to continue their original parenting style with the child, manage any conflict the illness might cause in the family, and allow the child to take an active role in their treatment (Mahan, Rollins, & Bolig, 2018). Though parenting can have a role in the outcomes of children with chronic illness and merits future research, the focus for this study will be on the individual’s coping and challenges with their own physical limitations and perception of capabilities.

Perception of Illness

Differences based on limitations in school and parenting styles at home related to their chronic illness can affect an adolescent’s perception of themselves. They can feel limited in their daily activities and feel they are failing to achieve what other children are achieving (Elissa et al., 2018), and they may lack confidence in their own abilities. Adolescents can also perceive their

illness as an economic burden to the family, which has been linked to poorer functional status (Stanton, Revenson, & Tennen, 2007). Parental perception can often influence the individual.

How individuals view their disease is an essential factor in facilitating coping efforts and adjustment (Verhoof et al., 2014). The extent that one perceives illness as a barrier to their goals or impairing ability to pursue valued activities can be a cause of psychological pain. Finding meaning and benefit in the experience of chronic disease has been determined to be a predictor of later adjustment, and in paving the way to independence (Stanton, Revenson, & Tennen, 2007).

Independence

Independence has often been defined as when an individual has left the home and secures stable, full time employment. The sense of independence stems from the exit from the family household and the opportunity for marriage and financial independence (Sandberg-Thomas, Snyder, & Jang 2015). Having a chronic childhood illness introduces barriers to achieving independence at similar ages as peers without a chronic childhood illness.

Individuals with chronic illness are twice as likely as their healthy peers to live dependently with their parents (Kunin-Batson et al., 2011). Differences in parenting can draw attention to the fact that individuals with chronic illness have to be aware of the reality that their lives are different and futures will be different from those of their healthy peers (Shearer et al., 2013). When parents treat the child like they are helpless, children with chronic illness experience the feeling that there is little control over their illness and experience, no hope in fighting the symptoms of the illness, and children may develop a passive coping style (Nowicka-Sauer et al., 2017).

Chronic illness impacts emotional well-being by intensifying negative feelings and fears about the future. Chronic disease can erode perceptions of control over bodily integrity, daily planning to engage in activities, and life itself, which can also impact ability to achieve independence (Elissa et al., 2018). Roles in adulthood became a concern for adolescents as they adjusted to their chronic illness. Females worried and feared the inability to assume the traditional role expected because they would be less capable of pregnancy and childbirth (Elissa et al., 2018). Males' concerns focused on limited physical capacity. Adolescents also feared passing on their chronic illness to their future children. Negative reactions to chronic illness create a sense of fear and uncertainty about future discrimination and stigma in relation to social standing, career, and marriage (Elissa et al., 2018). Research shows that it may take children and adolescents diagnosed with a chronic illness longer to form peer relationships, but they still have the ability, and in terms of getting married, having children, living independently, having a career, and having high-quality romantic relationships, children with chronic illness achieved these goals (Maslow et al., 2011).

Career choices

The majority of young adults in the United States with childhood-onset chronic illness have poorer outcomes than young adults without chronic illness on educational, vocational, and income factors (Kokkonen, 1995; Maslow et al., 2011). They had half the probability of graduating college and having a current job, and a significantly lower mean income than those without chronic conditions. Causes were absenteeism from school or work and impacts on the developmental trajectory of young adult vocational readiness and educational attainment (Maslow et al., 2011). Lower work volition, or perceived capacity to make occupational choices despite constraints, may be a risk factor for individuals with health-related challenges (Bouchard

& Nauta, 2017). According to Kirchhoff et al. (2011) Poor physical health was associated with almost eight times a higher risk of health-related unemployment. Task efficiency limitations were significant in both males and females with physical limitations (Kirchhoff et al., 2011). Veldman et al. (2017) found that those with decreased mental health and internalizing problems were reported to have lower incomes, work less hours per week and have more difficult transitions into the labor market than young adults without mental health problems.

