2023

A Midwestern United States Latino Study of Sexual Behaviors Among Latino Adolescents

Astrid Alejandra Cartagena Cabrera
Walden University

Walden University

College of Health Sciences and Public Policy

This is to certify that the doctoral study by

Astrid Cartagena

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Chester Jones, Committee Chairperson, Public Health Faculty
Dr. W. Sumner Davis, Committee Member, Public Health Faculty
Dr. German Gonzalez, University Reviewer, Public Health Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2023

Abstract

A Midwestern United States Latino Study of Sexual Behaviors Among Latino Adolescents

by

Astrid A Cartagena

MPH, Liberty University, 2015

BS, Iowa State University, 2010

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

May 2023

Abstract

Increasing rates of adolescent unwanted pregnancies can be detrimental to families and the health of the infant. Rates of teen pregnancy among Blacks, Whites, Asians, and other races has decreased; however, the Latino population has not seen similar declining numbers. The Hispanic population currently has the highest rate of teen pregnancy that continues to increase in comparison to any other racial–ethnic group. In this study involving data from the Youth Risk Behavioral Surveillance System, a sample of 17,303 was used. Chi-square analyses and descriptive frequencies were used to identify associations between teen pregnancy and sexual behaviors; and how existing programs work to address these concerns. Latino adolescents in the Midwest are significantly less likely to adhere to programming that seeks to address and encourage healthier sexual habits.

The purpose of this study is to better understand if there is a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) among Latino adolescents in the Midwest. Findings demonstrate that the Latino population of the Midwestern United States has a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest. These results may have positive social implications in the Latino communities of the Midwest. Some of proposed changes could involve revisions or enhancement to existing programs like the Illinois Department of Human Services: Sexual Education and The Sexual Abuse Education Prevention program in Minnesota that will in turn results in meeting some of the educational needs of Latino adolescents in the Midwest.

A Midwestern United States Latino Study of Sexual Behaviors and Among Latino Adolescents

by

Astrid A Cartagena

MPH, Liberty University, 2015

BS, Iowa State University, 2010

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

May 2023

Dedication

This capstone project is dedicated to my mother, Susan Cabrera, a very well-recognized Obstetrician and Gynecologist in Puerto Rico. Her passion for helping adolescents make sound sexual decisions inspired me to take on this research topic. Although she is no longer living, her memory continues to live through me and will forever be alive in my heart.

Table of Contents

List of Tables

Section 1: Foundation of the Study and Literature Review

Introduction

The Latino population is the largest ethnic group in the United States and the Midwest. Most of that population is relatively young, and almost 32% are adolescents (Becker et al., 2015). Projections indicated that by the year 2025, 28% of adolescents will be between 14 and 24. In the Midwestern United States, teen pregnancy rates have decreased among Black, White, and Asian populations, but has increased among the Latino community (Becker et al., 2015).

The results of this study showed the need for increased awareness and a better understanding of the gaps that exist in programming that is used to change teen sexual behaviors. The Centers for Disease Control and Prevention (2019) found that the Latino population had not shown a decrease in teen pregnancy rates, which can be attributed to cultural differences, communication barriers, among other variables. By reducing the rates of risky sexual behaviors among Latino adolescents, the national average of unwanted pregnancies may decrease significantly.

Problem Statement

In the past decade, teen pregnancy rates have been declining throughout the United States (Salam et al., 2016). While the decline is seen among most races, the Hispanic/Latino population has the highest rates and slowest decline of both teen pregnancy and unprotected sexual behaviors (Salam et al., 2016). This was shown in

research, performed at the University of Southern California, where it was found that birth rates are higher for Latina teens than for any other race (Mays, 2022).

According to the U.S. Census Bureau (2019), 12 states make up the Midwest: Illinois, Indiana, Iowa, Kansas, Missouri, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Higher rates of pregnancy, among Latino teens, exist because of cultural influence that strongly encourage mothers to give birth at an early age, often before the age of 20 (CDC, n.d.). Cultural influences are often shaped by cultural beliefs which are different within the Latino population compared to other races that are native to the United States. (Deardorff et al., 2018). Cultural practices based on beliefs include behaviors around sexual communication, sexual comfort, and sexual acceptance. Some examples of those cultural behaviors include but are not limited to the number of sexual partners an adolescent has had, their current sexual activity, birth control communication or birth control use. According to Driscoll and Abama (2015), children born to teen mothers are significantly more likely to be at risk of poor health, come from an unstable family life, live in poverty, and experience academic failure than those children born to older women with established careers (CDC, n.d.). However, an overwhelming amount of evidence exists that indicate children born to older women with established careers (CDC, n.d.; Patton, 2016; Romero et al., 2016;).

Nearly a quarter of girls and women, ages 15–19 years, are married, with an estimated 16 million giving birth within that same timeframe (Salam et al., 2016). The World Health Organization (WHO) established guidelines and training suites, like The

Global Early Adolescents Study (GEAS) Questionnaire and Training Suite to better help these young women understand and prevent early pregnancy (WHO, 2020). The CDC established that the health, economy, and social life of teen mothers can be negatively impacted by health complications, ability to finish school, and limited attendance to social activities (Romero et al., 2016).

Professional scholars in the public health field have established that between the years 1990 and 2008, the rates of teen pregnancy in the Latino community declined by 34% (CDC, n.d.). In comparison, the White teen population saw a decrease was 50% (Becker et al., 2015). The difference in decline may be due to the adherence to existing resources provided in their community. The differences in these rates have been linked to the availability of community resources and whether teens adhere to the advice provided (Salem et al., 2016). The Midwestern United States provides evidence-based prevention programs and resources, like Twin City Moms in Minnesota, Familias Unidas, and Heritage Keepers Abstinence Education, that focus on reducing teen pregnancy rates, transmission of sexual infections among teens, and address sexual risk-taking behaviors (The University of Minnesota, 2021).

Early pregnancy, sexually transmitted infections (STI), and HIV impact adolescent Latinas more frequently than non-Hispanic, White adolescents (Morales-Alemán & Scarinci, 2016). Education, awareness, and economic status are often brought up as significant reasons why these issues are significant within the population (Morales-Alemán & Scarinci, 2016). Unfortunately, the attainment of resources addressing these

issues may not be well-received due to the lack of parental support or community reception.

Purpose of Study

I conducted this study to examine the cultural influences on Latino adolescents in the Midwestern United States that are engaging in sexual behaviors that result in teenaged pregnancies. The results of this study may be used to understand why Latino girls, between 12 and 17 years of age, engage in sexual behavior. According to a survey conducted by planned parenthood and the center for Latino Adolescents and Family Health, Latinos teens are more open to sex education. However, they have less access to birth control and fewer education and awareness programs available in comparison to other Americans (Planned Parenthood Action Fund, Inc., 2022). The gaps in the literature show a need for more feasible and accessible sexual and reproductive health intervention programs in the Midwestern, Latino population.

Research Question and Hypotheses

To effectively examine the influences of demographics of Latino adolescents, their sexual behaviors in the Midwestern United States, I composed the research questions below:

Research Question 1 (RQ1): Is there a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) among Latino adolescents in the Midwest?

Null hypothesis ($H_0$1): There is no significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) among Latino adolescents in the Midwest?

Alternative hypothesis (H_a1): There is a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) among Latino adolescents in the Midwest?

Research Question 2 (RQ2): Is there a significant association between geographical location (population size, regions, areas)and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) in the Midwest while con education level attainment?

Null Hypothesis ($H_0$2): There is no significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) in the Midwest while controlling for education level attainment?

Alternative hypothesis (H_a2): There is a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) in the Midwest while education level attainment?

Theoretical Foundation for the Study

In this study, I used the Community Health Improvement Process (CHIP) Strategic Prevention Framework, which is a community-level assessment tool that is used to examine the impact of cultural practices on decision-making processes. (Durch et al., 1997). This evidence-based approach has been used to create a strategic prevention methodology that is geared toward large, small urban-suburban, and rural communities. The use of evidence-based and multisector collaborations supported shared ownership of all phases of community health improvement (Durch et al., 1997). It also explains how education is vital in any society at multiple levels: individual, family, and community levels (Durch et al., 1997). This theory was relevant to the study approach, critical research questions, instrument development, and data analysis I used in this study.

Unfortunately, many of the existing programs are ill-received by the Latino community because of immigration status, economic factors, and cultural beliefs (Tebb et al., 2018). Some of those cultural beliefs may impact the number of some of the sexual behaviors discussed within the study, such as number of partners, use of contraceptives, participation in school-based sexual education services. (Deardorff et al., 2018). Understanding the background of the Hispanic community and different cultural beliefs enables investigators to tailor existing programs to the needs of Latino communities. I used CHIP to focus on exploring and comparing the cultural differences from a latino and a US native and how different belief systems may prevent the Latino community from participating in the programs geared toward sexual behaviors that are already in place.

The outline is a process that organizations, initiatives, and communities can follow to help reduce teenage pregnancy in Latino communities (Durch et al., 1997).

