

A Descriptive Analysis of the Most Viewed YouTube Videos Related to Teen Pregnancy

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## **Abstract**

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The United States teen birth rate has been declining since 1991, but the teen pregnancy rate remains one of the highest in the developed world outside the former Soviet Bloc. There is no current national strategy to implement comprehensive sexuality education in schools, and states have varying sex education and abortion policies. There are various effective programs designed to prevent teen pregnancies that share common characteristics of effective programs. Given the widespread reach and number of users, YouTube has the potential to be an education resource for teen pregnancy prevention. At the time of this study, there were no studies describing the content of videos that relate to teen pregnancy. This study is intended to fill this gap in the literature.

YouTube was searched with the key words “teen pregnancy,” and the results were sorted by view count. The most widely viewed 100 videos meeting inclusion criteria were included in the study. The most widely viewed videos received 434,423,558 cumulative views. These videos were coded for their source, format, and the inclusion of content variables. The content variables were also organized to fit Kirby’s model of characteristics of effective programs. The majority of videos were sources and formats that depicted teens’ experience with pregnancy, including documentaries, reality TV programs, talk shows, and vlogs uploaded by consumers. Notably, there were no videos uploaded by professionals. The content most covered in the videos were the pregnancy outcome, how the teen mother found out she was pregnant, the teen mother’s reaction to the pregnancy, and the involvement of various family members.

YouTube is an opportunity to reach a larger number of viewers, but the teen pregnancy videos in the study are missing key elements of teen pregnancy that are present in the literature, like the relationship between poverty and teen pregnancy, teen abortion rates, and repeat pregnancies. The videos were also lacking in elements of Kirby's characteristics of effective programs. Recommendations for health education practice include the need for professionals to utilize the true stories of teen pregnancies and popular influencers to create engaging, accurate content.

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## Chapter I INTRODUCTION

### **Background**

The United States' teen birth rate has been reaching record lows each year since 2009 (Osterman et al., 2022). Despite these records lows, the teen birth rate remains higher than many other developed countries (*World Bank Open Data*, n.d.). Within the United States, the rate of teen pregnancy varies by state. Those states with the highest teen pregnancy rates are clustered in the Southern United States, Arkansas, Mississippi, Louisiana, New Mexico, and Oklahoma, all with teen pregnancy rates over 40 per 1,000 adolescents ages 15-19 in 2017. These same five states and Kentucky also have the highest teen birth rates, and they're among the lowest in teen abortion rates (Maddow-Zimet & Kost, 2022). Adolescent girls in the Southern United States are getting pregnant and giving birth in numbers far greater than their counterparts in other parts of the country and around the world.

The first line of defense in preventing teen pregnancy is sex education in schools. Access to health information, including sexual and reproductive health information, is a core component of the human right to health, as defined by the World Health Organization (World Health Organization: WHO, 2023). Despite this right to the accessibility of health information, the federal government does not mandate a specific type of sex education program. Policies at the state level dictate program type (Rabbitte & Enriquez, 2019). Adolescents in states with high teen pregnancy and birth rates are not being equipped with the knowledge and skills they need to make their own reproductive health choices. The Guttmacher Institute collects and organizes data on sex education at the state level. As of June 1, 2023, only 38 states and the District of Columbia mandate sex education and/or HIV education. Of the five states with the highest teen pregnancy rates, only two mandate sex education. Four of the five do not have state policies that

require contraception be covered when sex education is provided, and abstinence is stressed. Of the same five states, three states require that when provided, sex education cover the importance of sex only within marriage (*Sex and HIV Education*, 2023). Research has shown that comprehensive sexuality education, which provides accurate and age-appropriate information on abstinence and contraceptives, has the most promise in reducing risky sexual behaviors. Rabbitte and Enriquez (2019) found that states with a mandated emphasis on abstinence only have higher teen pregnancy and STI rates. As spending on abstinence only sex education increases, so does that state's teen birth rate (Rabbitte & Enriquez, 2019).

In addition to the inadequate sex education in schools, teen pregnancy has been turned into a form of entertainment through MTV's popular reality series *16 and Pregnant*, which aired from 2009-2014. The show's spin-offs, *Teen Mom* and *Teen Mom 2*, which aired in 2009 and 2011, respectively, were still generating new seasons as of 2022. The original *Teen Mom* series now airs under the name *Teen Mom OG*. The adolescents who originally starred in episodes of *16 and Pregnant* and became regular characters on *Teen Mom* and *Teen Mom 2* have been on TV for over a decade. The adolescents, now adults in their early thirties, have become celebrities. Popular stars of the show have garnered millions of social media followers like Catelynn Baltierra from *Teen Mom*, with 4.2 million Instagram followers, and Chelsea DeBoer and Kailyn Lowry from *Teen Mom 2*, with 6.7 and 4.5 million Instagram followers, respectively as of September 2023. The women still partake in other variations of the show including *Teen Mom: Girls Night In* and *Teen Mom: Family Reunion*.

Other television networks followed suit creating entertainment out of teen pregnancy, including TLC's *Unexpected*, which aired in 2017, several years after MTV's *16 and Pregnant*. *Unexpected* follows several teens simultaneously from the late stages in their pregnancy until the

months after the birth of their child across the course of a season. Some mothers appear in multiple seasons as they parent their toddlers. This differs from *16 and Pregnant*, which followed one teen per episode.

Studies have shown that teens who regularly view this popular form of reality TV programming have distorted views of what it means to be a teen parent. Martins and Jenson (2014) found that, compared with lighter viewers of these shows, teens who were heavy viewers of these programs were more likely to think that teen mothers have a lot of time to themselves, can easily find childcare to go to work and school, and can complete high school. Heavy viewers of these shows were also more likely to think that teen mothers have affordable access to childcare and healthcare as well as financial support from the baby's father. Lastly, heavy viewers were more likely to think that teen mothers can finish college, with the ability to live on their own as well as have a better than minimum wage job. Of the original eight cast members on *Teen Mom* and *Teen Mom 2*, only one, Kailyn Lowry, has graduated college with a bachelor's degree.

The opinions of teens who are heavy viewers of these shows differ drastically from pregnant and parenting teens who are viewing these shows. Harrison *et al.* (2015) found that the pregnant and parenting teens felt that these shows emphasized dramatic storylines rather than accurate, responsible reporting on the lives of pregnant and parenting teens. One of the main incongruences that teens saw between the shows and their own lives were finances. Teens on the shows were often shown going to hair and nail salons while driving brand new cars, and the teens in the study felt that financial hardships were absent from the show's storylines. The teens in their study also felt that the shows were more likely to include poor parenting choices rather

than positive ones to create the dramatic storylines. These shows left the pregnant and parenting teens feeling embarrassed and judged.

These reality TV programs are hiding the seriousness behind the public health issue of teen pregnancy. There are long-term consequences to raising a child as a teenager that cannot be captured in a 45-minute TV episode or season spanning a few months. One long-term consequence being the cyclical nature of this issue often referred to as the “intergenerational cycle of teen motherhood.” According to this phenomenon, the children of teen parents are more likely to become teen parents themselves (Hendrick & Maslowsky, 2019). Meade *et al.* (2008) found that the daughters of teen mothers were 66% more likely to become teen parents after accounting for other risk factors like school performance, maternal education, marital status, number of children, dating history, race, and enrichment.

Another long-term consequence is the reduced education attainment of the teen mother and the resulting negative impact on her child’s development. Maternal education has been found to be a predictor of healthy well-being and development in their children. Compared with children born to mothers who did not graduate from high school, children who are born to mothers who did graduate from high school are more likely to grow up in comparatively resource-rich environments (often with two parents present) in safe neighborhoods with access to healthcare (Hendrick & Maslowsky, 2019). Historically, teen mothers have low educational attainment with 0.7 – 1.9 fewer years of schooling, on average, compared to women who did not have children in their adolescent years (Kane *et al.*, 2013).

Other social consequences of teen pregnancy include teen mothers’ feelings of loneliness, guilt, worry and stress. These can culminate in even more serious concerns, such as suicidal

thoughts and postpartum depression. Parenting teens may also face difficulties returning to school and social stigmatization (Maheshwari *et al.*, 2022).

In addition to the social consequences of giving birth in their teen years, there are numerous health concerns related to teen pregnancy for both the mother and the fetus. Teen mothers are more likely to have preeclampsia, a progressive hypertensive disorder, compared to mothers who give birth beyond their teenage years. The only treatment for preeclampsia is delivery, which can lead to prematurity if it occurs before 37 weeks' gestation. Pregnant teens are more likely to be anemic, which can lead to physical and cognitive damage to the teen and the fetus. Teen mothers are also more likely to be diagnosed with a sexually transmitted infection (STI) while pregnant compared to older mothers. Adolescents are more prone to STIs in general; but if this occurs during pregnancy, it can be harmful to the fetus via vertical transmission (Maheshwari *et al.*, 2022).

The United States has failed to provide effective sexuality education to their youth, made entertainment out of the serious public health issue that is teen pregnancy, and most recently has been methodically stripping away abortion rights, which leaves pregnant teens with few choices. The recent Supreme Court case *Dobbs v. Jackson Women's Health Organization* ruled against the constitutional right to an abortion. Since this case, abortion policy has become increasingly complex across the country as states implement their own policies. Specific policies that affect teens are those that mandate parental involvement. According to the Guttmacher Institute, 36 states require some type of parental involvement for a minor seeking an abortion. Twenty-seven states require one or both parents to consent to the procedure, and nine states require that both parents be notified of the procedure. Of the states with the highest teen pregnancy rates mentioned previously, Mississippi requires the consent of both parents for an abortion, Louisiana

requires consent of one parent, Oklahoma requires parental consent and notification, and New Mexico and Arkansas have court injunctions for parent consent, but no state policy in effect (*An Overview of Abortion Laws*, 2023).

Teen pregnancy has been used as a scapegoat to blame young mothers for America's social ills. Conservatives desire for young women to be less sexually active to not become unwed, single-mothers dependent on social programs like Aid for Families with Dependent Children (AFDC). Liberals wish for teens to postpone pregnancy thereby not limiting their opportunities and sending them into a lifetime of poverty. Both viewpoints need correcting. Young, unwed mothers have wrongfully faced public blame for overusing social programs like AFDC despite representing only a small percentage of enrollees. Middle-class Americans who postponed having children until they finished their desired education, married, and established a two-earner household in a safe neighborhood with good schools, blame young, unwed mothers for opting to rely on government assistance instead of waiting as they did. This blame is wrongly placed because it does not take into consideration that most young mothers are living in poverty and inherit multiple obstacles related to their socioeconomic status. Those who believe that teen pregnancy is the start of the poverty problem, believe that teenagers are only temporarily unfit to be parents, and they will mature into it. However, if they wait until they are "ready" by middle-class American standards, they will never be ready. They will never be ready because Americans living in poverty cannot earn enough to support a family working a full-time minimum wage job without the assistance of social programs (Luker, 2008). Deferring parenthood without structural changes to combat poverty, will not change the life course of teenagers growing up in poverty. To make a difference in the intergenerational cycle of poverty, there needs to be substantial

changes to education opportunities and a reduction in the incarceration of minority males (Furstenberg, 2003).

Geronimus (1996) presents a critique to the literature that teen pregnancy is to be avoided. According to Geronimus, teen pregnancy is a rational choice for some teens based on socioeconomic and cultural factors. Factors that may influence fertility timing include expectations and patterns of involvement of family members; women's anticipated earnings and labor market trajectories; and health uncertainty or "weathering." Within all populations fertility timing corresponds to maternal age patterns and infant health risks with first births occurring at ages associated with the lowest infant health risks. For some populations, such as African American females, the lowest infant health risks may be at younger ages, even in the woman's teen years. While interviewing teens pregnant with their first child, Geronimus (1996) found that African American mothers-to-be living in poverty expected to have the most help in raising their children compared to other groups. These women also possessed childcare experience from caring for younger members of their own families. Their decisions to have children in their teen years depend on several social factors, including the age of their extended family and the ability of that family to help with childcare. The idea of having a child within a nuclear family structure relies on its own set of factors, including but not limited to the family being able to operate on one income or afford daycare on two incomes and assuming a predictable future with death at the end of a long life. The socioeconomic and cultural backdrop that women make reproductive health choices is not the same, leading to different decisions about fertility timing. (Geronimus, 1996).



## **YouTube**

YouTube, launched in 2005, is one of the most popular online video platforms worldwide. In 2022, YouTube counted over 2.56 billion users accessing its content worldwide. In November 2022, YouTube received 72 billion visits from global users on a mobile device and another 8 billion visits from desktop devices. Overall, mobile traffic accounts for 90% of total visits. In the month of April 2022 alone, there were over 500 hours of video uploaded to YouTube every minute, which indicates an extensive catalog of video content (*Topic: YouTube, 2023*).

YouTube is particularly popular with teenagers; it is both a source of entertainment and information. Pires *et al.* (2019) found that YouTube was the most important informal learning platform for teenagers. Teenagers view YouTube as a free platform where they can find any type of content. Their use of the platform mimics that of a search engine rather than an online video platform. Content communicated through video can reach and appeal to audiences with a low literacy level.

### **Specific Aims**

This study has the short-term goal to describe the most-viewed YouTube videos related to teen pregnancy concerning the source, format, number of views, and content. The content analysis will determine if the information in the videos is aligned with the most recent research regarding the determinants and consequences of teen pregnancy. The long-term goal is to improve understanding about the information that teenagers have access to on YouTube about teen pregnancy.

The Specific Aims of the Study include the following:

1. To describe the most-viewed YouTube videos related to teen pregnancy concerning the date uploaded, source, format, and number of views.
2. To describe the most-viewed YouTube videos related to teen pregnancy concerning specific content, including how teens find out they're pregnant; birth control prior to pregnancy; pregnancy outcomes; involvement of family members including the baby's father and extended family; teen mother's educational consequences; socioeconomic consequences; social hardships (declining friendships, lack of other parents as friends, etc.); sex education in school; mother's and father's reaction to pregnancy news; family reaction to pregnancy news; friend reaction to pregnancy news; daily care of an infant or child; repeated pregnancies after first child; birth control after pregnancy; past or current sexual abuse; misinformation about pregnancy, birth control, or sex; and the context that led to the pregnancy.
3. To describe the most-viewed YouTube videos related to teen pregnancy according to Kirby's 17 Characteristics of Effective Programs (Kirby & Laris, 2009).

### **Significance**

There is little known about teen pregnancy and social media. There was one study found on teen pregnancy and social media. However, this study analyzed a platform that is not widely used. The purpose of this study is to analyze content related to teen pregnancy on a widely used social media site. YouTube is the second most popular social media site with over 2.5 million monthly active users (*Biggest Social Media Platforms 2023 | Statista, 2023*).