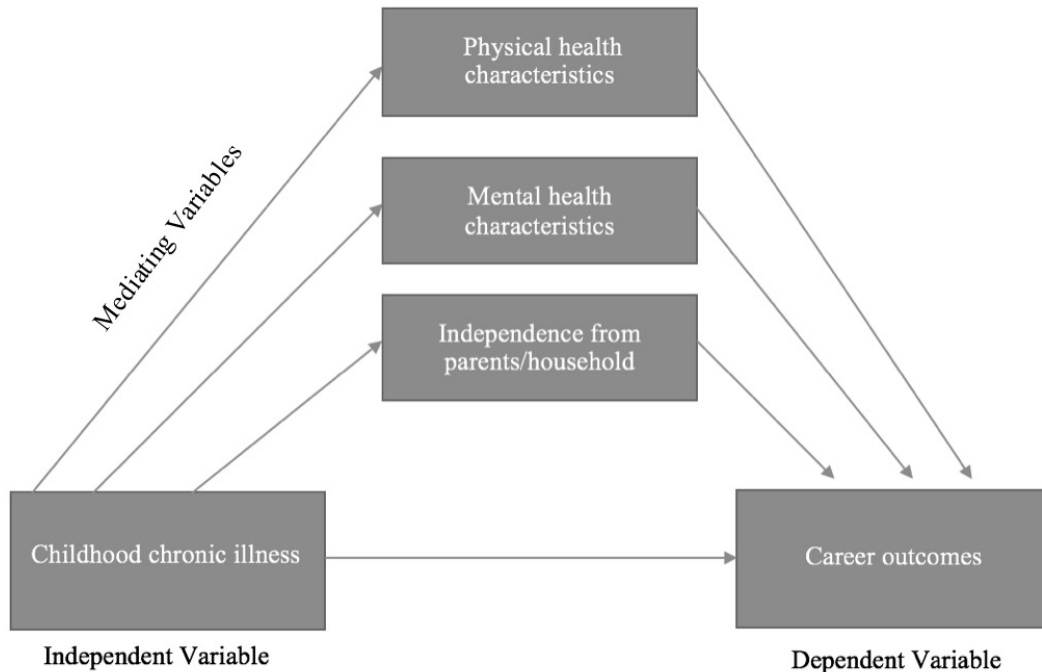
Though chronic illness presents a myriad of risk factors, it can also provide direction for careers. Children with chronic conditions may find a sense of comfort with both hospitals and the health care providers they encountered in childhood. They spend more time in the hospital than other children, and they create a relationship with their healthcare providers, which can lessen the fears of medical experiences (Shearer et al., 2013). They often have a more sophisticated knowledge of medicine and illness, and a first-hand perspective on coping with that particular condition, which can be empowering and allow them to share that individual experience. Those with a chronic condition appreciate the opportunity to teach about their healthcare experiences, which increases confidence in speaking about their medical treatment journey (Desai & Horn, 2020). The purpose of this study was to examine the possibility that the presence of that therapeutic relationship and the sharing of personal experience inspired children with chronic illness to pursue healthcare careers.

Conceptual Framework

This model, as shown in Figure 1, depicts the relationship between childhood chronic illness and career outcomes with the possibility of mediating variables such as physical and mental health, and independence from the household.

Figure 1.

Conceptual Model



Rationale for Research

Since the majority of those with childhood chronic illness survive into adulthood, more research can focus on this population in order to determine what factors contributed to their quality of life. This will lead to the development of successful support mechanisms, coping strategies, and identification of developmental patterns in individuals with chronic illness, and may be applied to the full population of children with negative childhood experiences. It could also be a gateway for interventions and protective factors for this population, and eventually, decreased mortality. The current study aims to determine if children with chronic illness pursued the healthcare field, because of their early experiences with the medical environment and exposure to healthcare professionals. The input from those who have lived through a chronic

condition can advocate for those undergoing diagnosis and treatment, and provide first hand understanding and experience.

The research questions for this study are:

1) Is there a relationship between childhood chronic illness and choosing a career in the healthcare field?

a) Are adults who had a childhood chronic illness more likely to work in the healthcare field?

2) What factors influence career choices in adults who were diagnosed with a childhood chronic illness?

a) Are health (physical and mental outcomes and independence in young adulthood indirect effects of pursuing healthcare field careers?

Hypothesis

1. There is an association between chronic illness and career choice such that children who experience a childhood illness will be more likely to go into a healthcare field than those who did not have a childhood chronic illness.

a) Physical health will indirectly affect the association between childhood chronic illness and career choices.

b) Mental health will indirectly affect the association between childhood chronic illness and career choices.

c) Independence will indirectly affect the association between childhood chronic illness and career choices.

CHAPTER 4: METHODS

For the purpose of this study, data from the National Longitudinal Survey of Youth 1997 (NLSY97) was used (Bureau of Labor Statistics, 1997-2017). These data were well-suited for the current study because it follows individuals from childhood to their mid 30s and asks questions on constructs such as mental health, independence, and work contexts. The goal for this study was to understand career choices in a population of youth with chronic illness in childhood.

Procedure for Data Collection

Participants

For the current study, data was examined from the NLSY97, which was a part of the National Longitudinal Surveys (NLS) program. This cohort was a group of individuals born between 1980 and 1984. At the time of first interview, respondents' ages ranged from 12 to 18. 8,984 individuals initially interviewed in round 1. Nearly 75% ($n=6,734$) of the round 1 sample were interviewed in round 18. 4,599 (51%) males and 4,385 (49%) females were surveyed initially. Race/Ethnicity in the initial survey was represented as Non-black/non-Hispanic: 4,665 (51.9%), Black non-Hispanic: 2,335 (26%), Hispanic or Latino: 1,901 (21.2%) or Mixed: 83 (0.9%). Of the 8,984 participants in the NLSY97 cohort, 865 (9.6%) reported being diagnosed with a chronic illness in childhood. The remainder of the cohort were excluded for not meeting that criteria.

NLSY97 Study Design

The design of the dataset was a subsample design with two subsamples in the NLSY97 cohort. It has a sample of $n = 6,748$ respondents designed to be representative of people living in the United States during the initial survey round and born between January 1, 1980, and December 31, 1984, and a supplemental sample of 2,236 respondents designed to oversample

Hispanic or Latino and black people living in the United States during the initial survey round and born during the same period as the longitudinal sample. This study will use the combined participants with appropriate weighting provided by NLS.