Nature of the Study

I conducted a cross-sectional, quantitative study to provide a measurement of the Latino community's sexual behaviors, culture, and socioeconomic variables. I used data concerning different races, along with number of partners, first sexual contact, use of contraceptives, and cultural beliefs, to identify the difference in incident rates and rates of health complications in the Latino population compared to other races.

I used analysis in this study to determine more effective approaches for the Latino communities to develop early protective factors regarding sexual behaviors for adolescents. The development of some programs will also educate and encourage community involvement in these preventative efforts. The Office of Disease Prevention and Health Promotion and Office of Disease Prevention and Health Promotion are programs that could benefit from the data gathered in the study, especially the Healthy People 2030 approach. The findings of this study may be used by to allocate funds to existing programs rather than creating new ones with unknown success rates.

Literature Search Strategy

In my literature review, I used the keywords *adolescent sexual behaviors, teen pregnancy, adolescent health, pregnancy health,* and *adolescent sexual reproductive health*. I used several online health journals to conduct this research project, including Google Scholar, the Walden University Library, Pub Med, the New England Journal of

Medicine, the Maternal Child Health Journal, the Journal of Adolescent Health, and the CDC. Secondary-type resources were also accessed through the Youth Risk Behaviors Surveillance System (YRBSS). Many of the research journals and articles used for this study were conducted within the last 5 years. I used some peer-reviewed sources from the last 10 years to establish the trends and changes seen in adolescent pregnancies within the last decade.

Background

I conducted this study to evaluate Latino community members' sexual behaviors, culture, and socioeconomic variables, along with the gaps that exist in the programming that addresses adolescent sexual behaviors in the Midwestern Latino community. The Centers for Disease Control and Prevention (CDC) discovered that the teen pregnancy rate in the Latino culture has not seen a decrease while other races have seen a decline. Cultural challenges, like communication barriers, and economic status of the families can all be deemed potential contributors to this (CDC, 2019). For example: Latina women are less likely to use contraceptives than any other race (Deardorff et al., 2018). The findings of this research study show why Latino adolescents still have the highest percentage of teenage pregnancy rates.

Driscoll and Abma (2015) provided insight into the trends of the sociodemographic factors related to teen births using logistic regression models. In addition to Driscoll and Abama's findings, Romero et al. (2016) published an article where they addressed the socioeconomic disparities found in teens (15 to 19 years) in the

United States. Salam et al. (2016) systematically reviewed all published literature up to December 2014 on interventions to improve sexual health in the adolescent population. Patton and Temmerman (2016) also addressed the gaps in evidence-based research in adolescent health care. The article by Darroch, et al. (1999) addressed the age differences between sexual partners in the United States. The researchers examined the age of partners of young women when they first engage in intercourse. Investigators were provided a better understanding of sexual behavior and trends within the teen population. Aubughosh et al. (2019) studied the differences in teenage sexual behavior and the involvement of parents in their lives. The results of the study proved that teenagers and the level of parent involvement were indirectly associated with reduced incidents of HIV/AIDS. According to Li et al. (2017), high Latino employment rates in the Midwest, the United States Census Bureau (2020) reveals the recent Latino surge in the Midwest. This surge is also known as "the browning of the Midwest" (United States Census Bureau, 2020). The rates in these states climbed from 1.2 million to 1.8 million, including about 1 million Hispanics in Illinois. However, the U.S. Census Bureau (2021) established that over the same period, the White population in these states declined by 400,000.

The Midwestern United States has a large population of Latinos. Furthermore, it is the largest source of immigrant workers in the United States (Flores, 2011). With the growing Latino population in the Midwestern United States, it was essential to understand the social ties they hold with their community, as it may be vital to this

research. In doing so, better programing, tailored to the Hispanic population, can be provided throughout the United States. Researchers have been able to emphasize how these social ties impact immigrants. Viruell-Fuentes et al. (2013) found that Latino families have significantly lower levels of social ties to the communities than any other races.

Assari et al. (2020) researched the health effects of educational attainment for socially marginalized groups, including Latinos. They concluded that the association between educational attainment and psychological distress is weaker for immigrants than native-born Americans, suggesting the mental health of Latino families and their adolescent children is not impacted as much by group education attainment, in comparison to any other group (Assari, et al., 2020). Essentially, educational attainment was not at the determinant of the health and safety of the people.

Research also shows that social support is protective of health and health outcomes for Latino communities (Almeida et al., 2009). Almeida et al. (2009) suggested that Latinos rely on family ties more than other non-Latino Whites. When family ties are lacking— for instance, due to a recent move for a job—families, especially teenagers, may not have the family connection they are used to.

While Latino families are the fastest-growing immigrant group in the Midwestern United States, there is minimal information about their emotional well-being, which may be linked to the scarce information regarding safe, sexual behaviors and decision-making for adolescents. Due to the void of family ties and community involvement activities

these variables confound to create a non-fulfilling atmosphere for Latino teens (Lara-Cinisomo et al., 2014). The void of family ties and community involvement has also yielded links between Latino youth showing internalizing behaviors which explains the differences in mental health and codependency (Lara-Cinisomo et al., 2014).

Literature Review related to Key Variables and/or Concepts

The examination of the data provided by the youth risk behavior surveillance system (YRBSS), a system survey that measured the prevalence of health-related behaviors among adolescents, suggests that the risky sexual behaviors of the Latino teen population can be attributed to culture and socioeconomic status (CDC, 2019). Low adherence to existing programs may be due to the design of the programs and how it was tailored to address the community, along with the lack of family ties and bond (Lara-Cinisomo et al., 2013). The programs often provide resources the teens can use but does not fulfill the mental health need of companionship family provides (Almeida et al., 2009)

In this research, I used the data to best understand the differences between races of adolescents engaging in sexual behaviors, and then compare the success of the statistical changes in behaviors from one race to another (e.g., Latino/Hispanic population). Driscoll and Abma (2015) studied the changing sociodemographic factors in teen fertility. Their findings included data from 1991 to 2009. Pregnancy during adolescence was linked to low socioeconomic status, low likelihood of high school completion, low likelihood of attending college, and remaining poor through adulthood

(Driscoll & Abma, 2015). While teenage pregnancy has declined since 2009 and high school graduation rates have increased for most races, the impact has yet to be seen as drastically within the Latino and Hispanic populations (CDC, 2019).

However, as Assari et al. (2020) found, the associations between educational attainment and psychological distress are much weaker in Latinos than in those born and raised in America, which helps to understand that additional resources are needed.These resources will enable individuals to seek positive health outcomes, for example: sexual behavior choices.

The Institute of Medicine (IOM) published literature in which the focus was better understanding of healthcare and public health activities, and how the workers can use the activities to improve health at the community level (IOM, 2007). Problem identification––like a family bond issues, lack of community ties, and misuse of prioritization cycles—will help researchers understand the gaps in current public health program centered around adolescent pregnancy prevention in different Latino communities in the Midwest (Inanc, 2020). Those frameworks and techniques need to be carefully evaluated and understood so that a decision can be made on how the program will be designed to better target the Hispanic population. Due to community ties and family bonds weighing heavily in the participation of Latino community members in a program, it is important to heed this knowledge when designing programming (Lara-Cinisomo et al., 2013). Perhaps a program design involving family ties and high community involvement may increase

attendance and attainment of the teachings of a program, as these may be the variable that holds the community accountable.

Patton and Temmerman (2016) focus on the needs of adolescent global health and international development initiatives. Findings include that adolescents are a vital group in determining the future need for social determinants such as education, job opportunities, income, access to nutritious foods, language, and literacy skills etc. (Patton, 2016). Investigators found that adolescent populations will shape the approach to new social determinants and show that schools are still the most critical platform for action due to the increased retention of students in secondary education (Patton, 2016). Therefore, involving other Latino teens in a school district may provide a sense of community and provide family tie atmosphere, helping in retaining participation in the programs being provided. If the teens are holding each other accountable to participate in the programs that promote safe sexual decisions, there is evidence that indicates a higher success rate (Patton, 2016).

According to Romero et al. (2016), between the years 1991 and 2014, the United States experienced the lowest rates of pregnancy for teens ages 15 to 19 years. The researchers of *Reduced Disparities in Birth Rates Among Teens Aged 15–19 Years — the United States, 2006–2007 and 2013–2014* investigated the reduction among those teen pregnancies (2016).

However, other findings included that while there was a decrease in the Hispanic population, teen pregnancies did not decline as drastically as in all other races, with the

rates remaining double the number of other races (Romero et. al., 2016). Since the rates of Hispanic adolescent pregnancy have remained twice as high, as comparative teen populations, it was evident that gaps exist in the current efforts, meaning impact is low on the intended population. While the existing community and school interventions work for some, they do not work for all. Building a socially acceptable presence in the Latino community may contribute to lowering the rates of unsound sexual decisions among adolescent Latinos in schools.