Barker *et al.* (2019) conducted the only study found on teen pregnancy and social media. This study analyzed comments on MTV's "Over the Line?" platform that was launched in 2009. "Over the Line?" was a site for youth ages 14-24 that was designed for youth to give and receive

support for life experiences. The intention of the platform was to provide support for digital abuse, but the topics covered by users began to vary and included sexual and reproductive health. The study analyzed the comments posted related to teen pregnancy.

Barker *et al.* (2019) found that most comments related to teen pregnancy were posted by females. Users that were seeking to gauge the social acceptability of teen pregnancy were met with responses that primarily pathologized teen pregnancy. The norms against teen pregnancy in the comments contribute to a social environment that leads to stigma and difficulty for pregnant and parenting teens.

Considering the popularity of YouTube worldwide, the extensive content that is available on the platform, as well as teenager's use of the platform for informal learning, YouTube has the potential to help provide up-to-date and accurate information for teenagers about human sexuality in general and teen pregnancy prevention in particular. If teenagers have questions about teen pregnancy, or what day-to-day life looks like for a teenager who has a baby, they may turn to YouTube to research this information.

There has been growing interest among public health researchers studying widely viewed YouTube videos on a wide range of topics to describe content being conveyed, often finding a significant amount of misinformation. The keyword "YouTube" resulted in 669 results for studies published in 2022 and 611 in 2021 in PubMed. This is a significant increase from 251 studies published five years prior in 2018 and 101 studies published ten years prior in 2013. The most recent YouTube studies published covered a variety of topics including orthodontic pain (Tamošiūnaitė *et al.*, 2023), COVID-19 vaccines (Narayanan & Basch, 2023) and pediatric scoliosis. (Rudisill *et al.*, 2023). In these three studies in particular, YouTube was found to be an inadequate source of information on orthodontic pain (Tamošiūnaitė *et al.*, 2023) and pediatric

scoliosis (Rudisill *et al.*, 2023). The videos that were uploaded by consumers on COVID-19 vaccines were often misleading or inaccurate (Narayanan & Basch, 2023).

There are zero search results for YouTube and teen pregnancy on PubMed. The goal of this study is to fill this gap in YouTube related public health research. Given the popularity of the YouTube platform and the results found in other studies, it is imperative to determine if the YouTube content related to teen pregnancy is also inaccurate and misleading. Popular television programs like *16 and Pregnant* and *Teen Mom* have already painted teen pregnancy in a positive light on television for over 10 years. If YouTube continues to do the same, teenagers may be misled into thinking that having a child is without challenges and consequences. Alternatively, they may view the opportunity to appear on one of these popular reality TV programs as an opportunity for fame, money, and a social media presence.

Investigating this topic is aligned to both Healthy People 2030 and the 2030 Sustainable Development Goals. Reducing pregnancy in adolescents is a part of the family planning objectives for Healthy People 2030. This objective has already been met with the most recent data in 2017, indicating a teen pregnancy rate of 31 per 1,000 females ages 15-19. However, there is still a desired decrease in this area as we have barely surpassed the goal of 31.4 pregnancies per 1,000 females (*Reduce Pregnancies in Adolescents — FP-03 – Healthy People 2030* | *health.gov*, n.d.). The 2030 Sustainable Development Goals utilize adolescent birth rates as an indicator for Target 3.7. This target aims to ensure universal access to sexual and reproductive health services, which includes information on family planning and the integration of reproductive health into national strategies and programs (*Goal 3 | Department of Economic and Social Affairs*, n.d.).

## Chapter II

### LITERATURE REVIEW

This literature review begins with the descriptive epidemiology of teen pregnancy, including person and environmental factors. The next section covers current education and healthcare policies that are in place to prevent unplanned, teen pregnancies. Evidence-based programs to prevent teen pregnancy are reviewed next with detailed program descriptions and evaluations for nine programs. The next section covers how teen pregnancy affects a teen's educational aspirations and attainment. The role of a social support system and its impact on teen pregnancy is reviewed. Lastly, the image of teen pregnancy in reality TV programming is reviewed in terms of how it is presented as well as the reactions from pregnant and parenting teens.

#### **Section 1: Descriptive Epidemiology of Teen Pregnancy**

The descriptive epidemiology of teen pregnancy includes person and environment factors that affect the likelihood of teen pregnancy. Person factors include biological factors such as age and race as well as physical, social, and behavioral factors. Behavioral factors focus primarily on contraception use as well as other behaviors known to impact teen pregnancy through risky sexual behaviors like drug and alcohol use. Environment factors include a relevant place comparison, social environmental factors, and time factors.

#### **Person (Host) Factors**

##### ***Biological Person Factors***

Teen pregnancy in the United States affects females under the age of 20. According to the CDC, there are variations in the teen birth rate by race and ethnicity of the mother. In 2022, the teen birth rate for all females ages 10-14 was 0.2 births per 1,000 females, which remains

unchanged since 2015. The teen birth rates for all females ages 15-17 and 18-19 were 5.5 and 25.6 births per 1,000 females respectively. These rates are record lows for both groups and declines of 2% for females ages 15-17 and 4% for females ages 18-19 from 2021 (Hamilton *et al.*, 2023).

The birth rate for most racial and ethnic groups has declined in females ages 15-19. The birth rates for this age group were down 7% for non-Hispanic Whites, 8% for non-Hispanic Black and Hispanic, and 9% for non-Hispanic Asian females from 2020 to 2021. In 2021, the birth rate was 9.4 per 1,000 females ages 15-19 and 0.1 per 1,000 females ages 10-14 in non-Hispanic whites; 21.8 per 1,000 females ages 15-19 and 0.3 per 1,000 females ages 10-14 in non-Hispanic blacks; 24.2 per 1,000 females ages 15-19 and 0.3 per 1,000 females ages 10-14 in non-Hispanic American Indian/Alaska Native; 2.0 per 1,000 females ages 15-19 and no reliable estimate is available for females ages 10-14 in non-Hispanic Asian; 21.9 per 1,000 females ages 15-19 and no reliable estimate is available for females ages 10-14 in non-Hispanic Native Hawaiian or other Pacific Islander; and 21.1 per 1,000 females ages 15-19 and 0.3 for females ages 10-14 in Hispanics (Osterman *et al.*, 2023).

### ***Physical Factors***

No relevant information was found for physical factors and teen pregnancy.

### ***Social Factors***

Social host factors are strongly associated with teen pregnancy. Socioeconomic status of both teens and their caregivers influence the likelihood of a teen becoming pregnant. This information is covered in the social environmental factors section.

### ***Behavioral Factors***

Proximate factors for teen pregnancy are teens becoming sexually active and contraceptive use. According to Finer and Philbin (2013), the minority of teens are sexually active. The study states that 19% of females aged 15 and 32% of females aged 16 are sexually active. Twenty six percent of females have not had sex by their twentieth birthday. In the 50 years prior to the study being published, the median age of first sex for females never fell below age 17. At least a quarter of females in all birth cohorts had not had sex by age 19 (Finer & Philbin, 2013).

Finer and Philbin (2013) also studied the length of time between sexual debut and contraception use. Most teens use contraception before sexual debut. Eighty-two percent of 16-year-old females in the study used contraception at first sex. This percentage increased to 95% one year after first sex. The authors found that teens who initiate sex at younger ages take longer to initiate contraceptive use (Finer & Philbin, 2013).

In a study conducted in New York City, pregnancy risk was determined by current sexual activity and contraceptive use. A total of 23.4% of White adolescents reported sexual activity, which was lower than Black (35.4%) or Hispanic (32.7%) adolescents. Among those who were sexually active, contraceptive rates were low in all groups with 11.6% among Whites, 7.8% among Blacks, and 7.5% among Hispanics. The authors concluded that Whites had lower pregnancy rates due to poorer contraceptive use among Blacks and Hispanics. (Waddell et al., 2010).

The Youth Risk Behavior Surveillance System (YRBSS) selects a biennial probability sample of U.S. high school students and monitors health behaviors related to a variety of public health priorities, including sexual behaviors related to teen pregnancy. According to the 2019

YRBSS, 38.4% of students had ever had sexual intercourse. The percentage was higher in males (39.2%) than females (37.6%). The percentage of females who had ever had sex was highest among 12<sup>th</sup> grade (56.8%) followed by 11<sup>th</sup> grade (46.6%), 10<sup>th</sup> grade (31.8%) and 9<sup>th</sup> grade (16.7%) (CDC, 2019).

YRBSS also collects data on students who were currently sexually active which is defined as having had sex with at least one person three months before the survey. Nationwide, 27.4% of students were considered sexually active. There were more female students (28.4%) than male students (26.3%) that were sexually active. The percentage for female students by grade was 43.8% of 12<sup>th</sup> grade females followed by 11<sup>th</sup> grade females (35.9%), 10<sup>th</sup> grade females (24.3%) and 9<sup>th</sup> grade females (10.8%) (CDC, 2019).

Among the 27.4% of students nationwide who were sexually active, 45.7% reported that they did not use a condom during last sexual intercourse. The prevalence of not using a condom at last sexual intercourse was higher for females (50.4%) than males (40%). The rates for females by race and ethnicity are 48.4% of White females, 55.5% of Black females, and 49.1% of Hispanic females who did not use a condom at last intercourse. The highest rate of no condom use by females by grade is 52.2% of 12<sup>th</sup> and 10<sup>th</sup> grade females followed by 9<sup>th</sup> grade females (48.2%), and 11<sup>th</sup> grade females (47.7%) (CDC, 2019).

According to Salas-Wright *et al.* (2015), substance use and risky sexual behaviors that can lead to teen pregnancy are intertwined. Adolescents have been found to use illicit substances to initiate sexual encounters. Intercourse while under the influence of drugs or alcohol is associated with decreased condom use. Salas-Wright *et al.* (2015) found that pregnant adolescent females were much more likely to experiment with drugs and alcohol compared to their nonpregnant counterparts. In their study of females aged 12-17, controlling for age,



race/ethnicity, household income, and absence of mother/father in the household, pregnant adolescents were much more likely to report alcohol, cannabis, and other illicit drug use in the past 12 months (Salas-Wright *et al.*, 2015). The YRBSS also found that 21.2% of adolescents who are sexually active drank alcohol or used drugs before last sexual intercourse. The prevalence was higher among males (24%) than females (18.6%). The prevalence was highest among Asian females (31.1%) followed by multiple race females (24.1%), Hispanic females (18.5%), White females (18%), and Black females (14.5%). The prevalence for females by grade was highest among 11<sup>th</sup> grade females (20.3%) followed by 12<sup>th</sup> grade females (20%), 9<sup>th</sup> grade females (16.9%) and 10<sup>th</sup> grade females (13.9%) (CDC, 2019).

## **Environmental Factors**

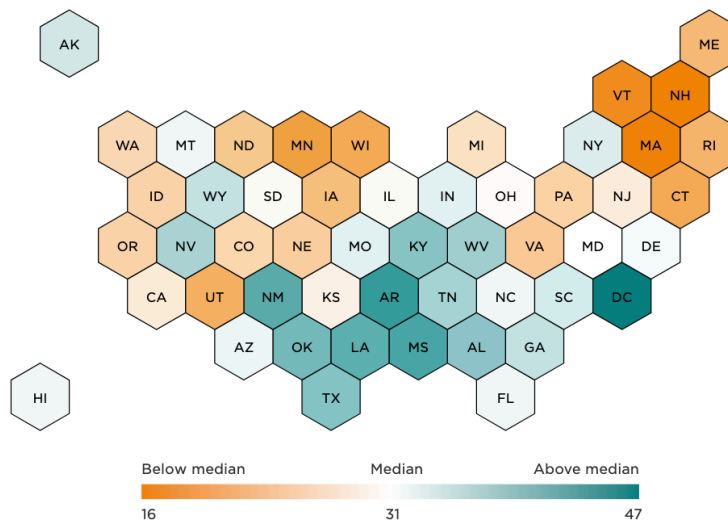
### ***Relevant Place Comparisons***

Sedgh *et al.* (2015) examined pregnancy rates and birth outcomes for adolescents aged 15-19 among 49 countries. There were 21 countries in the study that were considered to have liberal abortion laws and complete teen pregnancy estimates for the years 2008-2011. Of these 21 countries, the United States had the highest pregnancy rates (57 pregnancies per 1,000 adolescents in 2010). The United States was closely followed by New Zealand with 51 pregnancies per 1,000 adolescents and England and Wales with 47 pregnancies per 1,000 adolescents. The lowest teen pregnancy rates were found in Switzerland with 8 pregnancies per 1,000 adolescents followed by Netherlands, Singapore, and Slovenia all with 14 pregnancies per 1,000 adolescents (Sedgh *et al.*, 2015).

Within the United States there is variation in the teen pregnancy rate across states. Figure 1 shows the pregnancy rate by state for women aged 15-19 in 2017. The green shades in the South and Southwest portions of the map compared to the darker orange in the Northeast and

light orange in the Northwest indicate severe regional differences. According to the graph, the localities with the highest teen pregnancy rates are District of Columbia (47.3 per 1,000), Arkansas (43.8 per 1,000) and Mississippi (42.6 per 1,000). The states with the lowest teen pregnancy rates are New Hampshire (15.9 per 1,000), Massachusetts (16.4 per 1,000) and Vermont (17.6 per 1,000) (Maddow-Zimet & Kost, 2022).

Figure 2 Pregnancy Rate by State Among Women Aged 15-19, 2017



### ***Social Environmental Factors***

There are a number of distal factors that put a teen at risk for teen pregnancy in addition to the proximate factors of being sexually active and contraceptive use. The children of teen parents are more likely to become teen parents themselves (Hendrick & Maslowsky, 2019). Meade *et al.* (2008) found that daughters of teen mothers were 66% more likely to become teen mothers after accounting for other risks like school performance, maternal education, marital status, number of children, dating history, race, and enrichment. This study supports the

phenomenon known as the “intergenerational cycle of teen motherhood” (p. 424). Meade *et al.* (2008) also found risk factors that were shared among all teen mothers regardless of maternal birth age. These risks were poorer school performance, lower maternal education, parents not married at age two, greater number of children in the household, dating in early adolescence, African American race, and a less enriching environment (Meade *et al.*, 2018).

Maternal education is a predictor of healthy development and well-being in the mother’s children. Mothers with high educational attainment typically have higher paying jobs, live in healthier and safer neighborhoods, couple with partners with higher education, lower rates of divorce, and are more likely to have access to higher quality healthcare for themselves and their children. As a result, children born to mothers with higher educational attainment are more likely to grow up in high resource environments, which puts them on a pathway towards healthy development (Hendrick & Maslowsky, 2019). Historically, teen mothers have low educational attainment. Kane *et al.* (2013) found that the educational consequence of teen childbearing is an estimated 0.7 – 1.9 fewer years of schooling among teen mothers.