The types of information gathered in survey included employment, education, training and achievement, household, geography and contextual variables, parents, family and childhood, dating, marriage and cohabitation, sexual activity, pregnancy and fertility, children, income, assets and program participation, health: conditions and practices, attitudes, expectations, non-cognitive tests, activities, crime and substance use. The survey is still ongoing.

Measures

Childhood illness. The NLSY97 collected information on the general health status. In rounds 6 and 11-15 there was a set of questions on physical, genetic, mental, and emotional conditions the participants may have. Parents were asked in round 6 to report if the child was diagnosed with any chronic condition (yes/no) in childhood (0-18 years) and how many conditions (up to 6).

Mediating variables

Physical health. Throughout the rounds, a series of questions was repeatedly asked to establish current health. These included questions about respondents' health limitations (a lot, a little, not at all), how much pain interfered with work (on a six-point likert scale; from all the time - none of the time), and energy level (on a six-point likert scale). For the purpose of this study, physical health was examined at age 29.

Mental health. This section asked a series of questions concerning how often the respondent felt certain ways during the previous month. These questions are a five-item short version of the Mental Health Inventory (MHI-5), developed by Veit and Ware (1983).

Participants responded to the frequency of being nervous, feeling calm and peaceful, feeling downhearted and blue, being happy, and feeling so down in the dumps that nothing could cheer them up. The survey used a four-point scale to rate the frequency of these feelings. For the purpose of this study, mental health was examined at age 29.

Independence. NLSY97 youths were considered independent if they had ever been partnered at the time of the survey or had a child living in the home (biological or adopted). Independence scores were examined at age 29.

Career choices. The NLSY97 asked participants at age 14 or older to report their occupation. The question "what kind of work did you do" was asked to determine the type of job, and allowed for the categorization of a job field (i.e. healthcare technician). For this study, the 2002 census occupation code was examined at age 29 to determine occupation status in categories such as engineering, military or healthcare professions. Medical professions were considered under the codes for health diagnosis and treating practitioners, and healthcare technical and support. For the full list of codes please refer to the appendix.

Procedure for Data Analysis

In order to analyze the data from the NSY97, the parent-reported health information, self-reported partner status, physical limitations and depression variables were downloaded from the NLSY investigator into SPSS. The data was cleaned in SPSS by renaming the variables, deleting extraneous variables, and reverse coding the physical limitation and depression variables. The missing values were listwise deleted through SPSS. Descriptives were examined to narrow down the participants with both a chronic illness in childhood and a healthcare career. A bivariate Pearson correlation was run to determine relationships between our variables and race and gender, and tested the associations between chronic illness and healthcare professions with

mediating variables: independence, physical limitations and mental health. These causal models were performed using regressions and followed up with the Sobel test post hoc (Dudley & Benuzillo, 2004). This determined the significance of the relationship between childhood health variables and healthcare careers, and tested mediating variables. The relationship between childhood chronic illness and mediating variables was determined using process macro (Hayes, 2013). Covariates included race, gender, marital status, and type of chronic illness.

Once data had been analyzed, a Sobel test was run for common chronic illnesses: asthma and diabetes. Mediation models were run to determine the association between the specific condition, for example, asthma, and healthcare professions, with the mediating variables: independence, physical limitations, or mental health.

Rationale

This dataset is appropriate for this research because of the acquisition of health information from childhood including the age of diagnosis, type of chronic condition, and how it impacts the participants' daily life. The study includes information on mental and physical health, which can be used to determine adult outcomes. The later sections identify career choices at adulthood to determine whether the participant works in the healthcare field and what jobs they are performing even with the presence of chronic illness.

CHAPTER 5: RESULTS

For the 865 participants, descriptive statistics (see Table 1) were computed. Bivariate Pearson correlations (see Table 2) for outcome variables were computed and assessed. A mediation model was used to identify and explain the process that triggers an observed relationship. Figures 2-4 depict the ordinary least squares regression for direct and indirect associations between chronic illness and healthcare professions, and Sobel tests were used to determine indirect effects.

Only 166 of the 865 eligible participants entered healthcare professions (19.19%). Overall, the majority of the participants were male (54.91%), and more than half of the participants were White (56.53%). Of those with chronic illnesses, 369 were partnered (42.66%) and 240 were partnered with a child (27.75%), which allowed us to examine independence as defined by being partnered or partnered with a child. Over half of the participants reported physical limitations (88.32%). Depression scores ranged from 5 to 20 ($M=2.12$, $SD=0.53$). See Table 1 for more detailed information.

Table 1.
Variable Descriptive Statistics

	N	M	SD	%
Health Professions	166			19.19
Any Chronic Condition	865			100
Allergies	10			1.16
Anemia	35			4.04
Asthma	682			78.84
Cancer	12			1.38
Diabetes	19			2.19
Epilepsy	8			0.92
Heart Condition	68			7.86
Infectious Disease	6			0.69
Kidney	5			0.58
Other	88			10.17

(Continued on page 29)

Table 1. Variable Descriptive Statistics

		N	M	SD	%
Sex	Male	475			54.91
	Female	390			45.08
Race	Black	227			26.26
	Hispanic	137			15.83
	Mixed Race	12			1.38
	White	489			56.53
Independence	Partnered	369			42.66
	Partnered with child	240			27.75
Limitations	Physical Limitations	764	0.43	0.90	88.32
	Depression	666	2.12	0.53	76.99

Note. Participants could select more than one chronic condition. Mean and Standard Deviation are only reported for continuous variables.