Salam et al. (2016) performed a systematic review of all published literature up to December 2014, focusing on adolescent sexual health, and concluded that U.S. adolescent pregnancies have declined in all races except Latinos. They found pregnancy rates remained high in Africa, Asia, Latin America, and the Caribbean (Salam et al., 2016).-The findings of this article by Salem et al. (2016) highlight a better understand the community approach in the United States and how it does not help improve the Hispanic community the same as it does those families that at non-Hispanics. The key variables of socioeconomic status, age of individuals during their first sexual interaction, income, and education levels were used by researchers to extrapolate why these disparities are found within the Latino community (Inanc, 2020). The researchers' findings provided a better outlook on the development of more effective programs that appear more appealing. This study was presented as the final installment focusing on a multi-series of studies centering on the health of adolescents (Salam et al., 2016).

The study included information on adolescent general and reproductive health and services, like group-based interventions and cognitive-behavioral theories, that have been proven to be effective (Salam et al., 2016). The research was considered controversial because it was conducted in high-income counties and did not necessarily reflect the experiences of low-income communities.

Tebb et al. (2018) conducted research on the reduction of health disparities related to unintended pregnancies among Latino/Hispanic adolescents. This computer-based intervention, using a cluster randomized control trial, was performed in hopes of finding ways to reduce existing health disparities among Latina adolescents (Tebb et al., 2018). Several findings revealed that while the rates of teenage pregnancies are declining, the Hispanic population's rates remain high (Regional Healthcare Improvements, 2021). Fortunately, they address how programs can continue to make progress toward higher impact if certain issues are addressed appropriately. There is a belief that the knowledge gap can lessen between Latino/Hispanic and White families if these steps are taken (Office of Disease Prevention and Health Promotion, 2019). While there are school-based interventions, community health education courses, and other programs available, it only has only proven to positively impact White families, while Hispanic families did not see change in pregnancy rates (CDC, 2019). The research points to a link between the lack of cultural community and family ties that Latinos are familiar with and how it positively or negatively impacts these rates (CDC, 2019).

The Global Early Adolescent Study (GEAS) Questionnaire and Training Suite, published by WHO (n.d.), includes data on sociodemographic and contextual characteristics of family households. Although teen pregnancies have been on the decline, the United States remains one of the highest numbers in comparison to other industrialized nations (Patton & Temmerman, 2016). This may be associated with the high Hispanic population, especially in the Midwest (Patton & Temmerman, 2016). Throughout the GEAS, researchers used questionnaires to collect data that serves as a tool in comparing numbers and program designs between the United States and international countries. GEAS also seeks to better understand gender differences around the world that may impact the community-based approaches used in the Midwest programs actively serving the communities.

Definitions

Main Concept

Latino adolescents in the United States have a higher rate of engaging in risky sexual behaviors, teen pregnancy, and sexually transmitted infections (CDC, 2019) (Driscoll & Abma, 2015). The Midwest has a fast-growing population of Latinos and Latino adolescents (Flores, 2011). This can be attributed to the Midwest being the location where people are moving for better employment opportunities.

Therefore, for the sake of this study, income was measured by the amount of money the family makes; education attainment was measured by levels of education attained (e.g., high school, college, or graduate degree); and socioeconomic status was

determined by work experience and economic and social position in relation to others. The Midwestern United States will reference the following states: Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North and South Dakota, and Wisconsin.

Unique Concepts

Increasing rates of teen pregnancy could not be solely dependent on income, education, and socioeconomic or sociodemographic factors, but also had to include sexual behaviors, age of sexual contact, contraception uses, and the number of sex partners to provide an accurate description of the statistical significance of the problem at hand (CDC, 2019). These behaviors are often associated with culture, family, and community beliefs and practices (Viruell-Fuentes et al., 2013).

Viral-Fuentes et al. (2013) also investigated the immigrant *social ties hypothesis*. It revealed that social and family relationships are one of the most critical determinants of health (Viruell-Fuentes et al., 2013). After controlling for individual-level characteristics, they also discovered that Latinos have significantly lower levels of social ties than those other immigrants born in the United States (Viruell-Fuentes et al., 2013).

Assumptions

During this research, I used secondary data and the assumptions were that methodology was used correctly and the data was reliable for this study. Research demonstrated that the cultural value and the lack of social integration, such as being part of programs offered, was associated with the increasing rates of teen pregnancy among

the Latino population within the Midwest Regions of the United States (Becker et. al., 2015).

The population sample was proven to be representative of the region and showed honest survey responses from participants. The validity of the data was considered strong, as incomplete records were eliminated, since they were not valid for analysis. An example of this situation: if an answer had the same letter 15 times in a row; if the answers were marked consecutively a, b, c, d; or if all the answers had the same letter; it was eliminated. Also, the elimination of data excluded surveys that only had demographic information filled out but contained either unmarked questions or two answers selected for the same question.

The purpose of this study was to correctly identify the differences between races and communities that show elevated rates of teen pregnancy, risky sexual behaviors, along with increasing rates of sexually transmitted infections, among the Latino teen population in the Midwestern United States.

Future research is still needed to properly obtain samples of Latino populations that are actively thriving and where pregnancy and sexual risk rates are low. With more research, it will be possible to identify what changes need to occur in the Midwest so that rates can decline.

Scope and Delimitations

Some barrier associated with the Youth Risk Behavioral Surveillance Systems (YRBSS) database was that the results available might not be obtainable for all zip codes,

schools, towns, cities, or counties (CDC, 2019). However, the data provided can be generalized to the Midwestern United States (CDC, 2019). While the data available was for a small number of specifically funded, large urban schools district and counties, the results may not be an accurate representation of the entire United States Latino population, but rather more specific areas. Another challenge was that most data was collected during the spring of odd-numbered years, and the results were released in the summer, meaning there might have been some data missing since not all students may have been in attendance at the same school for 2 years (CDC, 2019). Additional studies will need to be conducted to better assess progress made from the last Census data received. Bias may also be present as some of the programs and approaches were developed by the researchers and may have a preferred opinion and ownership toward their own work (United States Census Bureau, 2021). Lastly, only a secondary type of data was used in this project; therefore, there may be differences in reports from one study to another, along with other potential generalizability (United States Census Bureau, 2021).

Significance

The social problem of this study was that although there are resources and programs in place, teen pregnancy rates in the Midwestern United States for Latinos have not declined (Patton, 2016). Social ties and cultural disconnect exist in current program efforts that are being implemented across the nation to help address sexual behaviors, cultural beliefs, socioeconomic factors, and pregnancy among the Hispanic-Latino

population (Becker et al., 2015). With the information and results found, a more tailored approach can be used to target the specific population of Hispanic and Latino communities. While there are some programs in place, a more specific approach may help the community address the social change needed (Lara-Cinisomo et al., 2013).

The overall goal of effective programming should be to promote more comprehensive, health-centered knowledge regarding sexual decision-making and contraceptive. This will result in innovative community-based interventions that fits the needs of the Latino community, especially sexually active adolescents. Potential contributions and results of this study also may help advance cultural knowledge differences and the varied influences that shape the behaviors and decisions of Latino adolescents in the Midwestern United States.

Summary

The results of this study provide clear insight into differences in the Latino community, within the Midwestern United States, in comparison to other communities. These differences in culture and social ties point in the direction of the relationship and association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) among adolescents of Latino background in the Midwest (Santelli et al., 2000; Tebb et al., 2018; US Census Bureau, 2019; WHO, 2020). These may also further explain what encourages or discourages adolescent sexual behavior and potentially leads to teen pregnancy rates being higher than in Latino communities than any other race/culture.

Conclusion

This study fills the gaps in providing a better understanding of the different approaches needed to engage the adolescent, Latino population within the Midwestern United States that are engaging in sexual activity that may or may not lead to teen pregnancy. Potential findings seek to implement social change in communities by creating awareness of the importance of social and family ties within the Latino community (Santelli et al., 2000). The application of the Community Health Improvement Process (CHIP) promotes the inclusion of varied factors, like the health and well-being of the community at an individual level (Institute of Medicine, 1997).

Elevated rates of adolescent pregnancies do not only compromise families and teenagers, but also compromise the economy. Not finding alternative program approaches will result in the continuous rise in rates of teenage pregnancies, which can later result in high numbers of dependency on government assistance (CDC, nd).

With the findings of this study, changes to the Health Improvement processes may help evolve rather than continuing to focus on a linear change that only solves the issue on a short-term scale. Although there will be an initial cost to tailor programs, already in place, or create innovative programs; the long-term result may help the economy and positively impact the health of millions of adolescents.

Finally, Community Health and Development models, also known as the Community Organization Models, empower the communities to improve their health. Since the involvement was intentional and focuses not only on the community, but also

on an individual level, the findings of this research may encourage Midwesterners to assess and work on reducing the elevated sexual rates among Latino adolescents (Flores, 2011). Additional research may be needed to fill gaps that may be found in the present and future studies geared toward low-income and middle-income families of adolescent females of Hispanic descent.