There is a relationship between childhood sexual abuse and teen pregnancy. One in twelve children experience sexual abuse before the age of 18, and the adverse effects of this sexual abuse are many and include fear, dysfunctional relationships, and post-traumatic stress disorder. A longitudinal study compared females who had experienced childhood sexual abuse and those who had not and found that females who experienced childhood sexual abuse were 2.45 times more likely to experience a teen pregnancy than those who did not. This is despite controlling for known risk factors for teen pregnancy like risky sexual behaviors, substance abuse, and ineffective birth control use (McNiss *et al.*, 2021).

The absence of a biological father in the home is a risk factor for early sexual activity which can lead to teen pregnancy. According to the life-course adversity model, the absence of a biological father in the house is associated with other stressors like divorce, poverty, conflictual family relationships, and erosion of parental monitoring and control. These stressors can lead to early sexual activity and teen pregnancy (Ellis *et al.*, 2003).

In a literature review that focused on the socioeconomic influences on teen childbearing, it was found that unfavorable socioeconomic conditions at the family and community levels contribute to a high teen birth rate in the United States. Lower family level socioeconomic status was found to be predictive of teen motherhood even if the teen possessed protective factors like popularity. At the community level, county-level per capita income and income inequality were associated with higher teen birth rates regardless of the county's racial and ethnic composition. At a zip code level, low median income, high percentage of households receiving public assistance, high percentage of people greater than or equal to 25 years of age with fewer than nine years of education, and a high percentage of people greater than or equal to 25 years of age with 9-12 years of education but no high school diploma were all associated with a high teen birth rate. Neighborhood disorder characterized as observed graffiti, beer or alcohol containers, cigarette butts, litter or glass, and abandoned cars were associated with a high teen birth rate when controlling for racial and ethnic composition as well as poverty. The findings of this review suggest that unfavorable socioeconomic conditions at the family, neighborhood and community levels affect teen sexual behaviors, which contributes to a high birth rate (Penman-Aguilar *et al.*, 2013).

### ***Time Factors***

According to the Guttmacher Institute, pregnancies among adolescents aged 15-17 and 18-19 have declined in every state from 1988 to 2017 (Maddow-Zimet & Kost, 2022). There is some evidence pointing to seasonal patterns in teen conception. Gauster *et al.* (2015) timed a teen pregnancy intervention to coincide with teen conception peaks in March and April in the community under study. Another study in Texas found direct links between teen conception rates between 1994-2000 and school terms with higher conception rates observed at the end of fall and spring school semesters. The peak in conception during the end of the spring semester coincides with formal and informal end of school year celebrations in which teens may participate (Scafetta *et al.*, 2003). There are currently no known cyclical variations in teen pregnancy.

### **Section 2: Education and Healthcare Policies to Prevent Teen Pregnancy**

One of the main policies in schools used to prevent teen pregnancy is sex education. The federal government does not mandate a specific type of sex education program. Policies at the state level dictate program type (Rabbitte & Enriquez, 2019). The Guttmacher Institute collects and organizes data on sex education policies at the state level. As of June 1, 2023, 38 states and the District of Columbia mandate sex education and/or HIV education. Twenty-five states and DC mandate both sex education and HIV education, two states only mandate sex education, and 11 states only mandate HIV education. Thirty states and DC mandate that when provided, sex and HIV education meet certain requirements. Seventeen states require information be medically accurate; 26 states and DC require the information be appropriate to the child's age; 10 states require the information be appropriate to the child's cultural background and not biased against any race, sex, or ethnicity; and four states prohibit programs that promote religion. Forty states and DC require the involvement of parents in sex education, HIV education or both. Twenty-five

states and DC require parent notification, six states require parent consent, and 35 states and DC allow parents the option to remove their child from instruction. There are also varied content requirements by states when sex education is taught. Twenty states and DC require information on contraception. Thirty-nine states and DC require information on abstinence. Of those 39 states, 29 require that abstinence be stressed and 10 require that it be covered. Nineteen states require information on the importance of only engaging in sexual activity within marriage. For sexual orientation, 10 states and DC require inclusive content and four states require only negative information on homosexuality and/or a positive emphasis on heterosexuality. Lastly, 17 states require the inclusion on the negative outcomes of teen sex and pregnancy (*Sex and HIV Education*, 2023).

Despite the patchwork of sex education requirements across the country, research has shown that comprehensive sex education (CSE) shows the most promise in helping reduce risky sexual behaviors. CSE teaches “medically accurate and age-appropriate information about abstinence and contraceptives and also addresses the psychosocial, emotional, physical, and mental aspects of sexuality” (p. 27). While analyzing the role of policy on sex education, Rabbitte and Enriquez (2019) found that states with mandated emphasis on abstinence only programs had higher teen pregnancy and STI rates. Research has also shown that as spending on abstinence only education increases in a state, so does their teen birth rate (Rabbitte & Enriquez, 2019).

Healthcare policy that affects a teen’s ability to access sexual and reproductive healthcare influences teen pregnancy. These policies, specifically those focused on abortion, are in a state of flux as laws are currently changing in states after the U.S. Supreme Court overturned the federal constitutional right to abortion in *Dobbs v. Jackson*. According to Guttmacher Institute, as of

June 1, 2023, the following are the current state policies that affect a teen’s access to sexual and reproductive health services. For contraception, the Supreme Court affirmed the rights of individuals under the age of 18 to access contraceptives in the 1977 decision *Carey v. Population Services International*. No state has a requirement that minors must receive parental consent for contraceptive services. Specifically, 27 states and DC explicitly state that individuals can consent to contraceptive services or that minors of a specific age (12 or 14) can consent. Nineteen states only allow certain categories of minors to consent to contraceptive services, and four states have no explicit policy or case law. Once a teen becomes pregnant, 33 states and DC allow individuals younger than 18 to consent to prenatal care. Fourteen of these states allow, but do not require, a doctor to inform the teen’s parents they are seeking prenatal care if the doctor thinks it’s in the best interest of the teen to do so. Four states allow teens to receive prenatal care if they’re considered “mature.” Thirteen states have no explicit policy or case law. If a teen chooses to place their child for adoption, 28 states and DC allow parents of all ages to do so. Five states require that the parent of a minor placing their child for adoption be notified or consent to the adoption. Five states require the involvement of legal counsel, or guardian *ad litem*, and 12 states have no explicit policy or relevant case law. A teen parent can seek medical care for their child in 30 states and DC, and the remaining 20 states have no explicit policy or case law (*An Overview of Consent to Reproductive Health Services by Young People*, 2023).

Guttmacher Institute has also been keeping track of abortion policy despite the rapid changes that are occurring. At the time of their latest reporting in June 2023, only two states and DC explicitly allow all individuals to consent to abortion services regardless of age. Twenty states require that at least one parent provide consent before a minor can receive an abortion. Ten states require notification of at least one parent before a minor can receive an abortion. Six states

require both notification and consent from a parent. Another five states have parental involvement laws that are temporarily or permanently enjoined. Lastly, six states have no explicit policy or relevant case law (*An Overview of Consent to Reproductive Health Services by Young People*, 2023).

Many women rely on publicly funded family planning clinics to receive nearly-free contraception as well as other reproductive health services. However, federal and state spending on these family planning clinics has been cut due to concerns over their affiliations with abortion providers. The reductions in spending on these clinics has influenced teen pregnancy. According to Packham (2017), the most effective government programs for reducing teen pregnancy are those that provide low-income women with free long-acting reversible contraceptives (LARCs). LARCs have 99% effectiveness, which is much higher compared with other contraceptive methods such as condoms, which have 82% effectiveness. However, LARCs are one of the most expensive contraceptive methods, which may explain why only 5% of U.S. teens choose this method. When provided for free, LARCs have been shown to reduce teen pregnancy. Publicly funded family planning clinics play a critical role in providing contraceptives, such as LARCs, to teens free of charge. Previous research has shown that access to Title X clinics has reduced teen childbearing by up to 3% over time. Packham (2017) studied the opposite effect, that is how does the reduction in spending on publicly funded family planning clinics affect teen pregnancy rates. Packham (2017) analyzed the 2011 policy change in Texas that cut spending on family planning services by two thirds. The results of the analysis showed a 3.4% increase in teen childbearing in the four years following the defunding of the family planning clinics (Packham, 2017).



### **Section 3: Evidence-Based Programs to Prevent Teen Pregnancy**

The U.S. Department of Health and Human Services (HHS) sponsors a systematic review of research on teen pregnancy prevention to find programs with “evidence of effectiveness in favorably impacting (1) teen pregnancy and sexually transmitted infections (STIs) and (2) sexual behaviors” (p. 1). The criteria for the evidence of effectiveness require programs to show evidence of at least one favorable, statistically significant impact on at least one outcome of interest. Outcomes of interest can include sexual behaviors or reproductive health. Any supporting studies must meet the established criteria for the quality and execution of their research design. As of April 2023, the total number of programs meeting the criteria for evidence of effectiveness is 52. Nine of these programs were added in the most recent update to the review findings (Forrester *et al.*, 2023).

Of the 52 programs that show at least one favorable, statistically significant impact on at least one outcome of interest, nine programs show potentially favorable evidence or favorable evidence for effectiveness of preventing pregnancy as opposed to other outcomes of sexual activity, number of sexual partners, contraceptive use or STIs or HIV. The eight programs that showed potentially favorable evidence are Children’s Aid Society (CAS)-Carrera Program; Linking Families and Teens (LiFT); Love Notes; Power Through Choices; Project TALC; Raising Healthy Children (formerly the Seattle Social Development Project); Sisters, Informing, Healing, Living, Empowering (SiHLE); and Teen Options to Prevent Pregnancy (T.O.P.P.). One program, Reducing the Risk, showed favorable evidence to reduce teen pregnancy (*Youth.gov*, n.d.).

## **Children's Aid Society (CAS) – Carrera Program**

The CAS – Carrera Program is a sexuality education and pregnancy prevention program for high-risk adolescents in Harlem. The program is guided by several principles including staff treat children as if they were their own; each young person is viewed as pure potential; a holistic approach is used; contact with participants is continuous and long-term; services aim to involve parents and other adults; and services are offered under one roof in the community. The program consists of five activity components and two service components. The five activity components are Job Club, an academic component, comprehensive family life and sexuality education, an arts component, and individual sports. The two service components are mental health care and medical care. During the school year, program activities run all five weekdays. Over the summer, participant activities include maintenance meetings, job assistance, social events, recreational activities, and cultural trips (Philliber *et al.*, 2002).

Philliber *et al.* (2002) conducted a randomized trial across six agencies in New York City for three years to evaluate the program. Each agency recruited 100 students using a variety of recruitment strategies, including outreach in schools, distributing flyers, contacting families on their mailing lists, and recruiting adolescents already involved in their programming. The evaluation team conducted a baseline interview with each student and asked them to draw envelopes to determine if they would participate in the CAS – Carrera Program or a control program. At most sites, the control was the agency's regular youth programming. The evaluation data included annual surveys of teenagers' characteristics and program outcomes; annual tests of knowledge of sexual topics administered by the evaluation team at the same time as the annual survey; and monthly attendance records provided by program staff. The primary outcome of interest was pregnancy and childbirth.

Gains in knowledge over time were significantly greater among program participants than among controls. The number of correct responses on the questionnaire rose by 22% and 11% respectively. Program women were significantly more likely than controls to report they had not had sex when pressured and significantly less likely than controls to ever have intercourse. Sexually experienced program women were significantly more likely than controls to use a condom with a highly effective birth control method at last intercourse. At the 3-year follow-up, program women had significantly lower rates of pregnancies and births than control women. The positive sexual and reproductive health outcomes found among program women were not present among program men. In the multivariate analyses, the odds of becoming pregnant were significantly reduced among program women compared to control women (odds ratio, 0.31). Program women had significantly reduced odds of being sexually active after three years of program exposure (odds ratio, 0.5) and significantly increased odds of using a condom and a hormonal birth control method at last intercourse (odds ratio, 2.4) (Philliber *et al.*, 2002).

### **Linking Families and Teens (LiFT)**

Linking Families and Teens (LiFT) is a program to reduce unplanned teen pregnancies by increased family connectedness and youth's self-efficacy, knowledge, and skills related to sexual health. LiFT serves rural youth and their parenting adult (a biological parent, caregiver, or other important adult in the life of the teen). The program was developed by Planned Parenthood of the Great Northwest and the Hawaiian Islands with funding from the Office of Adolescent Health Teen Pregnancy Prevention Initiative (Brown *et al.*, 2021).

LiFT is a 5-hour workshop for youth and their parenting adult. The youth and the adults have separate, simultaneous sessions as well as "together times." In their sessions, youth learned communication skills that make it easier to talk about tough topics with their adult; condom use

demonstration and practice; and skill building exercises to effectively access sexual healthcare resources in the community. In the adult sessions, parenting adults learned about adolescent brain development; building a climate of trust and open communication about sex with their teen; and how to become an “askable adult.” During the “together time,” youth and their parenting adults had opportunities for sharing, skill practice, and fun to learn more about each other and create a family action plan. Families also had the option for opting into 12 weekly texts, which included additional resources and fun ways families could communicate. Adults received a phone call one month after program implementation to reinforce the skills learned in the program (Brown *et al.*, 2021).

Brown *et al.* (2021) evaluated the LiFT program with a cluster randomized controlled trial. Youth and adult dyads were recruited from schools, healthcare settings, or other community organizations. To participate, youth had to be 13-19 years old and live in a rural community with teen pregnancy rates higher than the national average. Each youth had to be accompanied by a parenting adult who also agreed to participate in the program. After receiving the consent and baseline survey for all participants, the research team conducted the random assignment of families and informed the program staff who notified the participants. There were 464 youth randomized to the program group and 422 youth randomized to the control group. Youth participants were surveyed before random assignment (baseline), 3 months, and 12 months following the LiFT workshop. Three-month surveys were completed by 92.8% of youth, and 12-month surveys were completed by 92.9% of youth.

For the youth in the intervention group, 82% of all curriculum activities were facilitated exactly as written and another 12% of activities were facilitated with approved adaptations. At the 3-month follow-up, program youth scored significantly higher than control youth on

perceived competence to prevent pregnancy. Compared to the control youth, program youth had significantly more frequent communication with their parenting adult about sexuality and pregnancy preventions. There was no significant difference between program and control youth in unprotected sex at last intercourse. However, program youth were significantly less likely to have ever been pregnant or caused a pregnancy (net of baseline, zero program youth vs. four control youth). Twelve months following the program, program youth still scored significantly higher than the control group on perceived competence to prevent pregnancy. Program youth continued to have more frequent communication with their parenting adult about sexuality and pregnancy prevention. There were no significant differences between the groups on both sexual behavior measures. Program youth were still less likely to report a pregnancy compared to the control group, but the difference was no longer statistically significant (net of baseline, six program youth vs. 14 control youth) (Brown *et al.*, 2021).