Pearson correlations indicate a negative relationship between mental health and physical limitations ($r=.113, p<.001$) suggesting that lower depression is associated with fewer physical limitations. Sex is also correlated with health profession, indicating that females are more likely to be in the health profession ($p=.243$). Table 2 provides more detailed information.

Table 2

Correlations for Study Variables

Variable	<i>n</i>	1	2	3	4	5	6	7
1. Health professions	865	1						
2. Any chronic condition	865	-	1					

(Continued on page 30)

Table 2.
Correlations for study variables cont.

Variable	n	1	2	3	4	5	6	7
3. Sex	865	.243**	-.025	1				
4. Race	865	-.065	.019	-.028	1			
5. Independence	423	-.083	-.014	-.011	.068	1		
6. Limitations	764	.042	.040**	.056	.015		1	
7. Mental Health	666	-.048	-.031*	-.139**	-.071	.060	-.113**	1

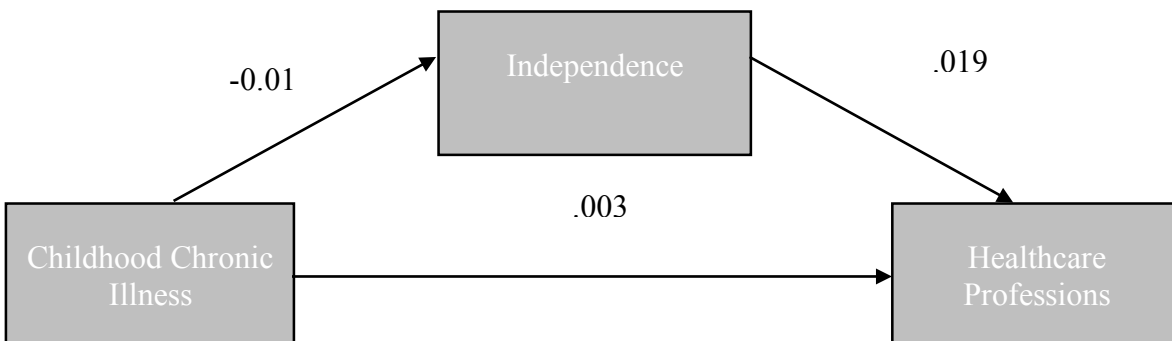
* $p < .05$; ** $p < .001$; *** $p < .001$

Chronic illness and Career Choice

An ordinary least squares regression was tested to determine if there was a direct relationship between the childhood chronic illness and the healthcare professions. The results of the regression determined that there was not a significant relationship between chronic illness and healthcare professions ($\Delta R^2 = .000$, $F(1, 7888) = 1.082$, $p = .298$).

Further, to test independence (whether one was partnered) as a mediating variable in the association between chronic illness and healthcare professions, a Sobel test was run to determine if there was a mediating, or indirect, relationship. As Figure 2 illustrates, independence did not mediate the association between childhood chronic illness and healthcare professions ($\Delta R^2 = .000$, $F(2, 4263) = .813$, $p = .443$).

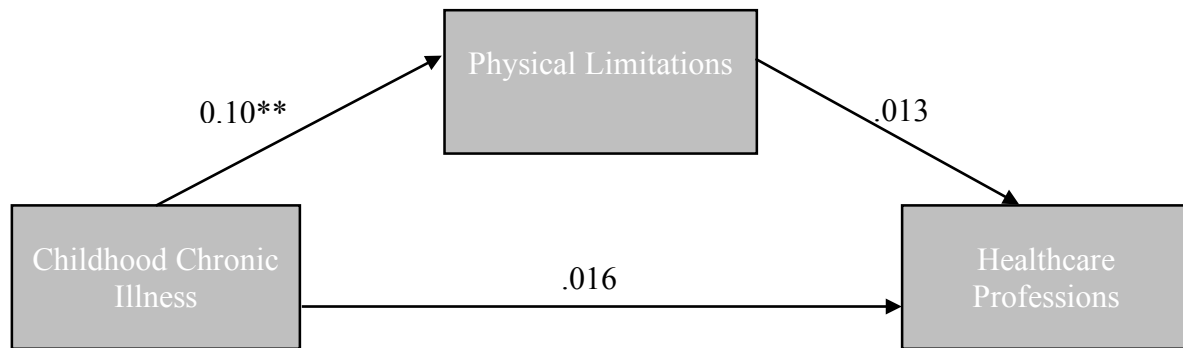
Figure 2.
Independence as a Mediator for Chronic illness



In order to test physical limitations as a mediating variable in the association between chronic illness and healthcare professions, a Sobel test was run to determine if there was a mediating, or indirect relationship. Results found that physical limitations did not mediate the association between childhood chronic illness and healthcare professions ($\Delta R^2 = .000$, $F(2, 7064) = 1.655$, $p = .191$).

Figure 3.