Section 2: Research Design and Data Collection

Introduction

The purpose of this study was to examine the geographical location and sexual behaviors, associated with pregnancy among adolescents of Hispanic/Latino backgrounds located in the Midwestern United States. While the teen pregnancy rates among Blacks, Whites, and Asians in the Midwest has decreased, the rate in among Latinos has not (CDC, 2019). I conducted this research to identify the gaps that currently exist in the programs that aid adolescents and families in those communities. While the programs resources are available to all races, they are not as influential in the Hispanic population as in other populations. That lack of influence may be due to cultural or personal beliefs such as: the use of contraception because the students would have to go out of their way to find it or purchase it. Also talking openly about healthy sexual activities because parents fear it may indicate that they are giving their permission to engage in sexual activities. Another example is that attending school-based sexual education may be culturally frowned upon because it may take away innocent thinking of a minor. The United States experienced a significant drop in teen pregnancy over the last decade; however, teen pregnancy in the Latino communities has nearly doubled (Romero et al., 2016). The YRBSS is a systematic survey that measures the prevalence of health-related behaviors among adolescents (CDC, 2019). The YRBSS survey data was foundational in explaining why Latino adolescents are engaging in sexual activities that lead to unwanted pregnancies.

Research Design and Rationale

Variables

Independent Variables

Education level was the independent variable that was used to measure a person's highest attained education level (e.g., high school education, some college, college graduate).

Dependent Variable

One dependent variable used in this study was age where teen pregnancy can be defined as pregnant adolescents of 11 to 19 years of age. The next dependent variable used was gender where teen pregnancy is divided into female category. Lastly, sexual behaviors, which combined the age of sexual contact, contraception uses, and the number of sexual partners, was used as a dependent variable in this study.

Research Design

The analytical cross-sectional research study design has many limitations, such as one-time measurement and not continuous in nature. Cultural sensitivity is a limitation since the understanding of the cultural differences may not be the same across all Latinos cultures. Latinos come from different countries and might have different beliefs. In addition, bias may be present. The bias may include focusing on the population selected, such as the Hispanic population within a region of the United States. Another challenge would be measuring the outcome and exposures, while not focusing on other races in other regions of the United States (University of Minnesota, 2021). However, I decided to

utilize this design because it allowed me to compare different variables from numerous races, in multiple states, at once. I used YRBSS data to efficiently access quick comparison methods (CDC, 2019). Cross sectional designs serve many purposes, and are effective in studies of diseases, attitudes, behaviors, and knowledge (Kesmodel, 2018). Therefore the cross sectional design was a suitable form of study for this capstone project.

Methodology

Population

The population for this study was participants who completed the YRBSS, a study focused on students Grades 9 through 12. The survey was first implemented in 1990 and was used to monitor the health risks of youth (CDC, 2019). The data records were adjusted to the sample sizes, meaning that if there were questions not answered or a question contained more than one answer then the person was removed from the total number. The person is removed to ensure that oversampling and nonresponses would not be counted. The final sample size was n = 17,303. While the number was more extensive than other secondary research studies, the population size was an adequate representation, especially when including multiple states within the Midwestern United States.

Sampling and Sampling Procedures Used to Collect Data

I used secondary data derived from the YRBSS. The survey was available to the public, and it included national, state, territorial, tribal government, and local school-based surveys. The YRBSS team that is in charge of collecting the data works closely

with the department of health and education of every state so that data collected can be as accurate as possible. (CDC, 2019). Working together allows the YRBSS team to gather surveys from schools that have a more level representation of all races.

The sample will be drawn from responses from adolescents in the Midwestern United States Education levels attainment (i.e., high school, some college, and college-level) of each student allowed me to identify the average age of initial encounter of any type of sexual activity. Other variables I identified include pregnancy, Sexual education attained in school, and sexual behaviors like the use of contraceptives. In addition, I retrieved sexual behavior data regarding the participant's age of first sexual contact, and the number of sexual partners (CDC, 2019). Other sampling procedures included the exclusion of data that was not provided or left blank.

Combining the data. The data was combined into an SPSS file and for analysis. Where I removed data, I did not need for this study and removed the states that are not considered part of the Midwestern United States. Then since there were 2 files available, titled States A-M (state names alphabetically organized) and States N-Z (state names alphabetically organized) then I had to combine the data I had left from each file and combine them into one single file to include all the Midwestern States. Upon completion of the sampling, I created a column for each variable and titled them based on the individual variables. After adding the variables into columns, I added another column with a variable that provided data and information regarding dates of first sexual contact,

demographic location, and access to clinics that provide services for birth control. These variables equaled 17,303.

Power Analysis. The sample size determination was based on a linear multiple regression power analysis. Using G*Power software, I was able to establish an appropriate sample of 17,303. The sample size is selected with the assumption that the sample is large enough to represent the Latino adolescents living in the Midwestern United States. The larger the effect size the easier it would be to detect an effect without wasting resources or underrepresenting the population. The size selection was determined by the number of surveys completed by the population of teens in the Midwestern states After the sample size was identified, I analyzed the significance level with a standard setting of 0.05. The power analysis was used to detect if a true difference exists between Latino adolescents and other races. The purpose of this analysis is to avoid falsely rejecting or accepting the null hypothesis and to interpret if there was statistical significance. If the sample fell within the critical areas, then the alternative hypothesis would have been accepted, instead of the null hypothesis.

The rationale for the selection of data. When addressing the research problem and questions, there must be an adequate sample size representation. In this case, all the surveys completed by the teens were representative of the Midwest region of the United States. I combined the data using the derived sample size of 17,303. To determine whether the sample size was adequate, chi square test to determine the effect size and statistical significance.

Instrumentation and Operationalization of Constructs

Published instruments. Secondary data was retrieved from YRBSS and additional resources from multiple online journals were also used. Therefore, there was no need for published instruments for this study.

All research instruments. I used secondary data distributed from the YRBFSS survey collection. There was no need to refer to other research instruments like: interviews, tests, or checklists.

Operationalization of constructs. I used multiple variables that represented the teenage demographic of the Midwestern, Latino race in the United States. I used the variables to assess the research questions thoroughly per state.

Table 1

Variables and Labels

	Name of Variable	Label
Q1	Age	A. 12 years old or younger B. 13 years old C. 14 years old D. 15 years old E. 16 years old F. 17 years old G. 18 years old or older
Q2	Gender	A. Female B. Male
Q4	Hispanic or Latino	A. Yes B. No
Q58	Have you ever had sexual intercourse?	A. Yes B. No
Q59	Had sexual intercourse for the first time before age 13 years?	A. I have never had sexual intercourse. B. 11 years old or younger C. 12 years old D. 13 years old E. 14 years old F. 15 years old G. 16 years old H. 17 years old or older
Q60	Have you had Sexual Intercourse with Four or More Persons During Their Life?	A. Yes B. No
Q63	The last time you had sexual intercourse, did you or your partner use a condom?	A. Yes B. No

Q64	The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?	A. I have never had sexual intercourse. B. No method used C. Birth control pill D. Condoms E. IUD or implants F. Shot, patch, ring G. Withdrawal/other method H. Not sure
Q65	Have You Ever Had Sex Education in School?	A. Yes B. No C. Not sure
Q66	Have You Ever Been Taught About Birth Control Methods in School?	A. Yes B. No C. Not sure

---

Age range variables included students of ages 11-19 years in grades 9-12 in high school. The age ranges were used to differentiate the age of first sexual contact. Gender was used to differentiate between males and females. The geographic regions were categorized by state: Illinois, Iowa, Kansas, Missouri, Michigan, Nebraska, North Dakota, South Dakota, and Wisconsin. Household income was an estimated amount of the family's income within the past 12 months. Sexual behaviors, or age of sexual contact, contraception usage, and the number of sex partners was also included.

Data Plan Analysis

I used SPSS to conduct the analysis. The data obtained was inspected for errors and updated information made available. I inspected the data obtained for errors by

searching and eliminating questions that had not been answered or questions that had more than one answer. Inspections were necessary to ensure that the examination was done effectively, the use of proper research methodology was followed. From there, I was able to establish research questions and hypotheses.

Research Questions and Hypotheses

Research Question 1 (RQ1): Is there a significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest?

Null hypothesis ($H_0$1): There is no significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents; of Latino background in the Midwest.

Alternative hypothesis (H_a1): There is a significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest?

Research Question 2 (RQ2): Is there a significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), in the Midwest, controlling age, and education level?

Null Hypothesis ($H_0$2): There is no significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), in the Midwest; controlling age, and education level?

Alternative hypothesis (Ha2): There is a significant association between geographical location (population size, regions, areas), rate of sexual behaviors (number of partners, and first sexual contact, use of contraceptives), in the Midwest, controlling age, and education level?

Statistical Tests. Chi-square was used as the statistical analysis methodology in this study. This analysis determined and compared the relationship between one variable and another.

A procedure used for multiple statistical tests. Chi-square allowed me to assess how closely a distribution compared to another one.