### **Love Notes and Reducing the Risk**

Love Notes and Reducing the Risk were evaluated together in a three-arm cluster randomized control trial. Both programs were offered over the course of two Saturdays with a control program, The Power of We, serving as the third arm of the study. Love Notes is a 13-module curriculum that teaches youth about healthy relationships and aims to reduce adolescent dating violence and unprotected sex. The modules cover goal setting; personality and family-of-origin issues in relationships; smart love; sliding versus deciding; safety issues; healthy communication strategies; problem solving; commitment and relationship decision-making; and sexuality in close relationships (Barbee *et al.*, 2016).

Reducing the Risk consists of 16 modules that cover risk behaviors, abstinence, HIV and sexually transmitted infection prevention, and skills development. Reducing the Risk is a more

straightforward sex education program, while Love Notes embeds sex education in a curriculum that focuses on the importance of forming healthy relationships and avoiding intimate partner control and violence. The control program, The Power of We, had no sex education component. The Power of We helps youth learn about assets in their community and teaches them how to bring about positive change. Participants in the control group completed activities like walking through the neighborhood, watching films, and creating artwork to demonstrate what they learned about community change (Barbee *et al.*, 2016).

To participate in the study, youth needed to be between the ages of 14-19 years old and at a high risk for adolescent pregnancy. Youth also needed to be involved in out-of-school activities at one of the 23 youth-serving organizations that were hosting the camp. All three programs were offered under the same camp given the acronym CHAMPS! (Creating Healthy Adolescents through Meaningful Prevention Services!). All youth-serving organizations that offered the camp were in parts of Louisville, Kentucky, with the highest poverty rates and minority youths. During the completion of the baseline survey, youth were randomized to one of the three programs: The Power of We, Reducing the Risk, or Love Notes. Randomization was performed by the research manager, and the randomization was double-blind because the evaluators were blinded to the conditions. Participants in all three programs completed surveys at baseline and 3- and 6-month follow-ups (Barbee *et al.*, 2016).

There was a decrease in response rate at each follow-up. The 3-month follow-up had a 75% response rate, and the 6-month follow-up had a 68% response rate. However, there was no demographic characteristic difference between conditions that emerged because of the attrition. The Reducing the Risk group was significantly less likely to fail to use some form of birth control other than a condom at three months and six months compared to The Power of We.

There was no significant difference between Love Notes and The Power of We at the 3-month follow-up for failure to use condoms, failure to use birth control, number of sexual partners, or ever had sex. However, at the 6-month follow-up the Love Notes group was significantly less likely than The Power of We groups to fail to use condoms or some other form of birth control. Overall, the Reducing the Risk group had more significant effects at three months, and the Love Notes group had more significant effects at six months. None of the differences between the two intervention groups were statistically significant (Barbee *et al.*, 2016).

### **Power Through Choices (PTC)**

Power Through Choices (PTC) is an age-appropriate and medically accurate sexual health education intervention for youth living in group homes or other out-of-home placements. Youth living in group homes are typically placed there because they are involved with either the foster care system or juvenile justice system. These youth report higher rates of early initiation of sexual intercourse, more sexual partners, and lower rates of condom-use and other forms of birth control compared to the general adolescent population. Therefore, there is a need to create effective sex education programs to serve these youth. PTC was developed by The Family Welfare Research Group. The intervention is 10, 90-minute sessions delivered twice per week for five weeks in groups of 6-20 youth by a pair of facilitators. The sessions focus on skills building, role modeling, identification and reduction of barriers to change, goal setting, and benefits and self-efficacy regarding contraceptive and condom use. The sessions are also interactive and engage youth in discussion, role playing, hands-on exploration of contraceptive methods and a variety of other activities. Since the program is targeted for such a vulnerable population, it is also trauma informed and considers specific reasons the youth in group homes may seek out sexual relationships like an intense need for affection or belonging, a lack of

dependable family or social support network, and exposure to sexual abuse or violence (Oman *et al.*, 2018).

The evaluation of PTC was a clustered randomized control trial with group homes used as the unit of randomization. The youth in the study resided in one of 44 group homes located in California, Maryland, or Oklahoma. Within each state, half of the group homes were randomized to the PTC intervention and the other half received usual programming, which involved no sexuality education. For this study, group homes were identified as congregate care residential facilities that were operated or contracted by a state child welfare agency (foster care), state juvenile justice agency, or private care provider. Group homes that were willing to participate and housed youth ages 13-18 were recruited for the study. Group homes were excluded if they specifically served pregnant or parenting adolescents, adolescent sexual offenders, or adolescents with significant emotional, mental or behavior issues. Youth completed surveys at baseline, after the intervention, and 6-months and 12-months after the intervention (Oman *et al.*, 2018).

The primary outcomes reported in the study were contraceptive use and pregnancy assessed at the 6- and 12-month follow-ups. While completing the surveys, youth were instructed to only report on sexual encounters in which they chose to participate and exclude any encounters in which they were forced to participate. There were no differences between the intervention and control groups at baseline in terms of demographics or sexual behaviors. Most of the participants in the study were male (79%). Eighty-two percent of participants complete the 6-month survey and 85% completed the 12-month survey. At the 6-month survey, participants in the intervention group had significantly lower odds of having sexual intercourse without birth control in the last three months than youth in the control group. This difference did not remain statistically significant at the 12-month follow-up. However, at the 12-month follow-up participants in the



intervention group had statistically significant lower odds of ever being pregnant or getting someone pregnant than those in the control group. This finding is particularly noteworthy because most participants (91% of male PTC participants and 83% of female PTC participants) were sexually experienced at the start of the intervention (Oman *et al.*, 2018).

### **Project Teens And Adults Learning to Communicate (TALC)**

Project TALC is an intervention that was specifically designed for adolescents of parents with HIV (PWH). These adolescents are more likely to experience high levels of stress and be at risk for long-term negative developmental outcomes. Project TALC addresses risky sexual behaviors amongst other long-term outcomes like substance use, emotional distress, and future expectations for oneself. Project TALC is delivered over three modules that are held in small groups on alternating Saturdays with one 2-hour session in the morning followed by another 2-hour session in the afternoon. Modules one and two are delivered over 15 weeks with 24 sessions for parents and 16 sessions for their adolescent children. Module one addresses parents' coping skills related to their negative emotions with their HIV status, making decisions about disclosing serostatus to their children, and reducing their own substance use and risky sexual behaviors. Module two includes both parents and their adolescent children (if the parent has disclosed their serostatus) and encourages parents to make custody plans and help their children adjust to their HIV status. For adolescents, module two aims to decrease adolescents' problem behaviors including teenage pregnancy. Module three is only intended for adolescents who have experienced the passing of their PWH. These adolescents attend the third module with their current caregiver, which includes 16 sessions for both the adolescent and the caregiver (Rotheram-Borus *et al.*, 2006).

A randomized control trial was utilized to evaluate Project TALC. A representative sample of parents with HIV was recruited from the New York City Division of AIDS Services from August 1993 to March 1995. None of the children of the parents selected were HIV positive. From the 307 PWH selected, 413 adolescents were eligible to participate in the intervention. At the completion of the baseline interview, families were randomly assigned by computer to the intervention or control group. The control group was the usual standard of care, which was a social worker who functioned as a case manager and had an ongoing relationship with the family. During years 1-3 of the study, 136 of the PWH died, and an additional 22 PWH died in years 4-6 of the study. The number of deaths did not differ significantly between the intervention and control groups. Interviews of 1.5-2 hours were conducted with the participants at recruitment, 3-year follow-up and 6-year follow-up. Risky sexual behaviors were assessed at 3- and 6-year follow-ups. Participants were asked to report their total number of sex partners and the number of casual partners in that last three months (Rotheram-Borus *et al.*, 2006).

The randomization created well-balanced groups at baseline. The average age of the participants was 14.7, which means the mean age was nearly 21 by the 6-year follow-up. Participation in the intervention group predicted less substance use at three and six years. Participation in the control group was also associated with stronger parental bonds at baseline. More substance use at three years predicted other negative outcomes like higher rates of sexual behavior, more continued substance use and lower positive future expectations and outcomes. Parental death predicted more sexual behavior and lower future expectations at six years. Positive parental bonds at baseline predicted less sexual behavior and less emotional distress at three years and predicted more positive future expectations and outcomes at six years. More sexual behavior or emotional distress at three years both predicted more substance use at six

years. The outcomes of the evaluation support the delivery of a family-focused intervention for adolescents with parents who are HIV positive (Rotheram-Borus *et al.*, 2006).

### **Raising Healthy Children (Seattle Social Development Project)**

The Seattle Social Development Project is a behavior management program used by teachers and adult caregivers to aid children in healthy development by giving children the opportunity for active involvement in the classroom and at home. The program also encourages reinforcement from teachers and caregivers for children's effort and accomplishment. The intervention was delivered in public schools serving high-crime areas of Seattle, Washington. There were two intervention groups examined. The full intervention group received the intervention throughout grades 1-6. The late intervention group received the intervention only in grades 5 and 6. The control group received no intervention (Hawkins *et al.*, 2008).

The intervention began in 1981 with first-grade classrooms from eight public schools randomly assigned to the intervention or the control condition. The students in the intervention groups at the original eight schools became the full intervention group. In the fall of 1985, 10 more schools were nonrandomly assigned. The 5<sup>th</sup> grade students at these schools received the intervention according to their school's assignment and became the late intervention group. The full intervention group received at least one semester of intervention in grades 1-6. The average intervention dose for students in the full intervention group was 4.13 years compared to 1.65 years for students in the late intervention group. To deliver the intervention, teachers received five days of training on the instructional methods each year. The first-grade teachers participating in the intervention received additional instruction in the use of the cognitive and social skills training curriculum. In grade 6, students are provided with refusal skills training by a study consultant. Parents also received training sessions as a part of the intervention. During

grades 1-3 parents were offered a 7-session curriculum in child behavior management skills and a 4-session curriculum on supporting a child's academic development. During grades 5-6 parents are offered a 5-session curriculum to strengthen skills to reduce children's problem behaviors (Hawkins *et al.*, 2008).

Evaluations of Raising Healthy Children were completed when the children in the study were 21, 24, and 27 years old. There were several outcome measures included in the evaluations including school, work, and community; mental health; sexual behavior and parenthood; substance use and crime. Only the results related to sexual behavior and parenthood are reported in this review. At 21 years old, the full intervention group reported significantly fewer sexual partners and a marginally reduced risk of initiating intercourse compared to the control group. Among females being in the treatment group was associated with a significantly reduced likelihood of both becoming pregnant or experiencing a birth by age 21 (Lonczak *et al.*, 2002). However, at ages 24 and 27, there were no intervention effects on specific sexual behaviors including ever being pregnant or gotten someone pregnant (Hawkins *et al.*, 2008).

### **Sisters, Informing, Healing, Living, Empowering (SiHLE)**

SiHLE is an HIV prevention intervention for female African American adolescents. The intervention consists of four, 4-hour group sessions on four consecutive Saturdays. Each session consisted of 10-12 participants and was led by a trained female African American health educator and two female African American peer educators. The first session emphasized ethnic and gender pride through discussions on the joys and challenges of being a female African American adolescent. The learning activities consisted of acknowledging the accomplishments of African American women and reading poetry and framing artwork that were the products of African American women. Session two focused on awareness of HIV prevention strategies like

abstaining from sex, having fewer sex partners, and using condoms consistently. Session three gave the adolescents space to practice safe-sex conversations and refusing unsafe sex encounters through roleplay. Peer educators also modeled condom skills during this session. Lastly, session four covered the importance of healthy relationships (DiClemente *et al.*, 2004).

SiHLE was evaluated through a randomized control trial that was conducted from September 1995 to August 2002. The eligibility criteria to participate in the study included being African American, female, 14-18 years of age, and reporting vaginal intercourse within the previous six months. Five hundred twenty-two adolescents were recruited to the study with 251 allocated to SiHLE and 271 to the control condition. The control condition was a general health promotion program that also took place on four, 4-hour sessions on four consecutive Saturdays. In the general health condition, two sessions covered nutrition information and the remaining two sessions emphasized exercise. Data on participants was collected as baseline and 6- and 12-month follow-ups. At each timepoint, data was collected from self-administered questionnaires; an interview conducted by a trained African American female interviewer assessing sexual behaviors; direct observation of condom application skills; and two vaginal swab specimens. In the intervention group, 90% of participants completed the 6-month follow-up and 87.3% completed the 12-month follow-up. In the control condition, 89.7% completed the 6-month follow-up and 88.9% completed the 12-month follow-up (DiClemente *et al.*, 2004).

The primary outcome of interest in the study was condom use during every instance of vaginal intercourse. Other outcome measures included condom use at last vaginal intercourse, percentage of condom-protected vaginal intercourse acts in the previous 30 days, percentage of condom-protected vaginal intercourse acts in the previous 6 months, number of unprotected vaginal intercourse acts in the previous 30 days, number of unprotected vaginal intercourse acts

in the previous six months, new vaginal sex partners in the previous 30 days, and self-reported pregnancy. Participants in the HIV intervention were more likely to report using condoms consistently in the 30 days preceding the 6-month and 12-month follow-ups compared to those in the control condition. Participants in the HIV intervention were also more likely to report using condoms consistently in the six months preceding the 6-month and 12-month follow-up as well as over the entire 12-month period compared to those in the control condition. For the other outcome measures, participants in the HIV intervention were more likely to report using a condom at last vaginal intercourse, less likely to self-report a pregnancy and less likely to report having a new vaginal sex partner in the 30 days preceding the follow-up (DiClemente *et al.*, 2004).

### **Teen Options to Prevent Pregnancy (T.O.P.P.)**

T.O.P.P. is a program designed to prevent rapid repeat pregnancy in teen mothers. More than one sixth of births to teen mothers are repeat births. Teens with more than one child are at a heightened risk for educational and economic difficulties compared to teens with only one child. T.O.P.P. has four components including contraception counseling with registered nurses trained in motivational interviewing (MI), access to a part-time contraception clinic, transportation assistance, and social worker assistance. The MI sessions were used to elicit information about past experiences and beliefs about contraception. Participants were guided toward effective contraception if they were interested. Long-acting reversible contraception (LARCs) were emphasized given their high efficacy. Other topics of conversation were also discussed in the interviews including relationships or other health issues. The MI sessions were primarily conducted over the phone but were sometimes completed in-person. Participants completed an MI session once per month. The part-time clinic was available two afternoons a week to provide

contraceptive services. Condoms were also distributed at the clinic. The transportation assistance was a van service operated by T.O.P.P. nurses that provided round trip transportation for a participant and her child to any local contraception provider. The social worker assistance consisted of brief psychosocial assessments and referrals to community-based services. The social workers were not available for crisis assistance (Stevens *et al.*, 2017).