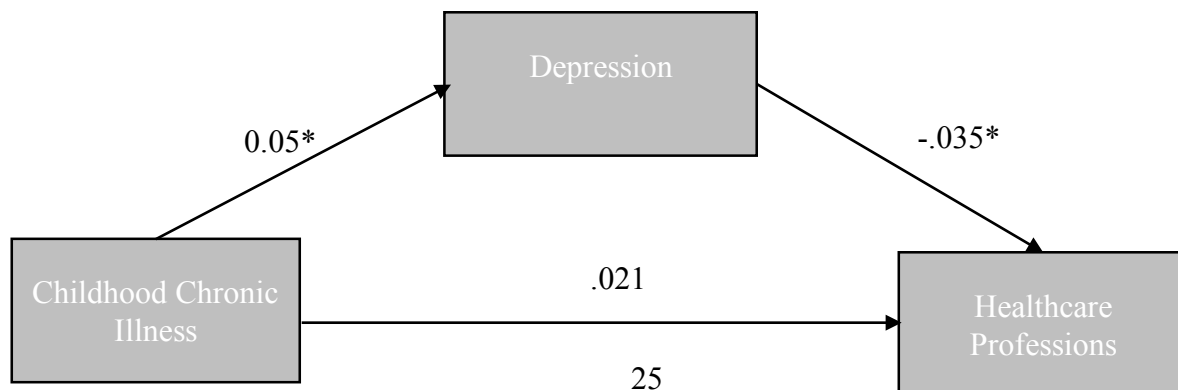
Physical limitations as a Mediator for Chronic illness



Finally, to test mental health (score on the depression scale) as a mediating variable in the association between chronic illness and healthcare professions, a Sobel test was run to determine if there was an indirect relationship. Results found that depression mediated the association between childhood chronic illness and healthcare professions ($\Delta R^2 = .002$, $F(2, 6247) = 5.335$, $p < .005$), suggesting partial causality.

Figure 4.

Depression as a Mediator for Chronic illness



Post Hoc Results

Once the results were determined for chronic illness as a whole, additional tests were performed to identify the relationship between specific chronic illnesses and healthcare professions: Asthma (682 participants) and Diabetes (19).

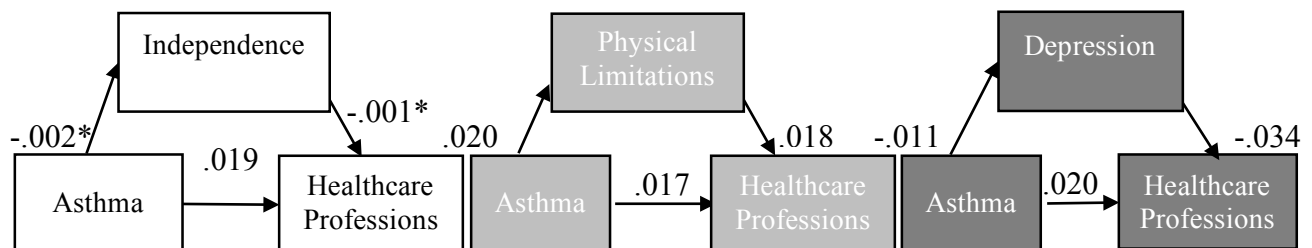
Results found that independence did not mediate the association between asthma and healthcare professions ($\Delta R^2 = .000$, $F(2, 4829) = .909$, $p = .403$). Results found that physical limitations did not mediate the association between asthma and healthcare professions ($\Delta R^2 = .001$, $F(2, 8005) = 2.547$, $p = .078$). Results found that depression did mediate the association between asthma and healthcare professions ($\Delta R^2 = .002$, $F(2, 7060) = 5.802$, $p = .003$).

as shown in figure 5.

Figure 5.

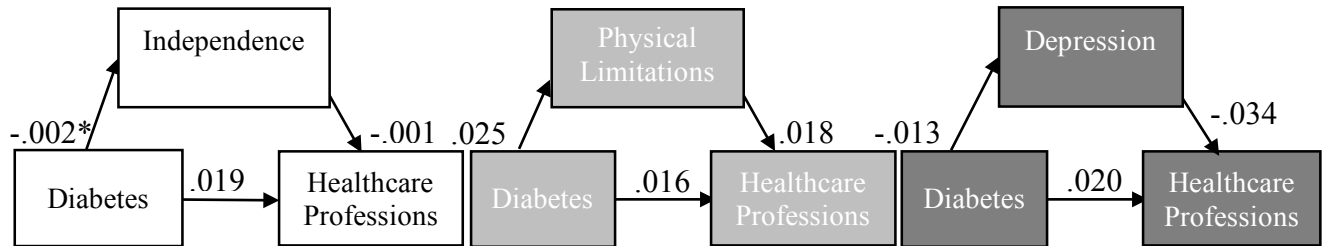
Mediations for Asthma

Note: * $p < .05$ Significant



Results found that independence did not mediate the association between diabetes and healthcare professions ($\Delta R^2 = .000$, $F(2, 4829) = .881$, $p = .415$). Results found that physical limitations did not mediate the association between diabetes and healthcare professions ($\Delta R^2 = .001$, $F(2, 8005) = 2.458$, $p = .086$). Results found that depression did mediate the association between diabetes and healthcare professions ($\Delta R^2 = .002$, $F(2, 7060) = 5.710$, $p = .003$) as shown in figure 6, again suggesting partial causality.