The rationale for including potential covariates and confounding variables. To test the hypotheses and get an answer to the research questions, I included potential covariates and confounding variables. The inclusion will allow me to effectively evaluate the social and demographic variables elements that correlate among the variables (i.e., gender, age, ethnicity, demographic location; US Census Bureau, 2019; WHO, 2020; United States Census Bureau, 2021).

Interpretation of results. When I ran the multiple linear regression, I interpreted the output of the linear multiple regression analysis and then estimated the association

between geographic location, teen sexual encounters, income, and educational attainment. I also read the output on an ANOVA to evaluate the significance.

Threats to Validity

Threats To External Validity

The results of the study were generalized to other Latino populations. Generalization allowed understanding of the teen pregnancy rates, impact of the health, and sexual impact on the other communities facing the same barriers. However, the threat it to the population validity since the sample of the population used in this study may not mirror the one to the Latino population of the Midwestern United States. Sampling bias may also be present since only some schools participated in the YRBSS surveys.

Threats To Internal Validity

Internal validity was assessed to determine if there was any linearity, independence errors, or normal distribution errors. The Internal threat in this study is that the relationship between variables do not explain any factors not included in this study.

Threats To Construct Validity

The data was used from sources such as: Center for Disease Control and Prevention (CDC), World Health Organization (WHO), along with various Midwestern states and community departments. In addition, public records and census data from web pages were used to support the research. Threats to construct validity include the variables that cannot be operationalized. Researching something that cannot be measured accurately such as cultural differences. Content validity is another threat present since the

data is only a portion size and not a full representation of every Latino adolescent in the Midwest.

Ethical Procedures

The capstone project was submitted via the standard Walden University IRB approval procedure, ensuring the origin and validity of data was verified. Since secondary data was used for this project, human subjects were not used; therefore, a conflict of interest was not identified in this situation.

Summary

The study used secondary data only, derived from public records, available online (CDC, 2019). The study was a cross-sectional quantitative research study of the following Midwestern states: Illinois, Indiana, Iowa, Kansas, Missouri, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. A power analysis was conducted in SPSS to determine if the sample size was an adequate representation of the population and whether it was statistically significant level.

Section 3: Presentation of the Results and Findings

Introduction

The purpose of this study was to investigate the sexual behaviors, age, gender and academic level attained variables associated with greater pregnancy rates among adolescents of Hispanic/Latino backgrounds, located in the Midwestern geographic location of the United States of America. I conducted the research to learn if there was a significant association between geographic factors and pregnancy among adolescents residing in the Midwestern United States. In addition, I investigated if there was a confounding impact by a teen's prevalent sexual behaviors, education, and culture.

My primary aim of identifying the significance between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest was established with the above variables in mind. The data used to assess significance was secondary and available to the public via the Youth Risk Behavior Surveillance System (YRBSS) (CDC, 2019). The states were filtered to only include data from Midwestern States (Illinois, Iowa, Kansas, Missouri, Michigan, Nebraska, North Dakota, South Dakota, and Wisconsin; U.S. Census Bureau, 2019).

I ran an analysis and presented my results. I also explained how these findings could help make a social impact on professionals in the community. I was able to use the findings to understand social implications by interpreting the data results while taking study limitations, recommendations, and overall data results into consideration.

Data Collection of Secondary Data Set

The Youth Risk Behavioral Surveillance System (YRBSS) is a project involving regular surveys of youth throughout the United States and that closely monitors different types of behaviors among adolescents, including sexual behavior (CDC, 2019). The secondary data contains specific information about both state-level and national urban school districts. Due to the size of the data, it was split into four datasets: national, states with names beginning with A through M, states with names beginning with names from N through Z, and district (CDC, 2019). The information was the same for all four of the documents, but it was simple categorized differently. The National and urban database had information at a national and urban level. The states files were split in alphabetical order because all of the information would not fit in one single file. The file titled: *States A through M,* contained the stated with names beginning with A through M and the file titled: *States N through Z* contained the states with names beginning with N through Z. The two files I used for research were: *states with names beginning with A through M* and *states with names beginning with N through Z*. The dataset provides information such as geographic location, demographic factors, ethnicity, sexual behaviors, sexual knowledge, and other sexual experiences among the students. The excluded races were other than identifying as Latinos in the Midwestern states. The population size of n =17,303 and was needed to meet the requirements of proper representation of nine states. While the sample size was 17,303, the results for the descriptive statistics do not include missing responses, which is why the number varies and appears lower in the entire population.

Results

Report of Descriptive Statistics

The descriptive statistics were used to provide the sum, mean, and standard deviation values of those adolescents engaging in sexual activity. I summarized the dataset and represent the entire population used. These variables related to the adolescent, Latino groups that have been engaging in sexual activities, and have either learned about and/or used contraceptives.

Table 2

Descriptive Statistics

	N	Sum	Mean	Std. Deviation
Ever had sexual intercourse	17245	26747	1.55	.497
Had sexual intercourse for the first time before age 13 years	17303	33201	1.92	.273
Had sexual intercourse with four or more persons during their life	16330	30048	1.84	.367
Were currently sexually active	16910	28573	1.69	.463
Used a condom during last sexual intercourse	5039	7252	1.44	.496
Used birth control pills before last sexual intercourse	4911	9101	1.85	.354
Used an IUD (e.g., Mirena or ParaGard) or implant (e.g., Implanon or Nexplanon) before last sexual intercourse	1214	2367	1.95	.219
Used birth control pills; an IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon); or a shot (such as Depo-Provera), patch (such as OrthoEvra), or birth control ring (such as NuvaRing) before last sexual intercourse	1214	2083	1.72	.451
Used both a condom during last sexual intercourse and birth control pills; an IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon); or a shot (such as Depo-Provera), patch (such as OrthoEvra), or birth control ring (such as NuvaRing)	1190	2252	1.89	.310
Valid N (listwise)	887			

Report of Frequency Statistics

The frequency statistics illustrated below provide characteristics of the sample. In the statistics below, there was an indication of valid values and missing values for variables within a category. I used both to ensure adequate evaluation of my data when answering my research questions. The missing values quantifies the number of students that answered the survey but decided not to answer the question or if the student provided more than one answer.

Report of Frequency Statistics of Ages groups is categorized by school grade, sexual intercourse, number of sex partners, forms of birth control used, and sexual education attained in school. All these variables were calculated from the Midwestern states: Illinois, Iowa, Kansas, Missouri, Michigan, Nebraska, North Dakota, South Dakota, and Wisconsin.

Table 3

Have You Ever Had Sexual Intercourse?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7743	38.7	44.9	44.9
	No	9502	47.5	55.1	100.0
	Total	17245	86.3	100.0	
Missing		2740	13.7		
Total		19985	100.0		

Table 4

Did You Had Sexual Intercourse for The First Time Before the Age of 13 Years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never had sex	9484	47.5	54.8	54.8
	11 years old or younger	816	4.1	4.7	59.5
	12 years old	589	2.9	3.4	62.9
	13 years old	1069	5.3	6.2	69.1
	14 years old	1842	9.2	10.6	79.8
	15 years old	1760	8.8	10.2	89.9
	16 years old	1190	6.0	6.9	96.8
	17 years old or older	553	2.8	3.2	100.0
	Total	17303	86.6	100.0	
Missing		2682	13.4		
Total		19985	100.0		

Table 5

During Your Life, with How Many People Have You Had Sexual Intercourse?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never had sex	8929	44.7	54.7	54.7
	One person	2426	12.1	14.9	69.5
	2 people	1379	6.9	8.4	78.0
	3 people	984	4.9	6.0	84.0
	4 people	606	3.0	3.7	87.7
	5 people	463	2.3	2.8	90.6
	6 or more people	1543	7.7	9.4	100.0
	Total	16330	81.7	100.0	
Missing		3655	18.3		
Total		19985	100.0		

Table 6

The Last Time You Had Sexual Intercourse, Did You or Your Partner Use a Condom?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never had sex	9447	47.3	55.5	55.5
	Yes	4534	22.7	26.6	82.1
	No	3052	15.3	17.9	100.0
	Total	17033	85.2	100.0	
Missing		2952	14.8		
Total		19985	100.0		

Table 7

The Last Time You Had Sexual Intercourse, What One Method Did You or Your Partner Use to Prevent Pregnancy?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never had sex	9228	46.2	55.2	55.2
	No method was used	1353	6.8	8.1	63.3
	Birth control pills	959	4.8	5.7	69.0
	Condoms	3571	17.9	21.4	90.4
	IUD or implant	67	.3	.4	90.8
	Shot/patch/birth control ring	328	1.6	2.0	92.8
	Withdrawal/other method	901	4.5	5.4	98.2
	Not sure	308	1.5	1.8	100.0
	Total	16715	83.6	100.0	
Missing		3270	16.4		
Total		19985	100.0		

Table 8

Have You Ever Had Sexual Intercourse?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7743	38.7	44.9	44.9
	No	9502	47.5	55.1	100.0
	Total	17245	86.3	100.0	
Missing	System	2740	13.7		
Total		19985	100.0		

Table 9

Did You Drink Alcohol or Use Drugs Before You Had Sexual Intercourse the Last Time?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never had sex	9461	47.3	54.7	54.7
	Yes	2275	11.4	13.2	67.9
	No	5560	27.8	32.1	100.0
	Total	17296	86.5	100.0	
Missing		2689	13.5		
Total		19985	100.0		

Table 10

Have You Had Sexual Intercourse with Four or More Persons During Their Life?