Between October 2011 and January 2014 adolescent females were recruited from seven obstetrics-gynecology clinics and five postpartum units of a larger hospital in a Midwestern city. To be eligible for the study the adolescents had to be English speaking; 10-19 years of age; at least 28 weeks pregnant or less than 9 weeks postpartum; have regular telephone service; and be enrolled in Medicaid. The T.O.P.P. intervention took place over 18 months to emphasize the health benefits of avoiding a rapid repeat pregnancy. A computerized program randomly assigned adolescents to the intervention group or a control group. The control condition was usual care. There were 297 adolescents in the intervention group and 301 in the control group. The adolescents in both groups were contacted six months and 18 months after baseline to complete a survey administered by research staff who were unaware of the adolescent's study condition. In addition to the survey, information on future births was gathered through the state's vital statistics files for study participants who were 18 years old or older at baseline (Stevens *et al.*, 2017).

Overall, the 6-month survey response rate was 82.4% and the 18-month survey response rate was 78.9%. At six months, usage of LARCs within the past three months was more common in the T.O.P.P. intervention group than the control group. Unprotected vaginal intercourse in the last three months was less common in the T.O.P.P. intervention group compared to the control group. At the 18-month survey, usage of LARCS in the past three months remained more

common in the T.O.P.P. intervention group compared to the control group. Reports of repeat pregnancies, unintended pregnancies, and repeat births in the last 18 months were all lower in the T.O.P.P. intervention group than in the control group. There were seven participants in the control group that reported having an abortion, and no participants in the T.O.P.P. intervention group reported an abortion. The birth certificate data accessed through the state vital statistics files also showed that the percentage of live births 6-30 months after baseline for participants ages 18 or older at baseline was lower in the T.O.P.P. intervention group compared to the control group. The principle finding in the study was an 18.1% absolute reduction in self-reported repeat pregnancy in the T.O.P.P. intervention group compared to the control group (Stevens *et al.*, 2017).

## **Summary**

All of the nine programs reviewed were effective for their given target population, and therefore, share similarities in the way they were developed and implemented. Kirby and Laris (2009) have developed 17 characteristics of effective curriculum-based sex education programs. These 17 characteristics cover the development, content, and implementation of the programs. Their research has shown that programs that implement a majority of the 17 characteristics are more likely to positively change behavior than programs that do not incorporate any of the characteristics (Kirby & Laris, 2009).

All nine programs were effective, but face limitations to be generalized to other populations. Several of the programs served specific youth like youth living in group homes (Oman *et al.*, 2018), youth of parents living with HIV (Rotheram-Borus *et al.*, 2006), sexually experienced female African American youth (DiClemente *et al.*, 2004), and youth who were already parents (Stevens *et al.*, 2017). Other programs were for youth living in specific locations



like Harlem in New York City (Philliber *et al.*, 2002) or youth living in rural areas (Brown *et al.*, 2021). Another limitation of some of the evaluations is that the follow-up did not exceed 12 months. If youth were eligible to participate in the study in their early teenage years, a follow-up period of one year does not adequately capture a potential teen pregnancy (Brown *et al.*, 2021; Barbee *et al.*, 2016; Oman *et al.*, 2018; DiClemente *et al.*, 2004). Lastly, several of the evaluations have not been completed in the last 10 years, or if there is a more recent evaluation it doesn't have pregnancy as an outcome of interest (Philliber *et al.*, 2002; Rotheram-Borus *et al.*, 2006; Lonczak *et al.*, 2002; Hawkins *et al.*, 2008; DiClemente *et al.*, 2004). While the programs themselves may not be generalizable to other groups, the methodology of the 17 characteristics for effective programs can be applied in the creation of more programs for different groups.

#### **Section 4: Teen Pregnancy and Education**

Despite the well-documented challenges of having a child in your teen years, teen pregnancy is not a negative experience for all teen mothers. Anwar and Stanistreet (2014) found that for several teen mothers from the North West of England becoming a mother was a “catalyst for positive change” and altered their perspectives on “the value of education, training, and employment opportunities” (p. 274). Anwar and Stanistreet (2014) conducted in-depth interviews with ten young mothers who all came from poorer backgrounds in the North West of England. All the young women in the study described motherhood as a positive experience but were also honest that being a mother on a low income is difficult even if they've learned to cope. All the young women in the study expressed that their age did not affect their ability to be a competent mother. For many in the study, becoming a mother at a young age was viewed as normal in their community. The young moms did not experience much if any social exclusion, but instead had a large social support network that included mothers their own age. All the

women in the study also stated that becoming a mother at an early age made them more mature. Many expressed a disinterest in school prior to becoming pregnant, but now that they had a child to care for financially, they have a renewed interest in education and employment. Having a child to care for made them more determined to reach their education and career goals. Childcare costs were cited as a major obstacle to working towards education goals, and many mothers in the study relied heavily on their families for support in this area. Anwar and Stanistreet (2014) concluded that teen motherhood can provide a positive symbolic identity to teens and allow them to feel successful as a mother determined to care for her child.

However, cohort studies have found that this renewed interest in education may not materialize in additional years of education for parenting teens. Carlson (2015) completed two panel cohort studies, one from the late 1970s to early 1980s and the other from the mid-to-late 1990s with nationally representative data from the National Longitudinal Survey of Youth 1979 (NLSY79) and the National Longitudinal Survey of Youth Child and Young Adult 1979 (NLSY79-YA). Each respondent was interviewed annually from 1979-1994 and biennially since. In 1979, 1981, and 1982 respondents of the NLSY79 were asked how many years of education they expected and anticipated. In 1986, a survey of the children of the women interviewed in the NLSY79 was initiated. These respondents were asked about their educational expectations and aspirations in 1994, 1996, and 1998.

In both cohorts, teen parents aspire to and expect fewer years of education at the initial and follow-up interviews compared to their childless peers. Teen parents do experience a slight increase in aspiration and expectations over time on average, but the aspirations and expectations of their childless peers increased to the same degree. Therefore, the increase in education aspiration and expectations is not unique to the teen parents. However, only looking at the

averages in the data masks a great deal of heterogeneity. The largest proportion of teen parents and childless teens did not change their education aspirations and expectations. Relative to no change, teen parents were significantly less likely to increase their aspirations and expectations compared to their childless peers. In the NLSY79 cohort, teen parents were also significantly more likely to lower their education aspirations and expectations compared to their childless peers. These findings are consistent with the theory that teen parents experience stress related to their competing roles of parent and student that require them to lower their educational expectations (Carlson, 2015).

The results of the NLSY79-YA cohort revealed changes in the way teen parenthood has affected educational aspirations and expectations generationally. For the teens in this cohort, there was not an association between teen parenthood and greater odds of lowered education aspirations and expectations. However, teen parents remained at a lower-odds for increasing their education aspirations and expectations. Compared to their parents' generation in the NLSY79 cohort, teen parents in the NLSY79-YA cohort were less likely to increase their education aspirations and expectations. While it is positive that teens are less likely to lower their education aspirations and expectations, they also aren't increasing them. This may suggest that teen pregnancy and parenthood is not the positively transforming experience it once was (Carlson, 2015).

Kane *et al.* (2013) through various statistical analyses using data from Add Health (the National Longitudinal Study of Adolescent Health) found the educational consequences of teen birth to be 0.7 fewer years of education compared to women who delayed childbirth until at least age 20. Respondents in the sample completed an average of 14 years of education when the women were aged 24-34 (the average age was 29). Approximately 12% of women in the sample

had a live birth before the age of 19. Previous literature has a wide range of effect sizes on education varying from no difference in educational attainment to a difference of 2.6 years. The statistical analyses in this study ranged from 0.7 to 1.9 fewer years of educational attainment (Kane *et al.*, 2013).

A difference of less than a year in educational attainment is not as large as one might expect given the other negative effects of teen childbearing. However, there may be other unobserved factors contributing to this smaller than expected difference. Kane *et al.* (2013) references the possibility of “favorable self-selection” (p. 2146). If an adolescent’s mother had a teen pregnancy that did not negatively affect her educational outcomes, the daughter may be more likely to have a teen birth and still work towards achieving her desired level of education. There may also be high levels of familial support that assist her in doing so. Additionally, after an adolescent becomes pregnant, her family may increase their support and influence her to give birth, knowing that she will have the necessary support to continue her education (Kane *et al.*, 2013). There are other studies that also suggest that teen mothers recover their educational losses in their late 20s and early 30s by going back to school or getting specialized employment training. If the time of observation were later in the teen mother’s life course, the difference in educational attainment may be even less (Kane *et al.*, 2013).

Gorry (2019) used the same Add Health data set and found varying consequences on educational attainment when grouped by race or socioeconomic status. Gorry (2019) found that teens from high-income counties who give birth experience statistically significant decreases in overall education and labor market outcomes. For teens from low-income counties, there were no statistically significant negative short-run consequences. Across race, the detrimental effects of teen childbearing were greater for White teens. White teens experience reduced years of

schooling, decreased labor income, and increased welfare use. There were no detrimental effects found for Black or Hispanic and Latina teens. The differences found across race do not drive all the differences across socioeconomic status. Gorry (2019) concluded that for minority and low-income teens, teen childbearing is complementary to poor education and labor market prospects. For these teens, policy needs to be focused on the socioeconomic conditions that make teen childbearing more prevalent rather than reducing the teen pregnancy rate directly (Gorry, 2019).

### **Section 5: Teen Pregnancy and Social Support**

The social support that a mother receives can have a long-lasting impact on her own health and the development of her baby. Parental stress (stress that comes directly from the parenting role) and maternal depression are two indicators that have demonstrated an impact on child development. Research involving adult mothers has linked high parental stress with child outcomes like separation anxiety, attention problems, and depression. Parents who have high levels of parental stress are also more likely to have a negative parenting style. Negative parenting styles, regardless of their cause, are associated with poor behavioral, social-emotional, and cognitive outcomes in children (Huang *et al.*, 2013).

Similarly, the children of adult mothers with depression have various poor outcomes as they grow and develop. These children are less likely to meet developmental milestones, less likely to have a healthy attachment style, more negative affect, and increased problems with self-regulation. Maternal depression can also be characterized as a chronic, adverse childhood experience that leads to lifelong health issues including diabetes, heart disease and substance use (Huang *et al.*, 2013).

Adolescent mothers are more likely to experience parental stress and maternal depression compared to adult mothers because they are more likely to have social and financial burdens.

Adolescent mothers' rate of depression has been shown to be higher than adult mothers and non-parenting adolescents. One protective factor in combating parental stress and maternal depression is social support. Adolescent mothers with more social support tend to have better mental health outcomes than those with less social support. More support has been linked with overall lower levels of stress. A positive relationship with a parent (i.e., the child's grandparent) is associated with lower levels of depression. While this social support is protective, it can be difficult for adolescent mothers to find. Adolescent mothers typically have fewer friends compared to adult mothers. Ethnic minority adolescent mothers may even experience higher levels of parental stress and maternal depression compared to their white peers (Huang *et al.*, 2013).

Huang *et al.* (2013) conducted a study with 180 African American or Latino/Hispanic adolescent mothers to determine their perceived level of social support and how it related to their parenting stress, maternal depression, and their child's development. Participants who indicated higher levels of parenting stress and low perceived social support had higher levels of maternal depression at the six-month follow-up. This maternal depression was then correlated with greater developmental delays in infants at 18 months of age. Therefore, adolescent mothers require a support system to help manage the stress of parenting and prevent a decline in their own mental health as well as the health of their child.

Edwards *et al.* (2012) also conducted a study with young, low-income African American mothers to measure their depressive symptoms over time and investigate whether these symptoms were connected to key social relationships. One of the social relationships that was the focus of the study was the young mother's relationship with a parent figure. On average, the young mothers reported the highest level of depressive symptoms prenatally with declining

levels of depressive symptoms at each time point of 4, 12, and 24 months postpartum. During pregnancy, almost half of the mothers had clinical levels of depressive symptoms with this number decreasing to about 20% at 24 months postpartum. Nearly a third of the mothers experienced a repeat pregnancy during the first 24 months postpartum.

There was not a significant relationship between parent figure support and depressive symptoms during pregnancy. However, at four months postpartum, higher levels of parent figure support were associated with lower levels of depressive symptoms through the late postpartum months. This relationship was moderated by co-residing with the parent figure, typically the young mother's mother. Young mothers who co-resided with the parent figure and received high levels of support had the lowest level of depressive symptoms at 24 months postpartum. Mothers who co-resided with the parent figure and received low levels of social support had the highest levels of depressive symptoms. Mothers who did not co-reside with a parent figure had moderate levels of depressive symptoms regardless of the level of social support they received (Edwards *et al.*, 2012).

These results indicate the importance of the social support that young mothers received from key relationships in their life like a parent figure. However, the timing of the support and co-residence with the supporter is key to the mother's mental health. The results also indicate not co-residing with a parent figure may be more beneficial to a mother's mental health than co-residing with a parent who provides low levels of support.

### **Section 6: Teen Pregnancy Reality TV Programs**

According to Martins and Jenson (2014), the genre of reality TV is popular with both TV producers and audiences because of its low production costs and the ability to view a layperson's unscripted life, respectively. Reality shows that portray teen pregnancy and parenting are a

popular reality TV genre with the 2012 Season 3 premiere of *Teen Mom 2* being the most popular original cable program among viewers aged 12 to 34 (Martins & Jenson, 2014). Eleven years later, the popular program along with the original *Teen Mom* can be found on streaming services like Paramount Plus.

MTV first started airing reality TV programs about teen pregnancy in June 2009 with the premiere of *16 and Pregnant*. After four seasons, the show continued to rank number one during this time with female viewers ages 12-34. MTV states the show gives viewers an “authentic, honest and intimate look inside the lives of teens as they face unexpected pregnancies and become parents at a young age” (*MTV Press Official Press Site*). In December 2009, MTV announced they would continue following the lives of teens from *16 and Pregnant* in the new series *Teen Mom*. The *Teen Mom* franchise continues to rank as a top cable series among all viewers ages 12-34. MTV continued this franchise with the spin-offs *Teen Mom 2* and *Teen Mom 3*. In March 2015, the original cast members of *Teen Mom* came back to MTV. However, this time their show breaks the fourth wall in reality TV and incorporates the relationships the cast members have with the producers and crew as well as showcasing the challenges of raising children on camera (*MTV Press Official Press Site*).

The reach of *16 and Pregnant* and *Teen Mom* did not end with the television episodes. There were also sophisticated marketing strategies that included the use of social media and cross-branding to extend the reach of the shows and their cast members. Not only did the cast members gain substantial social media followers, in the tens of millions in some cases. Their storylines were also featured in popular gossip magazines alongside well-known celebrities. The stories in these magazines often focused on the young mothers’ struggles with substance use, criminal charges, or disputes with partners and fathers of their children (Greyson *et al.*, 2019).



At the creation of these shows, MTV partnered with the National Campaign to Prevent Teen and Unplanned Pregnancy. The goal of the programming was to educate viewers on the challenges of raising a child as a teenager and promote contraceptive awareness. The shows, *16 and Pregnant* and *Teen Mom*, were part of a wider public health campaign titled It's Your Sex Life. Organizations like Planned Parenthood and the Kaiser Family Foundation partnered with MTV on the It's Your Sex Life website, which contained a variety of sexual health information for teenagers (Greyson *et al.*, 2019).