Figure 6.
Mediations for Diabetes



Summary

Data analysis revealed that aligning with prior research, childhood chronic illness had a significant impact on a person’s ability to be independent, the physical limitations they experience, and is associated with mental health. The results did not however, show any significant relationship between independence or physical limitations and choosing a healthcare career. There was an indirect effect of the association between chronic illness and being in the healthcare profession through depression. Though many (166) of the participants did pursue careers in healthcare, this was not influenced by their childhood illness. The post hoc tests did, however, find significance in certain indirect effects in the association of specific conditions leading to healthcare professions through depression.

CHAPTER 6: DISCUSSION

The purpose of this study was to further investigate the relationship between chronic illness in childhood and healthcare careers in adulthood, with possible mediation through independence, physical limitations, and mental health. It appears that while this study confirmed the relationship between chronic illness and adult outcomes related to physical limitations, and increased depression. It did not reveal an influence on ability to partner, or an association between chronic illnesses and pursuing healthcare careers. The results did, however, reveal a mediation of depression on the association between childhood chronic illness and healthcare professions.

Career choices in adulthood

Results of this study do not suggest an association between chronic illness and career choice. Children who experience a childhood illness are not more likely to go into a healthcare field than those who did not have a childhood chronic illness. According to the life course theory, individuals construct their journeys based on past experiences (Elder, 1998). If those past medical experiences were negative, it could lead those with chronic illness to pursue careers outside the healthcare field, while a select few may have had positive experiences. T

he time at which a child was diagnosed could have impacted their ability to cope with the illness and adhere to treatment, in this case prior to adolescence, and could have posed lifelong limitations that made it more difficult to pursue a career in the healthcare field. In this study, the exact age children were diagnosed or how much time they spent in the hospital was not addressed. This might influence an individual's decision to go into the healthcare profession. If a chronic illness is diagnosed earlier, this could have impacts on early developmental milestones, and children may not learn autonomy as quickly for example, keeping them in Erikson's conflict

of autonomy versus shame and doubt (Erikson, 1959). Pursuing a career and reaching independence requires autonomy. If an infant is diagnosed with a chronic illness, it can impact ability to form trusting relationships, which may mean less support throughout school, and they may not have someone to encourage them to pursue a vigorous medical education. Impacts on developmental milestones can also impact one's mental health, and perception of illness, therefore creating issues when it comes to independence and achieving career goals.

When the NLSY97 cohort was reaching age 29, the Great Depression had impacted the United States. 33% of the original cohort did not have a job in 2008 (Bureau of Labor Statistics, 2019). This may have meant that the participants with chronic illness did not have a job at all, or those in the healthcare profession at lost their job at the time of the census.

Physical Limitations

The association between childhood chronic illness and career choices was not mediated by physical health. Chronic illness, consistent with previous research, did have a significant impact physical health (Compas et al., 2012; Elissa et al., 2018). Physical limitations were not associated with being the healthcare profession. As society progresses, there are more and better disability accommodations so having physical limitations is not as limiting and therefore, not associated with the kind of career one can have. Poor habits in childhood and adolescence could have led to poor health outcomes due to individuals not adhering to treatment and more severe health problems (Compas et al., 2012), which could mean individuals may not be in peak physical health or have even died by age 29, meaning they are not pursuing any type of long term career. Research found that with the constraints of frequent school or work absences and medical visits, any employment an individual pursues comes with added challenges and impact

daily activities, but the results of this study do not suggest this, because many of the children with chronic illness had careers at the time of the census.

The child life profession did not play a huge role in the 1980s, when the NLSY97 cohort would have been receiving a diagnosis or care for a chronic illness. As of 1983, there were only 235 child life specialists in the Child Life Council (ACLP, 2021). Today in the United States there are over 53,500 child life specialists. The children in this generation are receiving the psychosocial support from child life specialists, which the NLSY97 participants may not have had access to. The lack of psychosocial care could have impacted ability to manage physical limitations and cope with the reality of living with a chronic illness.

Mental Health

The association between childhood chronic illness and career choices was in fact mediated or accounted for by mental health. There was a significant impact, consistent with the research, of chronic illness on mental health outcomes (Ferro, Gorter, & Boyle, 2015; Suris, Michaud, & Viner 2014; Vuotto et al. 2017). Those with chronic illness in childhood may have had negative healthcare experiences (Mahan, Rollins, & Bolig, 2018; Thompson, 2009) and more depressive symptoms which could align with feelings of being devalued or isolated (Compas et al., 2012; Gurney et al. 2009). Negative healthcare experiences have the potential to lead to developmental delays, making it more difficult to reach developmental milestones, as outlined in Erikson's theory of psychosocial development (Erikson, 1959). Negative past experiences can also cause anxiety surrounding the healthcare environment, which would lead individuals to pursue alternate careers, away from the healthcare field. The more depression one feels, the more stress and difficulty completing tasks one may feel. This can lead to poor mental

health outcomes, high frequency of comorbid conditions, and even death (National Academies of Sciences, Engineering, and Medicine, 2020).

How children react is based upon their developmental stage, biological age (Erikson, 1959), and previous experience with illness or hospitalization according to Erikson's theory of psychosocial development (Thompson, 2009). The earlier that these negative experiences occur, the more psychosocial problems that children take with them into adulthood. A child who has been diagnosed from infancy with a chronic illness may be able to cope with the impacts, whereas an adolescent in the intimacy versus isolation stage may take a diagnosis as a shock and derail their future plans, making them feel isolated. For example, someone who is diagnosed with brain cancer in adolescence may not be able to attend college and years of medical school with their peers, a goal that had once seemed attainable.