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Yes	2612	13.1	16.0	16.0
	No	13718	68.6	84.0	100.0
	Total	16330	81.7	100.0	
Missing	System	3655	18.3		
Total		19985	100.0		

Table 11

Have You Ever Had Sex Education in School?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1116	5.6	68.9	68.9
	No	387	1.9	23.9	92.8
	Not sure	116	.6	7.2	100.0
	Total	1619	8.1	100.0	
Missing		18366	91.9		
Total		19985	100.0		

Table 12

Have You Ever Been Taught About Birth Control Methods in School?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	190	1.0	67.1	67.1
	No	67	.3	23.7	90.8
	Not sure	26	.1	9.2	100.0
	Total	283	1.4	100.0	
Missing		19702	98.6		
Total		19985	100.0		

Frequency Statistics Analysis

The analysis was presented in the form of a frequency and percentage. The frequency column illustrates the answer to the question for example if the student answered yes then are counted into the number illustrated. The percent column illustrates what percentage of the sample gave a given answer for example, if the number is 10 then, it means that 10 percent of the sample gave that same answer.

Report of Chi-square Statistics

The Chi-square statistical analysis report illustrated below provides the comparison observed results that determine the relationship between two categorical variables. This test, like all tests of significance, only shows if there is a relationship between the variables and it will tell us if those relationships are significant. Each chi-square table includes a crosstab table. The crosstab table helps identify if the variable is independent or if it is related to the other variable. If the variable were independent, then the results would be insignificant. Insignificant results would mean that the null hypothesis is accepted.

Table 13

Have You Ever Had Sexual Intercourse?

Crosstab

Count		Ever had sexual intercourse		
		1	2	Total
1=Yes 2=No	9th	14345	40018	54363
	10th	20108	32983	53091
	11th	24304	24481	48785
	12th	23607	15395	39002
Total		82364	112877	195241

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12513.047[a]	3	.000
Likelihood Ratio	12728.620	3	.000
Linear-by-Linear Association	12507.430	1	.000
N of Valid Cases	195241		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16453.31.

Table 14

Did You Have Sexual Intercourse for The First Time Before Age 13 Years?

Crosstab

Count		Had sexual intercourse for the first time before age 13 years		
		1	2	Total
1=Yes 2=No	9th	3462	51039	54501
	10th	2680	50941	53621
	11th	2158	47360	49518
	12th	1594	37932	39526
Total		9894	187272	197166

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	329.333[a]	3	<.001
Likelihood Ratio	321.784	3	<.001
Linear-by-Linear Association	300.821	1	<.001
N of Valid Cases	197166		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1983.46.

Table 15

Did You Yave Have Sexual Intercourse with Four or More Persons During Their Life?

Crosstab

Count		Had sexual intercourse with four or more persons during their life		
		1	2	Total
1=Yes 2=No	9th	3593	48378	51971
	10th	5014	45863	50877
	11th	6554	40527	47081
	12th	7443	30117	37560
Total		22604	164885	187489

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3816.485[a]	3	.000
Likelihood Ratio	3729.515	3	.000
Linear-by-Linear Association	3721.413	1	.000
N of Valid Cases	187489		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 4528.30.

Table 16

Are You Currently Sexually Active?

Crosstab

		Count		
		Were currently sexually active		
		1	2	Total
1=Yes 2=No	9th	9201	44187	53388
	10th	13721	38463	52184
	11th	17738	30245	47983
	12th	17843	20444	38287
Total		58503	133339	191842

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10499.291[a]	3	.000
Likelihood Ratio	10647.190	3	.000
Linear-by-Linear Association	10488.621	1	.000
N of Valid Cases	191842		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11675.78.

Table 17

Did You Use a Condom During the Last Sexual Intercourse?

Crosstab

Count		Used a condom during last sexual intercourse		
		1	2	Total
1=Yes 2=No	9th	5791	3079	8870
	10th	8397	4883	13280
	11th	10112	7130	17242
	12th	9517	7846	17363
Total		33817	22938	56755

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	363.614[a]	3	<.001
Likelihood Ratio	364.738	3	<.001
Linear-by-Linear Association	357.099	1	<.001
N of Valid Cases	56755		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 3584.88.

Table 18

Did You Use Birth Control Pills Before Last Sexual Intercourse?

Crosstab

Count		Used birth control pills before last sexual intercourse		
		1	2	Total
1=Yes 2=No	9th	935	7701	8636
	10th	2074	10798	12872
	11th	3839	12950	16789
	12th	4687	12180	16867
Total		11535	43629	55164

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1231.390[a]	3	<.001
Likelihood Ratio	1295.469	3	<.001
Linear-by-Linear Association	1225.925	1	<.001
N of Valid Cases	55164		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1805.82.

Table 19

Have You Had Sex Education in School?

Crosstab

Count		Have had sex education in school		
		1	2	Total
1=Yes 2=No	9th	2970	1154	4124
	10th	3190	992	4182
	11th	2343	609	2952
	12th	2219	627	2846
Total		10722	3382	14104

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	60.501[a]	3	<.001
Likelihood Ratio	59.985	3	<.001
Linear-by-Linear Association	45.309	1	<.001
N of Valid Cases	14104		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 682.44.

Table 20

Have You Been Taught in School About Birth Control Methods?

Crosstab

Count		Have been taught in school about birth control methods		
		1	2	Total
1=Yes 2=No	9th	764	321	1085
	10th	638	217	855
	11th	422	110	532
	12th	368	98	466
Total		2192	746	2938

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.995[a]	3	<.001
Likelihood Ratio	21.144	3	<.001
Linear-by-Linear Association	19.023	1	<.001
N of Valid Cases	2938		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 118.32.

Chi-Square Statistical Analysis

The Chi-square tests illustrated in the tables above include a value, the degree of freedom (df) and significance results for Pearson Chi-Square, likelihood ratio, linear-by-linear association, and the number of valid cases. The Pearson Chi-square value determines if the data is significantly different or not (Argyrous, 2011). The likelihood ratio is the ratio of the expected frequencies and the observed frequencies, and the linear-by-linear association is the value that defines if there is a trend to show if there is a significant association between one variable and the other. (Argyrous, 2011). The Asymptotic Significance value (p value) determines if the results are significant or not. (Argyrous, 2011). A p value of less than 0.05 is considered significant. P-values less than 0.05 means we reject the null hypothesis and if larger than 0.05 then a significant difference cannot be determined, and the null hypothesis would have to be accepted.

For all the variables tested in tables 13 through 20, significance is less than 0.001. With a value less than 0.05 , it means that there is a significant association between the variables.

Statistical Assumptions

The statistical assumption of this data is that the cells are frequencies and not percentages or other forms of data. Another assumption is that the data is exclusive, where there is only one level of each variable and that the variable is nominal. The next

assumption is that the person answering the survey contributed to the data once and not multiple times.

Report of Statistical Analysis Findings

I interpreted my findings by using a chi-square to establish the rejection of the null hypothesis.

Research Question 1 (RQ1)

Statistical reports used my research questions and hypothesis. They also included any descriptive statistics, frequencies, and linearity and significance of each independent variable The Latino population of the Midwestern United States has a significant association between geographical location (population size, regions, areas) and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest.

Research Question 2 (RQ2)

There was a significant association between geographical location (population size, regions, areas), and rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives), among adolescents of Latino background in the Midwest while controlling educational attainment.

Summary

According to the results provided by the chi-square analysis, there was a significant correlation between the geographic location, population, and the incidence of sexual activity among Latino students in the Midwestern United States while also

controlling education attainment. While there are some sexual behaviors listed, they are not all-encompassing. The is still a need for further research in order to best understand why some behaviors are significant, while others might not.

In addition, the results were limited to data gathered in only Midwestern states and were presented collectively. The significance of each behavior may vary by individual state, which was not measured during this research study.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

I conducted this study with the purpose of examining sexual behaviors associated with pregnancy among adolescents of Latino backgrounds in the Midwest. This study was nonexperimental, and data was used to help determine the social factors that are closely tied to adolescents of Latino background in the Midwest. This research was conducted to determine the social and demographic influences on the Latino population of the Midwest.

I used the analysis results to encourage the Midwestern population to incorporate additional efforts in the impacted areas to address the rising problem of sexual activity and sexual decisions among school teenagers, as sexual health may be more complex than previously convinced. (Morales-Aleman and Scarinci, 2016) Confounding variables were represented in the study, such as: *using condoms during last intercourse*, *using birth control, did not use any birth control methods during last sexual intercourse,* and *exposure to any sexual education in schools*. The outcome of this research supports researchers' call to action for additional resources to be allocated that provides education on sexual health for Latinos in the Midwestern United States (Assari et al., 2020). The correlation and predictors indicated a need for additional strength-based research for existing organizations and resources available compared to other areas of the United States (WHO, n.d.)