TLC aired its new series showcasing the challenges of Teen Pregnancy in November 2017. According to TLC, *Unexpected* is a “raw look at teenage pregnancies and the impact on their families” (*Unexpected*, n.d.).

Martins and Jenson (2014) utilize cultivation theory, which states that, compared with those who watch less television, those who spend more time watching television will be more likely to perceive the world around them in ways that are consistent with the messages they receive from the television world. Martins and Jenson (2014) used a sample of 172 Midwestern teens from two high schools in neighboring counties to examine how frequency of watching teen parenthood reality programming affected perceptions about teen motherhood. Martins and Jenson (2014) did not complete a content analysis of MTV's *16 and Pregnant*, *Teen Mom*, or *Teen Mom 2*. This study assumed the portrayal of teen pregnancy and parenting as a negative experience given that The National Campaign to Prevent Teen and Unplanned Pregnancy (NCPTUP) has stated these programs can be used as a great teaching tool to prevent teen pregnancy. The three themes that participants were asked about were quality of life, income, and involvement of the father (Martins & Jenson, 2014).

Results of the study showed that, compared to lighter viewers, heavy viewers of teen pregnancy and parenting reality TV shows were more likely to think that teen mothers have a lot of time to themselves, can easily find childcare to go to work and school, and can complete high school. Heavy viewers of these shows were also more likely to think that teen mothers have affordable access to healthcare and reliable childcare. They are more likely to think that teen mothers have finished college with the ability to live on their own and have better than minimum-wage jobs compare to light viewers. Lastly, heavy viewers were more likely to think that teen mothers receive financial support from their baby's father and that fathers are helpful with childcare compared to lighter viewers. These results are in stark contrast with the claims of these program's producers and organizations like the NCPTUP, which claim that these programs help to reduce teen pregnancy. One outside variable not considered in this study is the celebrity status that many of the teens featured in these programs have gained. The celebrity attention and media coverage of the teens on the reality programs may be contributing to these results rather than the message of the show's episodes (Martins & Jenson, 2014).

Lewis *et al.* (2020) examined the effect of these reality programs on a specific group of high-risk adolescents, low-income Hispanic and Latina teens. This group is at a higher risk than their White counterparts with a teen birth rate of 21.1 per 1,000 females ages 15-19 and 0.3 for females ages 10-14 compared to 9.4 per 1,000 females ages 15-19 and 0.1 per 1,000 females ages 10-14 in non-Hispanic whites (Osterman *et al.*, 2023). Lewis *et al.* (2020) examined the effect of *Teen Mom* exclusively rather than *16 and Pregnant* and *Teen Mom*. The focus was on *Teen Mom* because the teens featured on this program have experienced a dramatic increase in their celebrity status and income and therefore no longer represent the average teen mother's experience as was the intention of the original programming, *16 and Pregnant*. The *Teen Mom*

series also dropped the pregnancy prevention messaging that was a key element in categorizing *16 and Pregnant* as entertainment-education rather than simply entertainment (Lewis *et al.*, 2020).

This study utilized social comparison theory which states that individuals compare themselves to others to satisfy the fundamental drive to make accurate evaluations about themselves. Individuals can make upward or downward social comparisons. An upward social comparison is driven by self-improvement motivations and the desire to be more like the better off comparison target. A downward social comparison is driven by self-enhancement motivations and the desire to separate oneself from the worse-off comparison target. Lewis *et al.* (2020) found that low-income, Hispanic and Latina teens who are exposed to *Teen Mom* are positively correlated with both identification with the teen moms and upward social comparisons to the teen mothers. However, there was no correlation between exposure and downward social comparison. Hispanic and Latina girls who identify with the teens in *Teen Mom* are more likely to look up to them and “less likely to think that getting pregnant would be embarrassing, a terrible event, or prevent them from achieving their dreams” (p. 222). These identification relationships occurred despite most teens on *Teen Mom* being White and a tendency for people to choose media based on their group membership (Lewis *et al.*, 2020)

Harrison *et al.* (2015) conducted a qualitative study to examine how reality programs like *Teen Mom* are viewed by parenting and pregnant youth. The study consisted of five focus groups that were held across three centers that provide a range of health, educational, and social services to parenting and pregnant youth. The youth in the study reported that their first exposure to reality programming showcasing parenting and pregnant youth was commonly *16 and Pregnant*, *Teen Mom*, and *The Jamie-Lynn Spears Show*. The adolescents in the study felt that these shows

emphasized dramatic storylines for ratings rather than responsible reporting. Participants felt that their lived experience was incongruent with those depicted on reality programs, particularly when it came to finances. Financial struggles were often absent from the storylines of teens on *Teen Mom*. One participant stated their frustration watching teens on the show get their hair and nails done while paying for gas and insurance on a brand-new car in addition to their financial responsibilities as a parent. Parenting and pregnant youth in the study were also sensitive to the negative stereotypes of teen parents portrayed in the series such as becoming a teen parent ruining the teen's life or teen fathers being portrayed as "deadbeats." Segments from these TV shows were viewed out of context and depicted poor parenting rather than positive moments. Adolescents in the study also expressed frustration with the way they're treated in healthcare settings and that healthcare professionals are not immune from the media portrayals of teen parents. Often, the teen parents portrayed in the reality programs made the participants feel embarrassed and judged (Harrison *et al.*, 2015).

Greyson *et al.* (2019) also conducted a qualitative study with young parents in Canada to gather information about their perceptions of reality TV programming like *Teen Mom*. All participants in their study were young parents or teenagers expecting their first child ages 15-19 who completed in-depth interviews with the researchers. Almost all participants in the study were familiar with the *Teen Mom* television shows whether they had watched the shows or not. The consensus among all participants in the study was that *Teen Mom* is unrealistic with hyperbolic storylines that emphasize drama to create entertaining television. There were some conflicting themes amongst the interviewees about the perception of teen motherhood. Some participants thought the shows made teen motherhood look terrible with storylines of exaggerated misery. Others thought the shows did not accurately portray the struggles of being a

teen parent. Young people on the show might not realize that the cast members are being paid, which is why they have money for nice clothes and trips (Greyson *et al.*, 2019).

Participants in the study felt that the shows made both young moms and dads look bad. In an interview, one participant stated that the show made young moms look “lonely, irresponsible, and childish” (p. 1157). There was a consensus that young fathers on the show were depicted as absentee parents. When young fathers were a part of the storyline, their immaturity and irresponsibility were featured. If it so happened that the young father was an engaged parent, he was met with amazement and, at times, undeserved accolades (Greyson *et al.*, 2019).

## Chapter III

### METHODS

This chapter describes the methods used in the study. This includes a description of the design, identification of the search terms, sampling, inclusion and exclusion criteria, measurements and coding specifications, data collection and statistical analyses.

#### **Design**

A cross-sectional study design was used thus all data were collected at a single point in time from the YouTube platform. Using a computer with a clean search history, a search on YouTube was conducted and results were sorted by view count, and URLs for the 150 most viewed videos were copied and saved in a separate file. All videos were sampled January 2024, and were viewed during January and February 2024 to complete the coding described below. For each video, the source, format, length (in minutes), year uploaded, content covered (yes/no), and number of views were coded.

#### **Identification of Search Terms**

The identification of the search terms involved piloting various key words to determine which phrase yielded the most relevant videos, the most views per video, and the highest cumulative views for the top three videos, the tenth video and the thirtieth video. Based on this pilot work, one phrase was identified as the most useful for the purposes of this study because it yielded relevant videos that were widely viewed.

The first search using a combination of various phrases related to teen pregnancy was conducted in December 2022. The search helped to eliminate phrases that did not yield many videos. Prior to each search, history from the computer was deleted. After each search, the

results were filtered by view count to identify the phrases that resulted in the videos with the most views. Search terms yielding low view counts were eliminated from consideration.

The search terms with the highest cumulative view count on the top three, tenth, and thirtieth video were “teen pregnancy,” “teen parents,” and “teen mom.” The key terms were narrowed to “teen pregnancy” and “teen parents” because they had the highest cumulative view count with the top three, tenth, and thirtieth video adding to over 125 million views. The top video for both search terms was the same video with 58 million views. Excluding this duplicate video, “teen pregnancy” has the highest cumulative view count, and therefore, was the search term used in the study.

### **Sampling**

Once the results with the search term “teen pregnancy” appeared, they were filtered by view count and the top 150 videos were selected. The videos were oversampled to accommodate the exclusion of videos that do not meet the inclusion criteria. This was completed on a single day in January 2024. Once selected, the URLs, titles, date uploaded, and view count for each video will be copied and stored in a separate file. The top 100 videos that meet the inclusion criteria resulting from the search were coded.

### **Inclusion and Exclusion Criteria**

To qualify for inclusion in this study, videos must be in English, and their primary topics must be on teen pregnancy or raising a child as a teenager. Full length movies, music videos and videos about having children on The Sims™, a life simulation video game, were excluded.

The Sims™, is a life simulation game where players can create characters, Sims, that can be personalized with distinct appearances, personalities, and life aspirations. Players can design their Sims’ dream home by choosing a layout, furniture, and altering the terrain. Sims can

also have careers, hobbies, relationships, and even children (*The Sims™ 4 - Download Free - Electronic Arts*, n.d.). As the game is played, time passes and Sims begin to age. The default settings for having children are set to female young adult or adult Sims are able to engage in a “Try for Baby” interaction with male young adult, adult, or elder Sims (Jones & Hart, 2022). There are modifications to the game that can be made so that female teenage Sims are also able to engage in a “Try for Baby” interaction. Videos about these modifications were excluded from the study because their primary topic is a video game modification rather than teen pregnancy.

### **Measurements and Coding Specifications**

The instrument used for this study was developed based on the review of literature about the determinants and consequences of teen pregnancy. The instrument begins with the entry of basic information about each video, including the video identification number (which was assigned), date the video was uploaded, date the video was coded, length of the video (in minutes), title of the video, number of views, and the source and format of the video. Following the basic information, the instrument comprises multiple sections of content. The variables for each of these sections will be coded dichotomously (i.e., yes or no) to indicate the presence of the content in each video. The coding instrument is included in Appendix A. The coding manual in Appendix B operationalizes each content variable.

The source of the video will be coded into one of the following categories: Consumer; Professional; Government Agency; Nongovernmental Organizations; Television News/Entertainment; Celebrity; or Other. Consumer videos included videos uploaded by (A) pregnant teens, (B) parenting teens, (C) pregnant and parenting teens, (D) former teen parent, or (E) other. A consumer video is described as upload by someone with no obvious professional



credentials or by a teenager that was not featured on a reality television program during or after their pregnancy.

A professional video is characterized as a video uploaded by someone with professional credentials such as a (A) physician, (B) mental health professional, (C) academic professional, or (D) other.

Government agency videos are identified by the top-level domain (TLD) .gov, and videos uploaded by a governmental agency. Similarly, nongovernmental organization videos are identified by the TLD .org.

All videos uploaded by a news-based or entertainment-based major television network are considered television news/entertainment. This includes all clips from teen pregnancy related reality programming including (A) *16 and Pregnant*, (B) *Teen Mom*, (C) *Teen Mom 2*, (D) *Teen Mom OG*, (E) *Unexpected*, and (F) Other.

Celebrity is defined as any video uploaded by a celebrity. Any videos uploaded by cast members of *16 and Pregnant*, *Teen Mom*, *Teen Mom 2*, *Teen Mom OG*, and *Unexpected* are considered celebrity videos if uploaded under the cast member's personal account. This differentiates videos from the actual television show, which are coded as television news/entertainment.

The content categories were formulated based on research of the determinants and consequences of teen pregnancy. There are 18 content categories (each with sub-topics) that were formulated: How Teens Find Out They're Pregnant, Birth Control Prior to Pregnancy, Pregnancy Outcome, Family Member Involvement, Education, Socioeconomic Conditions, Social Hardships, Sex Education in School, Mother's Reaction to Pregnancy News, Father's Reaction to Pregnancy News, Family's Reaction to Pregnancy News, Friend's Reaction to

Pregnancy News, Daily Care of an Infant or Child, Repeated Pregnancy During Teen Years, Birth Control After Pregnancy, Sexual Abuse, Misinformation, and Context that Led to Pregnancy. The specific information coded under each topic is shown in the instrument in Appendix A, and definitions of each variable are in the coding manual in Appendix B.

The content categories are further organized according to Doug Kirby's 17 Characteristics of Effective Programs (Kirby & Laris, 2009). Kirby's 17 characteristics are organized into three groups: The Process of Developing the Curriculum, The Contents of the Curriculum Itself, and The Implementation of the Curriculum. It is not possible to know how the videos included in the study were developed or how they are being implemented so these characteristics are not included in this study. The characteristics that are applied to the codebook are in the second group, The Contents of the Curriculum Itself, that relate to the curriculum goals and objectives. In the Codebook, variables followed by one or two asterisks meet characteristic number 7, which states that the curriculum focused on specific behaviors leading to preventing teen pregnancy (\*) or addressed a situation that might lead to needing specific behaviors to prevent teen pregnancy (\*\*). Variables followed by three or four asterisks meet characteristic number 8, which states that the curriculum addressed psychosocial risk factors (\*\*\*) or psychosocial protective factors (\*\*\*\*). Variables not followed by asterisks are gathering basic information about the teen pregnancy experience like how the teen found out they were pregnant, content related to taking care of the infant or child, etc. (Kirby & Laris, 2009).

### **Demonstration of Intra- and Inter-Rater Reliability**

To demonstrate intra- and inter-rater reliability, a sample of 10 videos was selected. The 10 videos utilized for intra- and inter-rater reliability were separate from the sample of videos analyzed for the study. The 10 videos were coded by the Researcher, and then coded

again seven days later to demonstrate intra-rater reliability. In addition, these 10 videos were coded by a second rater to establish inter-rater reliability. All coding categories, including all content subtopics, were included in these analyses. The percent agreement for intra-rater reliability was .97. The percent agreement for inter-rater reliability was .93. Most of the disagreement between the two raters were in two source categories: Consumer and Internet-Based and the content categories Socioeconomic Conditions and Social Hardships. Based on these observations, the Internet-Based source category was removed from the codebook because a definition could not be agreed upon what separated a Consumer video and an Internet-Based video. The disagreement in the Socioeconomic Conditions category was among the two sub-categories Perceived High Household Income and Perceived Low Household Income. There was disagreement among all Social Hardships sub-categories. The definitions for Socioeconomic Conditions, Perceived High and Low Household Income, and Social Hardships were expanded to include observations made about the setting and speakers in the video rather than only statements made by a speaker in the video. With the removal of Consumer, Internet-Based, Socioeconomic Conditions, Perceived High and Low Household Income, and Social Hardships with all sub-categories, the inter-rater reliability as measured by percent agreement was .95.