Depending on the level of stress and the perception of their illness as a barrier (Verhoof et al., 2014), individuals may feel less equipped to handle the additional barriers that come with pursuing a healthcare career. If one does not have symptoms of depression, or those symptoms are managed, they may endure and pursue a healthcare career, due to their experience with the healthcare field and comfort in the medical environment. However, if those symptoms of depression are not managed, there could be anxiety surrounding the healthcare field and the pressure to make life and death decisions, which may deter someone living with chronic illness from a healthcare profession. According to Feminist theory, every individual's perception of the experience is different (White, Martin, & Adamsons, 2019), meaning that some individuals with positive experiences may be drawn to healthcare careers, while others with different experiences may not.

Independence

The association between childhood chronic illness and healthcare professions was not mediated or accounted for by independence. Consistent with some past literature, those with a chronic illness diagnosed in childhood had no association with being partnered or partnered with children (Maslow et al., 2011).

Impacts on psychosocial development can lead to difficulties with developmental milestones, identity development, and peer relationships (Erikson, 1959). Having additional physical needs can also impact one's ability to become independent from their caregivers, but not impossible. Chronic illness can influence the perception of control and ability to engage in activities, which can also impact ability to achieve independence, and pursue any career of their choice (Elissa et al., 2018).

Independence can also be defined by one's individual perception of themselves as independent. This may be defined by independence in healthcare, financial independence, or developmental age. One might not be partnered, but living independently and solely make the decision of what employment to pursue. This independence can also be gained later in life by those with a chronic illness (Maslow et al., 2011), so age 29 may not have been an accurate measure of independence for the individuals in this study. This was also a time in history when children were "boomeranging" back to live at home, though they were considered independent adults. Research shows that it may take children and adolescents diagnosed with a chronic illness longer to achieve goals, but forming peer relationships, getting married, having children, living independently, and having a career is possible (Maslow et al., 2011).

Asthma and Diabetes

Upon further examination, results found that specific illnesses: asthma and diabetes, did not have an association with healthcare professions, but were mediated by depression. These

illnesses have additional daily tasks, such as traveling with an inhaler or insulin. According to the Center for Disease Control and Prevention (CDC), as of 2020, approximately 34 million Americans have diabetes, and 25 million Americans are living with asthma, which are large numbers of people with support on a national scale.

Chronic illnesses have a variety of resources to support coping, whether that be medical specialty camps, arts in medicine programs, or hospital resources such as child life specialists to facilitate coping with this chronic condition early on. Those with the highest levels of depression may not pursue healthcare, but resilient individuals coping with their chronic condition and mental health may be able to overcome their limitations. As the medical field has advanced, children with chronic illnesses have access to evidence-based, psychosocial care. There is an emphasis on family-centered care, which involves parents and caregivers as a part of the medical team, and research on the positive impacts of involving individuals in their care early on. In 1997, when the NLSY cohort was receiving care, there were not as many child life specialists available, and options beyond the hospital, such as caregiver and sibling support groups, telehealth, and availability of home care that can make a difference in a child's ability to cope with chronic illness. There are a network of social media and online resources that are accessible, and those with chronic illness can connect with each other and share experiences. The medical field is consistently changing and evolving, so there may be even more available to support those with chronic illnesses in the future to achieve their goals. In recent times, the pandemic has yet again changed the approach to patient care, so impacts of this new time in history could be studied in the future.

Limitations

In studying this population, there is finite number of individuals with chronic illnesses. In general, studies rely solely on children or parents report, which could alter the responses based on bias. When using quantitative data, there are also limitations because the data does not reveal individual perceptions and answer questions with explanations as to why choices were made. In this particular study, there were limitations due to the secondary nature of the dataset, the researchers were not able to ask questions specific to this particular study, because the data was collected prior. In this study, there no measure the construct of resilience in order to draw conclusions about the respondents' decisions. Also, this data may be limited because the respondent's careers were recorded at age 29, meaning that since collection those careers could have changed, or participants could have been in school or pre-professional programs.

Implications

Though overall chronic illness in childhood did not significantly influence healthcare careers, there were a number of useful pieces of information learned through the current study that may be helpful to individuals with chronic illness, their families, and healthcare professionals.

Children with chronic illness

This study found that in addition to healthcare careers, those diagnosed with chronic illness in childhood pursue a variety of careers despite physical and mental health. This study shows the potential for resilient adults with the capacity to achieve their goals despite challenges. More information is needed to examine the coping strategies of those who chose and found successful careers.

Families of those with chronic illness

This study also provides insight for the families of those with chronic illness diagnosed in childhood. With the proper support and nurturing from family members, those with chronic illness may have the capacity to overcome challenges such as physical limitations and depressive symptoms, while also being able to form bonds with partners and pursue challenging careers. In future studies, the construct of independence can be further examined based on other variables such as independence from the household and financial independence.