Interpretation of Findings

The findings of this research confirm other peer-reviewed research and literature regarding the high rates of sexual activity and sexual outcomes of the Latino population within the United States. While the rates of unwanted teen pregnancies and sexual behaviors are decreasing amongst other races, it was still on the rise for the Latino population, especially in the Midwestern states, Illinois, (CDC, 2019; U.S. Census Bureau, n.d.). Additional research is needed to explain the differences in rates; it was evident and supported that rates are distinctively higher. Education attainment and innovative social policies are needed to better mobilize existing resources (Assari, et.al., 2020). The theoretical foundation was the Community Health Improvement Process (CHIP) strategic prevention framework.

The researchers used quantitative cross-sectional study to assess whether the association between geographical location and rate of sexual behaviors , among Latino adolescents, was significant in the Midwest (Durch at al., 1997). Several studies provide strong evidence that the rates of sexual behaviors among Latino adolescents in the Midwest do not significantly influence educational attainment. However, the monitoring process will depend on several indicators that can track outcomes. Follow-up research and/or different studies, like observations, may need to be conducted to best understand the differences.

Research Question 1 (RQ1) and Null Hypothesis (H02): The prevalence of increased sexual activity amongst the teenage population falls under a significant threshold of

sexual contact and sexual intercourse, as opposed to other races where the teenage population used preventive measures to avoid unwanted pregnancies. Though the interactions of sexual contact remain equal to the use of contraceptives, education attainment on practicing safe sex was less within the Latino population.

Research Question 2 (RQ2) and Null Hypothesis (H02): While the geographical location (population size, regions, and areas) is not shown to influence the behaviors, in the Midwestern states alone, the Latino population's rate of sexual behaviors (number of partners, first sexual contact, use of contraceptives) while controlling age, education level was significant. The Latino population was seen to receive the same education and the same resources as any other race. It may depend on behavior and cultural beliefs to influence healthy sexual decision-making. Additional research will need to be conducted to understand better how the culture would affect the decisions of these adolescents.

Limitations of the Study

The results of this study were generalized to the Midwestern Latino population. Indiana, Minnesota, and Ohio, usually considered a part of the Midwestern region of the United States, were not participating states in the Youth Surveys. This study used secondary data where students answered the questions but were never examined developmentally; therefore, there were no directional interferences. Another limitation of the study was the self-reporting of adolescents, which may lead to social desirability while answering questions. Lastly, the study does not take cultural beliefs into

consideration. Cultural beliefs and differences from the Latino population to those born and raised in the United States may have an impact on the numbers.

I researched the assumptions that come with Chi-square tests before completing the analysis to anticipate any errors of independence, distribution, and linearity. This provided me with better interpretation results once the analysis was completed.

Recommendations

Sexual behaviors within the adolescent population may always be a public health concern, but the outcomes do not need to remain the same. Logistic regressions may be the most effective way to determine statistical significance in the future so that researchers and professionals can adapt programming that potentially influence healthier and more proactive sexual behavior decisions.

Future Implications for Professional Practice and Social Change

Professional Practice

Pending approval, I plan to share my results with like-minded organizations and stakeholders throughout the communities in the Midwestern United States. Based on the outcome of this research study, I will make recommendations and advise public health departments to conduct additional surveys, within their communities, so that they can tailor or change their existing resources to accommodate the growing populations. My hope is that the department of public health can summarize the findings to other community programs with similar intentions. Some may need to reallocate their funding to help reinforce their current systems, while others will need to rebuild and establish

new processes to address the issue more effectively. I also plan to encourage the continuation of data collection on the matter so they can track progress and create traceability.

Positive Social Changes

The shared results could enhance or reinforce current programs being offered in the communities. For example, these results can help like-minded organizations allocate the resources needed to conduct additional research specific to their regions. It may also increase the efforts of the current programs to target Latino families, individually; rather than all races in one program.

The changes may positively affect individuals, families, communities, and entire states. Integrating findings, correlations, and predictors of sexual health among adolescent Latinos will support the development of strength-based theories.

However, the inclusion of public health officials, implementing these new health policies, may beg the need to policies that reinforce the ongoing issues. According to the Walden University Center of Research, some of these officials include the director of public health departments, state public health, community leaders, and other members that could influence the trends in the Midwestern United States (Evans et al., 2020). On average sexual interventions may have small effects, but could lead to significant, improved rates of abstinence within the Latino population. Leadership can promote positive social changes when involving the communities' local forces, leadership, investors, and other developers. Positive social change will result in the betterment of

society and the Latino population living in the United States. The driving force of positive change is reliant on the actions the communities take based on the information they have, often seen in research data like the one provided in this research.

Conclusion

After assessing the variables and their relationships to one another, the findings from the bivariate analysis do show that there was a significant association between sexual behaviors and Latino adolescents in the Midwestern States. These indicate that there is a higher, and rapidly growing, trend in comparison to the rest of the country or any other race. According to the SPSS output of the analysis, there was an association between Latinos and the prevalence of sexual behaviors at an early age. Early pregnancy, STIs, and HIV affect adolescent Latinos more than it does to non-Hispanic white adolescents (Morales-Alemán & Scarinci, 2016). Several studies have addressed the socioeconomic disparities found in teens ages 15 to 19 years in the United States (Driscoll & Abmas, 2015; Romero et al. 2016). However, additional research is needed to determine if this was an isolated event, or typical in the Midwest for adolescent Latinos. According to research, they are more likely to have higher occurrences of unwanted teen pregnancies, sexually transmitted diseases, and other sexual-related complications, but further investigation is necessary to show lasting significance. Therefore, public health officials, policymakers, and other leaders, within those communities, are highly encouraged to allocate more resources or redirect the current resources to focus on this matter.

References

Almeida, J., Molnar, B., Kawachi, I., & Subramanian, S. (2009). Ethnicity and nativity status as determinants of perceived social support: Testing the concept of familism. *Elsevier*, *68*, 1852–1858. https://doi.org/10.1016/j.socscimed.2009.02.029

Argyrous, G. (2011) *Statistics for Research with a Guide to SPSS.* Sage Publications

Assari, S., Cobb, S., Cuevas, A., & Bazargan, M. (2020). Diminished health returns of educational attainment among immigrant adults in the United States. *Front Psychiatry*, *27*(11). https://doi.org/10.3389/fpsyt.2020.535624

Becker, D., Thing, J., Baezconde-Garbanati, L., Schwartz, S., Soto, D., & Unger, J. (2015). Cultural measures associated with risky sexual behaviors among Latino youth in Southern California: a longitudinal study. *Perspect Sex Reproductive Health*, 193–201. https://doi.org/10.1363/46e1514

Centers for Disease Control and Prevention. (2019). Youth Risk Behavior Surveillance System (YRBSS). *Adolescent and School Health*. https://www.cdc.gov/healthyyouth/data/yrbs/index.htm

Deardorff, J., Tschann, J. M., & Flores, E. (2008). *Sexual values among Latino youth: measurement development using a culturally based approach. Cultural diversity & ethnic minority psychology*, 14(2), 138–146. https://doi.org/10.1037/1099-9809.14.2.138

Driscoll, A., & Abma, J. (2015). Changing sociodemographic factors and teen fertility: 1991–2009. *Maternal and Child Health Journal*, *10*(19), 2159–2167. https://doi.org/10.1007/s10995-015-1728-8

Durch, J., Bailey, A., & Stoto, A. (1997). The Committee on Using Performance Monitoring to Improve Community Health. Improving Health in the Community: A Role for Performance Monitoring. Washington, DC: National Academy Press. *Center for Community Health and Development*. https://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development/chip/main

Evans, R., Widman, L., Stokes, M., Javidi, H., Hope, E., & Brasileiro, J. (2020). Sexual health programs for latinx adolescents: A meta-analysis. *Pediatrics*, *146*(1), 1–14. https://doi.org/10.1542/peds.2019-3572

Flores, L. M. (2011). A qualitative inquiry of Latino immigrants' work experiences in the Midwest. *Journal of Counseling Psychology*, *58*(4), 522–536. https://doi.org/10.1037/a002524

GeoDa Center for Geographic Analysis and Computation. (N.d.). Statistics for public health practice (2nd Ed.): Basic Biostatistics. *San Jose State University Department of Health Science*. https://geoplan.asu.edu/geodacenter-redirect

Inanc, H., Meckstroth, A., Keating, B., Zaver, H., Zaveri, H., O'Neil, S., . . . Ochoa, L. (2020). Factors Influencing Youth Sexual Activity: Conceptual Models for Sexual Risk Avoidance and Cessation. *Administration for Children and Families, US Department of Health and Human Services*.

https://www.acf.hhs.gov/sites/default/files/documents/opre/factors-influencing-youth-sexual-activity-dec-2020_0.pdf

Institute of Medicine. (1997). Improving health in the community: a role for performance monitoring. *Committee on Using Performance Monitoring to Improve Community Health*. https://www.ncbi.nlm.nih.gov/books/NBK233012/

Kesmodel, U. (2018). Cross-sectional studies—what are they good for? *Acta Obstetricia et Gynecologica Scandinavica*, *97*(4), 388–393. https://doi.org/10.1111/aogs.13331

Lara-Cinisomo, S., Xue, Y., & Brooks-Gunn, J. (2013). Latino youth's internalising behaviours: links to immigrant status and neighborhood characteristics. *Ethn Health*, *18*(3), 315–335. https://doi.org/10.1080/13557858.2012.734278

Laureate Education (Producer). (2016). Multiple Regression Video File. Baltimore, MD.