After intra- and inter-rater reliability testing, some sub-categories were added or combined. Former Teen Parent was added as a sub-category under the Consumer source category to capture videos recorded by adults who were once teen parents. The sub-categories Breastfeeding and Formula under the content category Daily Care of an Infant or Child were combined into one sub-category titled Feeding.

## **Data Collection**

The researcher selected and coded all the videos. Using a clean history, the videos were selected using the key terms “teen pregnancy” as specified above. Once the key terms were entered and the results are sorted by view count, the URL for each video was copied and pasted in a separate file to be accessible to be coded at a later date. The arbitrary cut off is the top 100 most viewed videos. All videos were coded during January and February 2024. To help prevent systematic bias in the order in which the videos were coded, the researcher coded the top ten videos followed by the bottom ten videos. The researcher alternated between the top and bottom ten videos until all 100 videos were coded.

The whole video segment was used as a unit of analysis. First, the video was assigned a video number. Then the title, length of video (in minutes), number of views, and date uploaded were recorded. Then the source of the video was identified as either consumer, professional, government agency, nongovernment organization, television news/entertainment, celebrity, or other. Lastly, the video was coded for all content categories and sub-categories. All categories in the instrument are coded dichotomously, one for the presence of the content and zero for the absence of the content. A paper form was completed for all videos and the data was entered into an Excel file. All entries were verified to ensure accurate data transformation.

## **Statistical Analyses**

All the analyses for this study involve descriptive statistics. To address the first aim, to describe the most-viewed YouTube videos related to teen pregnancy concerning the source, format, and number of views, frequencies and percentages were calculated. For each category (and sub-category) the number and percentage of videos that mentioned that item were calculated along with the view count and cumulative view percent. To address the second aim, a

similar analysis was completed for each of the content categories and sub-categories. The number of videos uploaded by year is portrayed in a line graph, with year on the horizontal axis and number of videos on the vertical axis. Microsoft Excel was used to conduct all quantitative data analysis. This study was submitted to Institutional Review Board (IRB) at Teachers College, Columbia University and was deemed exempt.

## Chapter IV

### RESULTS

YouTube was searched with the key words “Teen Pregnancy.” The search results were sorted by view count. The video number, title, length in minutes, view count, URL, and date uploaded were saved in an Excel File. The arbitrary cut off was the top 100 videos with the most views. The sample frame comprised the top 150 videos to accommodate the exclusion of videos that did not meet the inclusion criteria. There were 44 videos that were excluded from the study for various reasons. Sixteen videos were not in English, 12 were videos about how to have children on the life simulation games The Sims™, seven had a primary topic not related to teen pregnancy or teen parenting, six were music videos, and three were full-length movies. The top 100 videos by view count of the remaining 106 videos comprised the sample of the study. These 100 videos garnered 434,423,558 cumulative views.

#### **Most Widely Viewed Videos in Study Sample**

The top 8 videos in the sample garnered 190,284,221 views, 43.8% of cumulative views. Most of the top ten videos contain sensationalized content that appears to be driving view counts. These are storylines that do not depict the average teen pregnancy experience, but rather have catchy titles that entice viewers to click on the video.

The most viewed video in the sample is a short film titled MISHKA. The short film portrays a young teen girl who discovers she is pregnant after throwing up at her friend’s house and later taking a pregnancy test. The teen is distraught by her pregnancy news and decides to take a handful of her father’s medication to end her pregnancy. At the end of the video, it is revealed that her father was the father of her baby as well. This video has over 59 million views and accounts for 13.6% of cumulative views. The portrayal of a self-induced abortion and sexual

abuse are not prevalent in the other videos in the sample. This video is driving the view count in these content categories.

The second most viewed video is one of two videos uploaded by a parent that tells the story of how she found out that her teen was pregnant. The video was originally uploaded to TikTok and then uploaded to YouTube as a YouTube short. The video features a popular TikTok song that is used to tell the story of a mom finding out her teen daughter is pregnant.

The third video with the title, “Non-Pregnant Teenager Has a Baby Girl?” is a clip from the television show *Untold Stories of the ER* where a teen girl is in the hospital and has a baby despite not knowing she was pregnant. In the majority of the 100 videos, the teen mothers found out they were pregnant prior to going into labor. Contractions/labor as the first sign of pregnancy only appears in 3 other videos that garnered .5% of cumulative views.

The fourth and fifth video in the sample are both clips from the television show *Dr. Phil*. Both clips are from the same episode where a teen girl claims she is pregnant with Baby Jesus. To prove she is not pregnant she receives an ultrasound on the stage of the *Dr. Phil* show. These are the only videos in the sample where a teen claims to be pregnant in this manner. These two videos also have enticing titles like “Teen Claims She's 9 Months Pregnant with Baby Jesus - What Does an Unltrasound Reveal?” and “Teen Say's She's Pregnant With Baby Jesus.”

The sixth most viewed video in the sample is a YouTube short that is only 15 seconds in length. The video was uploaded by a teen mom influencer, Brooke Morton, who has a large online following after making videos about her pregnancy at 14 years old. The video features Brooke holding her daughter answering questions about her teen pregnancy in a style of video that was trending on TikTok at the time of the upload.

The seventh most viewed video in the sample is an interview where a former teen mom tells her daughter the story of how she found out she was pregnant with her at just 13 years old. The title of the video “TEEN MOM - PREGNANT AT 13 (TELLING MY DAUGHTER MY STORY) Jennica and Annica” is meant to prey on a viewer’s curiosity about how a teenager could get pregnant at such a young age, and what will her now 13-year-old daughter think about the story.

The eighth most viewed video in the sample is a clip from TLC’s *Unexpected*. One of the teen couples on the show, Hailey and Matthew, tell the story of the night Hailey’s water broke, they rushed to the hospital, and Hailey gave birth to their daughter. The video includes audio from the delivery room and interviews Hailey and Matthew about how they felt during and after the birth. The video, again, has a title meant to pique curiosity and drive views. The video is titled “Hailey Gives Birth | Unexpected” (*sic*).

### **Specific Aim 1**

The first aim of the study was to describe the most-viewed YouTube videos related to teen pregnancy concerning the date uploaded, source, format, and number of views. The most videos were uploaded in 2022 (n=22) followed by 2021 (n=15) and 2023 (n=14). From 2006 to 2023, the only year with 0 video uploads was 2015. Videos uploaded in 2018 garnered the most cumulative views with 79,833,292 views (18.4%) followed by videos uploaded in 2022 with 71,121,426 views (16.4%) and 2020 with 63,142,814 views (14.5%). Collectively, the videos in these three years comprised nearly half (49.3%) of total cumulative views.



Figure 2. Video Uploads per Year

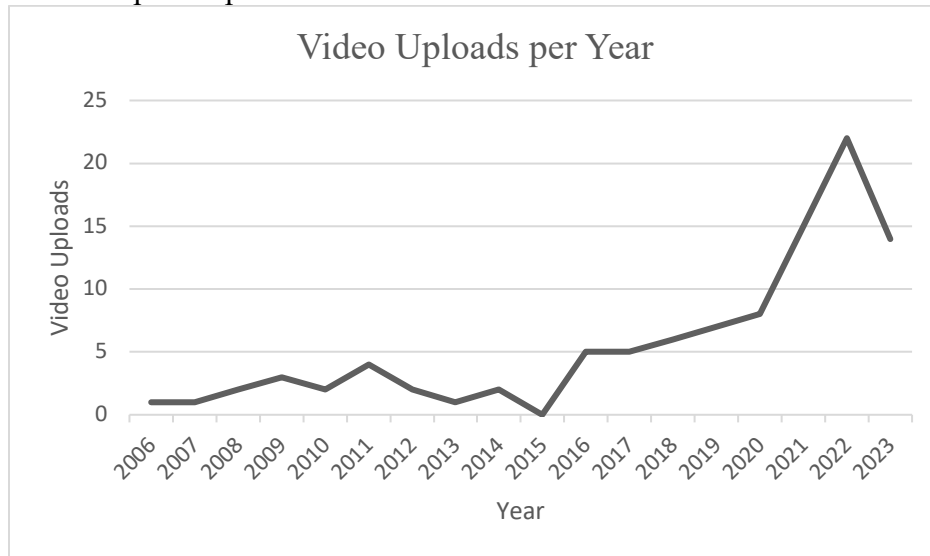


Table 1 shows the frequency, view count, and cumulative view percent for the videos categorized by source. The greatest number of widely viewed videos were uploaded by Consumers (n=38) followed by Television/News Entertainment (n=32). Videos uploaded from these two sources combined garnered 63.5% of the total cumulative views (>275,000,000 views). Within the Consumer source category, most videos were uploaded by Parenting Teens (n=13). Videos uploaded by Parenting Teens also had the most views of any of the Consumer sub-categories (48,259,210; 11.1%). The next category by view count is Parent of Teenager with 37,500,000 views (8.6%). There were only two videos in this sub-category, but one of them is the second most viewed video in the sample, which impacts the view count and cumulative view percent. Other Consumers has the second highest number of video uploads, but all videos in this sub-category account for less than 3% of cumulative views. The Consumer sub-categories Parent of Teenager and Creator of The Sims™ Animated Movies were added during data analysis due to the number of videos and percent of cumulative views that fit these sub-categories. Parent of Teenager includes any videos that were uploaded by the parent of a teenager. Creator of The

Sims™ Animated Movies includes any YouTube channel that creates fictional short stories with The Sims™ life simulation game as the animation style.

Within Television News/Entertainment, most videos were from TLC's reality TV program *Unexpected* (n=11, 35,528,280 views; 8.2% of total views). Videos from *Dr. Phil* had the most views (37,556,713; 8.6%) despite including only three videos. Two of the three videos in the *Dr. Phil* sub-category were in the top 10 most viewed videos. Following *Unexpected*, the next sub-category with the most views is Other Television News/Entertainment (n=9). Videos coded as Other Television News/Entertainment are from a variety of sources, and all videos account for less than 2% of cumulative views. The sub-categories *Dr. Phil* and *ABC News* were added during data analysis due to the number of videos and percent of cumulative views that fit these sub-categories. *Teen Mom: Young & Pregnant* was also added during data analysis because it is a part of MTV's *Teen Mom* franchise, and other shows that are a part of this franchise were already included in the instrument.

The category Produced Content Available Exclusively on YouTube was added during data analysis to separate videos that are uploaded as part of a YouTube channel that only produces reenacted true stories or documentary-style content for YouTube. These videos are separate from Consumers because the channel cannot be tied to a single person. This sub-category is also distinct from Television News/Entertainment because the content is only available on YouTube and did not air on any U.S. television channel or streaming service. There are 16 videos in this category that garnered 53,579,316 views (12.3%).

The category Celebrity has a disproportionate view count (66,350,930; 15.3%) to the number of videos (n=3). One of the videos in this category is the most viewed video with over 59

million views, which accounts for 13.6% of cumulative views. This video was uploaded by an actor, writer, director, and producer.

The only source category that did not include any of the 100 most widely viewed videos was Professionals, including Physicians, Mental Health Professionals, Academic Professionals or Other. The Television News/Entertainment sub-categories *Teen Mom*, *Teen Mom 2*, and *Teen Mom OG* also did not include any of the 100 most widely viewed videos.

Table 1. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Source, 2024\*

Upload Source	N	View Count	Cumulative View Percent
<b>S1. Consumer</b>	<b>38</b>	<b>145,326,329</b>	<b>33.5%</b>
S1A. Pregnant Teen	1	1,933,867	0.4%
S1B. Parenting Teen	13	48,259,210	11.1%
S1C. Pregnant and Parenting Teen	3	2,731,549	0.6%
S1D. Former Teen Parent	5	25,157,919	5.8%
S1E. Parent of Teenager	2	37,500,000	8.6%
S1F. Creator of The Sims™ Animated Movies	6	5,315,503	1.2%
S1G. Other	7	18,628,281	4.3%
<b>S3. Government Agency</b>	<b>2</b>	<b>2,176,705</b>	<b>0.5%</b>
<b>S4. Nongovernment Organization</b>	<b>2</b>	<b>9,768,121</b>	<b>2.2%</b>
<b>S5. Television News/Entertainment</b>	<b>32</b>	<b>130,549,378</b>	<b>30.1%</b>
S5A. <i>16 and Pregnant</i>	2	3,110,661	0.7%
S5E. <i>Teen Mom: Young &amp; Pregnant</i>	1	579,361	0.1%
S5F. <i>Unexpected</i>	11	35,528,280	8.2%
S5G. <i>Dr. Phil</i>	3	37,556,713	8.6%
S5H. <i>ABC News</i>	5	3,329,011	0.8%
S5I. <i>Untold Stories of the ER</i>	1	23,878,633	5.5%
S5J. Other	9	26,566,719	6.1%
<b>S6. Celebrity</b>	<b>3</b>	<b>66,350,930</b>	<b>15.3%</b>
<b>S7. Produced Content Available Exclusively on YouTube</b>	<b>16</b>	<b>53,579,316</b>	<b>12.3%</b>
<b>S9. Other</b>	<b>7</b>	<b>28,572,779</b>	<b>6.6%</b>

\*Sources that did not include any of the most widely viewed videos included physicians, mental health professionals, academic professionals, *Teen Mom*, *Teen Mom 2*, or *Teen Mom OG*.

The format garnering the most views is YouTube Shorts with 102,705,000 views (23.6%) (Table 2). YouTube Shorts are a short-form video that are 60 seconds or less in length. YouTube Shorts are indicated by YouTube as Shorts in the bottom right-hand corner of the video thumbnail. Short Films follow YouTube shorts with 92,676,275 views (21.3%). Short Films are often indicated as such in the title or description of the video. Any video that was telling a non-

animated story and gave no indication the plot was based on a true event was coded as a Short Film. Short Films comprise over a fifth of the cumulative views with only six videos because the top video, which garnered over 59 million views, is a short film. Documentaries have the highest number of videos (n=28), but have the third highest view count (86,738,915, 20.0%). This category includes any reality TV program that is showcasing a teen's pregnancy or parenting journey.

The format categories Short Film, Public Service Announcement (PSA), Television Show, and Dramatization were added during data analysis to further sort videos previously classified as Other. Any video coded as PSA was either indicated as a PSA in the title or description of the video or was a short commercial that brought awareness to the public health side of teen pregnancy. Television Show includes clips from any television shows that portray a reenacted or fictional account of teen pregnancy. Dramatization includes non-animated videos of actors portraying a true event. The video description must have stated the plot of the video was based on a true event for the video to be coded as Dramatization. The only Format category that did not include any of the 100 videos was Talk by Professional.