Healthcare Professionals

This study can serve as a call to action for healthcare providers to realize the potential of those diagnosed with chronic illnesses, and empower them to pursue careers in any field. These resilient individuals have potential, and with the right psychosocial support and care from their providers in order to establish a treatment plan for the future, that potential can be realized. Future research may focus on the presence of a child life specialist and whether that impacts career choice in children with chronic illness.

Conclusion

This study provided the groundwork for future studies to examine the potential of those diagnosed with chronic illness in childhood. Future research can examine other career paths and determine what careers a majority of those with chronic illnesses pursue. More qualitative research could examine the impacts of variables such as physical limitations, mental illness, and independence. There is also much to be studied on parental impact on individuals with chronic illness, and the potential for parental influence on career choices. This study examined a majority of White and Male participants from the United States, so future research could look into other populations, other races, and other countries. More information could also be gathered from the perspective of healthcare professionals on the capacity of their patients with chronic illness,

especially in a more recent worldview, and what interventions in childhood can impact future coping and resilience.

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APPENDIX A: CODES FOR NSY97 VARIABLES

Codes for NSY97 Variables

Category	Variable
Career (self-report)	Occupation code. 10 to 430: Executive, administrative and managerial 500 to 950: Management related 1000 to 1240: Mathematical and computer scientists 1300 to 1530: Engineers, architects, and surveyors 1540 to 1560: Engineering and related technicians 1600 to 1760: Physical scientists 1800 to 1860: Social scientists and related workers 1900 to 1960: life, physical, and social science technicians 2000 to 2060: counselors, social, and religious workers 2100 to 2150: lawyers, judges, and legal support workers 2200 to 2340: teachers 2400 to 2550: education, training, and library workers 2600 to 2760: entertainers and performers, sports and related workers 2800 to 2960: media and communication workers 3000 to 3260: health diagnosis and treating practitioners 3300 to 3650: health care technical and support 3700 to 3950: protective service 4000 to 4160: food preparations and serving related 4200 to 4250: cleaning and building service 4300 to 4430: entertainment attendants and related workers 4460: funeral related occupations 4500 to 4650: personal care and service workers 4700 to 4960: sales and related workers 5000 to 5930: office and administrative support workers 6000 to 6130: farming, fishing, and forestry 6200 to 6940: construction trades and extraction workers 7000 to 7620: installation, maintenance, and repair workers 7700 to 7750: production and operating workers 7800 to 7850: food preparation 7900 to 8960: setter, operators, and tenders 9000 to 9750: transportation and material moving workers 9800 to 9840: military specific occupations 9950 to 9990: ACS special codes
Gender	Gender of youth 1 Male 2 Female

Race Combined race - ethnicity variable
1 Black
2 Hispanic
3 Mixed Race (Non-Hispanic)
4 Non-Black / Non-Hispanic

Health Conditions (Parent Report) Does [this youth] now have or has [he/she] ever had any other chronic health condition or life threatening disease such as asthma, heart condition, anemia, diabetes or cancer?
1 Yes
0 No

What chronic condition does R have?
Asthma
Heart Condition
Anemia
Diabetes
Cancer
Epilepsy
Infectious disease
Kidney
Allergies
Other

Age when chronic condition was first noticed
0-18+

R currently limited by the chronic condition
0 No, not currently limited by this condition
1 Yes, limited a little
2 Yes, limited a lot

Mental Health (Self-report) How much of the time during the last month have you been a very nervous person?
1 All of the time
2 Most of the time
3 Some of the time
4 None of the time

How much of the time during the last month have you felt calm and peaceful?
1 All of the time
2 Most of the time
3 Some of the time
4 None of the time

How much of the time during the last month have you felt downhearted and blue?

- 1 All of the time
- 2 Most of the time
- 3 Some of the time
- 4 None of the time

How much of the time during the last month have you been a happy person?

- 1 All of the time
- 2 Most of the time
- 3 Some of the time
- 4 None of the time

How much of the time during the last month have you felt so down in the dumps that nothing could cheer you up?

- 1 All of the time
- 2 Most of the time
- 3 Some of the time
- 4 None of the time

Physical
Health (self-
report)

Does your health limit you in moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

What about climbing several flights of stairs?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

During the past 4 weeks, have you accomplished less than you would like with your work or other regular daily activities as a result of your physical health?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

During the past 4 weeks, were you limited in the kind of work or other activities as a result of your physical health?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

During the past 4 weeks, have you accomplished less than you would like with your work or other regular daily activities as a result of any emotional

problems (such as feeling depressed or anxious)?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

Did you not do work or other activities as carefully as usual as a result of any emotional problems (such as feeling depressed or anxious)?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside of the home and housework)?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- 1 Yes a lot
- 2 Yes a little
- 3 No Not at all

Independence (self-report) Marital or cohabitation status as of the survey date.

- 1 Never married, cohabiting
- 2 Never married, not cohabiting
- 3 Married, spouse present
- 4 Married, spouse absent
- 5 Separated, cohabiting
- 6 Separated, not cohabiting
- 7 Divorced, cohabiting
- 8 Divorced, not cohabiting
- 9 Widowed, cohabiting
- 10 Widowed, not cohabiting

Partners, R had a child with partner or spouse

- 1 Yes
- 0 No

Partners, R's partner or spouse was currently living with R at interview date

- 1 Yes
 - 0 No
-