Li, Y.-H., Mgbere, O., Abughosh, S., Chen, H., Cuccaro, P., & Essien, E. (2017). Modeling eco-developmental context of sexually transmitted disease/HIV risk and protective behaviors among African-American adolescents. *Dove press journal*, *11*(9), 119–135. https://doi.org/10.2147/HIV.S130930

Mays, M. (2022). Why are birth rates higher for Latina teens than for others? It's complicated, experts say. *centerforhealthjournalism.org*. https://centerforhealthjournalism.org/fellowships/projects/why-are-birth-rates-higher-latina-teens-others-it%E2%80%99s-complicated-experts-say

Morales-Alemán, M., & Scarinci, I. (2016). Correlates and Predictors of Sexual Health among Adolescent Latinas in the United States: A Systematic Review of the Literature, 2004-2015. *Preventive Medicine, 87*, 183–193. https://doi.org/10.1016/j.ypmed.2016.03.005

Office of Disease Prevention and Health Promotion. (2019). Healthy people 2020. https://www.healthypeople.gov/

Patton, G., (2016). Evidence and Evidence Gaps in Adolescent Health. Journal of Adolescent Health, S1-S3. doi:10.1016/j.jadohealth.2016.08.001.

Patton, G., & Temmerman, M. (2016). For Advocacy to Action in Global Adolescent Health. The Journal of Adolescent Health, S1- S3, 59, http://doi.org/10.1016/j.jadohealth.2016.08.002Planned Parenthood Action Fund, Inc. (2022). Latinos for Planned Parenthood. Planned Parenthood Action Fund. https://www.plannedparenthoodaction.org/communities/latinos-planned-parenthood.

Regional Healthcare Improvement. (2021). Midwest Health Initiative. http://www.Midwesthealthinitiative.org/index.php

Romero, L., Pazol, K., Warner, L., Cox, S., Kroeger, C., Besera, G., . . . Barfield, W. (2016). Reduced Disparities in Birth Rates Among Teens Aged 15–19 Years — the United States, 2006–2007 and 2013–2014. Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report, 65(16). Retrieved from https://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6516a1.pdf.

Salam, R., Das, J., Lassi, Z., & Bhutta, Z. (2016). Adolescent Health Interventions: Conclusions, Evidence Gaps, and Research Priorities. The Journal of Adolescent Health, 59. http://doi.org/10.1016/j.jadohealth.2016.05.006

Salam, R., Faggah, A., Sajjad, N., Lassi, Z., Das, J., Kaufman, M., & Bhutta, Z. (2016). Improving Adolescent Sexual and Reproductive Health: A Systematic Review of Potential Interventions. The Journal of Adolescent Health, 59, S11- S28. http://doi.org/10.1016/j.jadohealth.2016.05.022

Santelli, J. S., Lowry, R., Brener, N., & Robin, L. (2000). The Association of Sexual Behaviors With Socioeconomic Status, Family Structure, and Race/Ethnicity Among US Adolescents. American Journal of Public Health, 1582–1588. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446372/pdf/11029992.pdf.

Tebb, K., Rodriguez, F., Pollack, L., Leng Trieu, S., Hwang, L., Puffer, M., . . . Brindis, C. (2018). Assessing the effectiveness of a patient-centered computer-based clinic intervention, Health-e You/Salud iTu, to reduce health disparities in unintended pregnancies among Hispanic adolescents: study protocol for a cluster randomized control trial. BMJ Open, 8, 1-11. http://doi.org/10.1136/bmjopen-2017-018201

US Census Bureau. (2019). Census Reporter Midwest Region. Retrieved from American Community Survey 1-year estimates. https://censusreporter.org/profiles/02000US2-midwest-region/.

UC Regents. (2021). Statistical Methods and Data Analytics. https://stats.oarc.ucla.edu/other/gpower/.

UNC School of Information and Library Science. (2022). Basic Statistics. The University of North Carolina at Chapel Hill. https://ils.unc.edu/courses/2022_spring/inls641_001/readings/Basic_Statistics.pdf.

United States Census Bureau. (2021, November). Midwestern Region: 2020 Census. https://www.census.gov/library/stories/state-by-state/midwest-region.html.

The University of Minnesota. (2021). https://cse.umn.edu/cs/theoretical-foundations. Theoretical Foundations. https://cse.umn.edu/cs/theoretical-foundations.

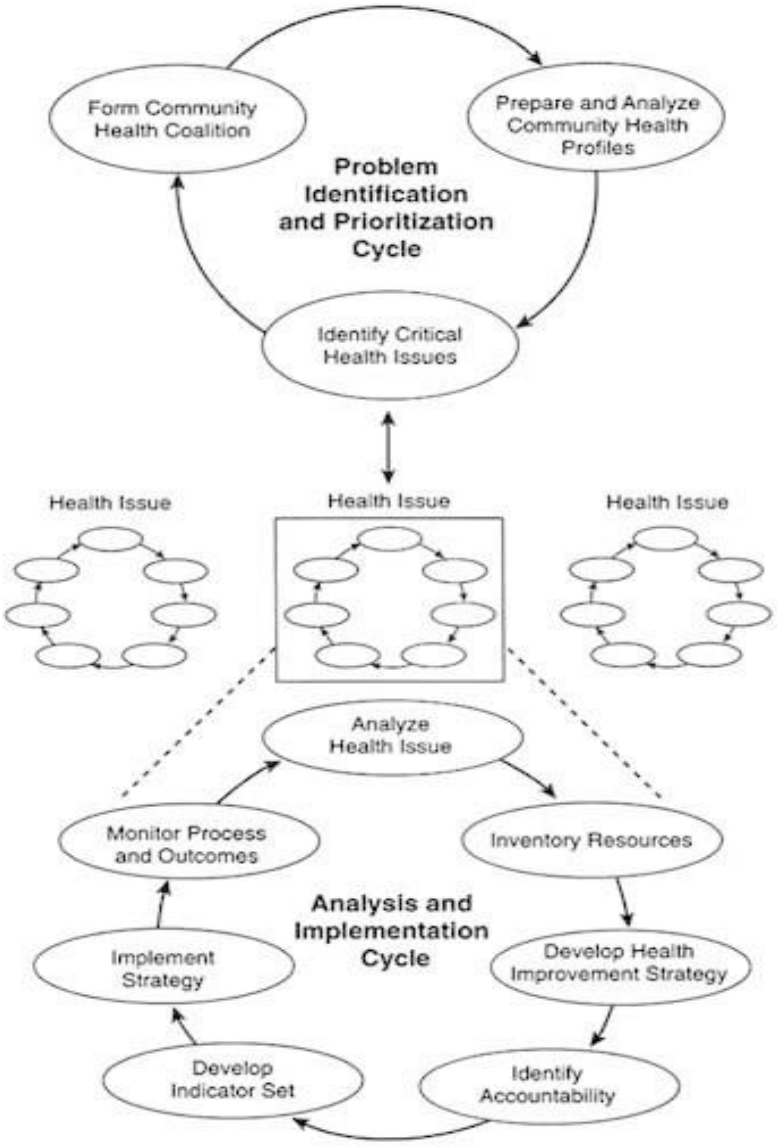
The University of Toledo. (n.d.). Critical Appraisal Resources for Nursing Research and EBP. LIB Guides. https://libguides.utoledo.edu/nursingappraisal/crosssectional#:~:text=An%20analytical%20cross-sectional%20study%20is%20a%20type%20of,disease%2C%20condition%20or%20outcome%20within%20a%20defined%20population.

Walden University Center for Research and Quality (N.d.). DrPH/DHA Doctoral study program. https://academicguides.waldenu.edu/research-center/program-documents/drph.

WHO (2020). The Global Early Adolescent Study (GEAS) Questionnaire and Training Suite. World Health Organization. https://www.who.int/reproductivehealth/publications/adolescence/geas-tool-kit/en/.

Viruell-Fuentes, E., Morenoff, J., Williams, D., & House, J. (2013). Contextualizing nativity status, Latino social ties, and ethnic enclaves: an examination of the 'immigrant social ties hypothesis. Ethn Health, 18(6), 586-609. http://doi.org/10.1080/13557858.2013.814763

Appendix A: Community Health Improvement Plan



(Taken from National Association of County and City Health Officials, 2023)