Table 2. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Format, 2024\*

<b>Format</b>	<b>N**</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>F9. YouTube Short</b>	25	102,705,000	23.6%
<b>F11. Short Film</b>	6	92,676,275	21.3%
<b>F1. Documentary</b>	28	86,738,915	20.0%
<b>F10. Multiple Formats</b>	15	72,203,579	16.6%
<b>F4. Talk Show/Discussion Panel with the Host (Several People)</b>	5	42,346,449	9.7%
<b>F8. Vlog</b>	11	39,886,217	9.2%
<b>F2. Interview (one person and interviewer)</b>	6	35,052,429	8.1%
<b>F15. Other</b>	8	32,004,368	7.4%
<b>F13. Television Show</b>	3	31,747,164	7.3%
<b>F5. Animation</b>	9	14,839,824	3.4%
<b>F7. News Report with Anchor</b>	7	11,602,951	2.7%
<b>F6. Still Images</b>	4	11,602,951	2.7%
<b>F12. Public Service Announcement</b>	3	10,802,959	2.5%
<b>F14. Dramatization</b>	3	4,068,027	0.9%

\*Formats that did not include any of the 100 most widely viewed videos included Talk by Professional.

\*\*Format categories are not mutually exclusive. For example, an animated YouTube Short would be coded as YouTube Short, Animation, and Multiple Formats.

### **Specific Aim 2**

The second aim of the study was to describe the most-viewed YouTube videos related to teen pregnancy concerning specific content, including how teens find out they're pregnant; birth control prior to pregnancy; pregnancy outcomes; involvement of family members, including the baby's father and extended family; teen mother's educational consequences; socioeconomic conditions, social hardships (declining friendships, lack of other parents as friends, etc.); sex education in school; mother's and father's reaction to pregnancy news; family's reaction to pregnancy news; friend's reaction to pregnancy news; daily care of an infant or child; repeated

pregnancies after first child; birth control after pregnancy; past or current sexual abuse; misinformation about pregnancy, birth control, or sex; and the context that led to the pregnancy.

All content categories appeared in at least two videos (Table 3). Three of the 18 content categories appeared in most of the videos: Pregnancy Outcome (n=70), Family Member Involvement (n=61), and Daily Care of an Infant or Child (n=51). The Pregnancy Outcome content category appeared in the most videos (n=70) and has the most views (287,077,941; 66.1%). The next two content categories by view count are How Teen's Find Out They're Pregnant (256,910,102; 59.1%) and Mother's Reaction to Pregnancy News (242,412,293; 55.8%). Both content categories appeared in 42 videos. Family Member Involvement (n=61) and Daily Care of an Infant or Child (n=51) appeared in more than one-half of the videos, but garnered fewer views than How Teens Find Out They're Pregnant and Mother's Reaction to Pregnancy News.

The content categories that were covered in the least number of videos were Birth Control After Pregnancy (n=2) and Sex Education in School (n=4). Birth Control After Pregnancy garnered 6,884,249 views (1.6%) and Sex Education in School garnered 15,704,983 views (3.6%). The content category Sexual Abuse appeared in only eight videos but had 18.6% of cumulative views. The larger percentage of cumulative views stems from the top viewed video, which has over 59 million views, containing content pertaining to sexual abuse.

Table 3. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Content, 2024

Content	N*	View Count	Cumulative View %
<b>C3. Pregnancy Outcome</b>	70	287,077,941	66.1%
<b>C1. How Teens Find Out They're Pregnant</b>	42	256,910,102	59.1%
<b>C9. Mother's Reaction to Pregnancy News</b>	42	242,412,293	55.8%
<b>C4. Family Member Involvement</b>	61	219,285,764	50.5%
<b>C6. Socioeconomic Conditions</b>	38	212,021,487	48.8%
<b>C11. Family's Reaction to Pregnancy News</b>	38	186,910,186	43.0%
<b>C18. Context that Led to Pregnancy</b>	33	178,387,272	41.1%
<b>C7. Social Hardships</b>	33	177,610,777	40.9%
<b>C13. Daily Care of an Infant or Child</b>	51	158,573,042	36.5%
<b>C10. Father's Reaction to Pregnancy News</b>	22	81,794,576	18.8%
<b>C16. Sexual Abuse</b>	8	80,661,195	18.6%
<b>C2. Birth Control Prior to Pregnancy</b>	26	72,768,190	16.8%
<b>C12. Friend's Reaction to Pregnancy News</b>	18	69,668,062	16.0%
<b>C5. Education</b>	20	59,945,454	13.8%
<b>C14. Repeated Pregnancy During Teen Years</b>	20	47,835,374	11.0%
<b>C17. Misinformation</b>	12	44,667,421	10.3%
<b>C8. Sex Education in School</b>	4	15,704,983	3.6%
<b>C15. Birth Control After Pregnancy</b>	2	6,884,249	1.6%

\* Categories are not mutually exclusive.

How Teens Find Out They're Pregnant appeared in 42 videos (Table 4). These videos garnered 256,910,102 views (59.1%). The most common method shown in the videos was At Home Pregnancy Test. This method appeared in 28 videos with 185,518,163 views (42.7%). Nausea as a pregnancy symptom appeared in eight videos, but these videos had 90,368,920 views (20.8%). Over half of these views can be attributed to the most viewed video in the sample being included in this sub-category. Doctor's Appointment and Missed Period both appeared in 12 videos. However, videos that mentioned a teen finding out they're pregnant via Doctor's



Appointment had more than twice as many views (52,962,920; 12.2%) than Missed Period (25,696,849; 5.9%).

Table 4. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by How Teens Find Out They're Pregnant, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C1. How Teens Find Out They're Pregnant</b>	<b>42</b>	<b>256,910,102</b>	<b>59.1%</b>
C1A. At Home Pregnancy Test	28	185,518,163	42.7%
C1E. Nausea	8	90,368,090	20.8%
C1F. Doctor's Appointment	12	52,962,920	12.2%
C1C. Weight Gain	3	30,089,134	6.9%
C1G. Contractions/Labor	4	26,059,716	6.0%
C1B. Missed Period	12	25,696,849	5.9%
C1H. Other	6	16,808,101	3.9%
C1D. Frequent Urination	1	7,936,681	1.8%

\* Sub-categories are not mutually exclusive.

Birth Control Prior to Pregnancy appeared in 26 videos and garnered 72,768,190 views (16.8%) (Table 5). If Birth Control Prior to Pregnancy was mentioned in a video, it is most likely that no birth control prior to pregnancy was used (n=21, 68,044,329; 15.7%). Only seven videos mentioned a specific birth control method. Four videos mention condoms (5,652,373; 1.3%) and three videos mention birth control pills (4,095,181; .9%). The one video coded as Other, mentioned birth control prior to pregnancy, but did not specify the type of birth control. There were no videos that included the birth control methods Withdrawal, Patch, Shot, IUD, or Multiple Methods.

Table 5. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Birth Control Prior to Pregnancy, 2024\*

Content	N**	View Count	Cumulative View %
<b>C2. Birth Control Prior to Pregnancy</b>	<b>26</b>	<b>72,768,190</b>	<b>16.8%</b>
C2A. None	21	68,044,329	15.7%
C2C. Condoms	4	5,652,373	1.3%
C2D. Pill	3	4,095,181	0.9%
C2I. Other	1	1,300,000	0.3%

\*Sub-categories that did not include any of the 100 most widely viewed videos included Withdrawal, Patch, Shot, IUD, or Multiple Methods.

\*\* Sub-categories are not mutually exclusive.

Pregnancy Outcome appeared in 70 videos (Table 6). These 70 videos garnered 287,077,941 views (66.1%). Most of these videos had Live Birth as the Pregnancy Outcome (n=69, 228,040,800; 52.5%). The one video with a Pregnancy Outcome of Self-Induced Abortion was the most viewed of all 100 videos in the study sample, causing it to appear third by view count. There were no videos that included Abortion as a Pregnancy Outcome.

Table 6. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Pregnancy Outcome, 2024\*

Content	N**	View Count	Cumulative View %
<b>C3. Pregnancy Outcome</b>	<b>70</b>	<b>287,077,941</b>	<b>66.1%</b>
C3D. Live Birth	69	228,040,800	52.5%
C3B. Self-Induced Abortion	1	59,037,141	13.6%
C3E. Stillbirth	3	10,616,270	2.4%
C3C. Miscarriage	3	2,873,963	0.7%

\*Sub-categories that did not include any of the 100 most widely viewed videos included Abortion.

\*\* Sub-categories are not mutually exclusive.

Family Member Involvement appeared in 61 videos (Table 7). This content category was covered in videos garnering just over half the cumulative views (219,285,764; 50.5%). The family most likely to be mentioned or shown to be involved with the pregnant or parenting teen by view count were Teen Mother's Parents (n=42, 160,994,399; 37.1%) followed by the Baby's Father (n=47, 143,973,088; 33.1%). The family least likely to be mentioned or shown to be

involved with the pregnant or parenting teen by view count were the Teen Mother’s Aunt or Great Aunt (n=5, 8,000,341; 1.8%) The sub-categories Teen Mother’s Sister and Teen Mother’s Aunt or Great Aunt were added during data analysis.

Table 7. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Family Member Involvement, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C4. Family Member Involvement</b>	<b>61</b>	<b>219,285,764</b>	<b>50.5%</b>
C4B. Teen Mother’s Parent(s)	42	160,994,399	37.1%
C4A. Baby’s Father	47	143,973,088	33.1%
C4D. Grandparent(s)	9	40,943,711	9.4%
C4C. Teen Father’s Parent(s)	9	24,639,378	5.7%
C4E. Teen Mother's Sister	6	21,675,985	5.0%
C4F. Teen Mother's Aunt or Great Aunt	5	8,000,341	1.8%
C4G. Other	3	6,405,036	1.5%

\* Sub-categories are not mutually exclusive.

Education appeared in 20 videos (Table 8). These 20 videos garnered 59,945,454 views attracting 13.8% of the cumulative views. High School Graduation and High School Discontinued were mentioned in nine videos each and garnered almost the same number of views. High School Graduation had 28,713,663 views (6.6%) and High School Discontinued had 27,745,797 views (6.4%). GED Program and Trade School also garnered near equal views. Both variables appeared in one video with GED Program garnering 418,853 views (.1%) and Trade School garnering 411,786 views (.1%).

Table 8. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Education, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C5. Education</b>	<b>20</b>	<b>59,945,454</b>	<b>13.8%</b>
C5A. High School Graduation	9	28,713,663	6.6%
C5C. High School Discontinued	9	27,745,797	6.4%
C5E. College	5	10,470,113	2.4%
C5B. GED Program	1	418,853	0.1%
C5D. Trade School	1	411,786	0.1%

\*Sub-categories are not mutually exclusive.

Socioeconomic conditions appeared in 38 videos and garnered 212,021,487 views (48.8%) (Table 9). Videos that portrayed a Perceived High Household Income garnered many more views than those that portrayed a Perceived Low Household Income. Perceived High Household Income garnered 170,920,001 views (39.3%) compared to Perceived Low Household Income which garnered 31,808,882 views (7.3%). Indicators of a low household income like Neighborhood Disorder (n=4) and Public Assistance (n=1) were not widely viewed.

Table 9. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Socioeconomic Conditions, 2024

Content	N*	View Count	Cumulative View %
<b>C6. Socioeconomic Conditions</b>	<b>38</b>	<b>212,021,487</b>	<b>48.8%</b>
C6A. Perceived High Household Income	21	170,920,001	39.3%
C6B. Perceived Low Household Income	15	31,808,882	7.3%
C6E. Discretionary Income	9	29,209,631	6.7%
C6D. Neighborhood Disorder	4	11,754,824	2.7%
C6C. Public Assistance	1	1,305,654	0.3%

\*Sub-categories are not mutually exclusive.

Social Hardships appeared in 33 videos (Table 10). These videos garnered 177,610,777 views, which is 40.9% of total views. The most viewed sub-category was Loneliness/No Friendships, which appeared in eight videos that garnered 83,039,927 views (19.1%). Following Loneliness was Kicked Out of House/Family Tension, which appeared in 10 videos and garnered 45,012,188 views (10.4%). Loneliness and Lack for Friendships were previously two separate sub-categories that were combined into one due to overlap in definitions. Bullying, Rumors, Kicked Out of The House/Family Tension, Struggles with New Responsibilities, and Baby's Father Leaves were added during data analysis to provide more context to videos previously coded as Other. There were no videos in the No Parents Their Age sub-category.

Any video that specifically mentioned a teen being bullied because of their pregnancy was coded as Bullying. Rumors included any videos where a teen mentioned rumors being

spread about them, their pregnancy, their baby’s father, etc.. Kicked Out of House/Family Tension included any video that portrayed a teen being kicked out of their home by a parent because of their pregnancy. Any other family tension was also included in this sub-category. Struggles with New Responsibilities included any videos that mentioned a teen struggling to the adjustment of parenthood such as making sacrifices or lacking freedom that they once had. Baby’s Father Leaves included videos that specifically mentioned that the baby’s father left the teen mother entirely and is not involved in the pregnancy or parenting of the child.

Table 10. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Social Hardships, 2024\*

<b>Content</b>	<b>N**</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C7. Social Hardships</b>	<b>33</b>	<b>177,610,777</b>	<b>40.9%</b>
C7A. Loneliness/No Friendships	8	83,039,927	19.1%
C7F. Kicked Out of House/Family Tension	10	45,012,188	10.4%
C7D. Bullying	4	20,100,050	4.6%
C7G. Struggles with New Responsibilities	3	15,549,093	3.6%
C7E. Rumors	3	12,896,948	3.0%
C7I. Other	3	9,167,458	2.1%
C7B. Depression	3	8,643,598	2.0%
C7H. Baby's Father Leaves	2	3,150,919	0.7%

\*Sub-categories that did not include any of the 100 most widely viewed videos included No Parents Their Age.

\*\*Sub-categories are not mutually exclusive.

Sex Education in School only appeared in 4 videos (Table 11). These four videos garnered 15,704,983 views (3.6%). In these four videos, Abstinence (7,988,442; 1.8%) was more likely to be mentioned than Contraception (655,156; .2%).

Table 11. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Sex Education in School, 2024

Content	N	View Count	Cumulative View %
<b>C8. Sex Education in School</b>	<b>4</b>	<b>15,704,983</b>	<b>3.6%</b>
C8B. Abstinence	2	7,988,442	1.8%
C8C. Both	1	7,061,385	1.6%
C8A. Contraception	1	655,156	0.2%

Teen Mother’s Reaction to Pregnancy News appeared in 42 videos (Table 12). These 42 videos garnered more than half of total views (242,412,293; 55.8%). Videos were more likely to portray the teen mother reacting negatively to her pregnancy news (n=38, 221,514,268; 51.0%) than positively (n=4, 20,898,025; 4.8%).

Table 12. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Teen Mother’s Reaction to Pregnancy News, 2024

Content	N	View Count	Cumulative View %
<b>C9. Teen Mother’s Reaction to Pregnancy News</b>	<b>42</b>	<b>242,412,293</b>	<b>55.8%</b>
C9B. Perceived Negative Reaction	38	221,514,268	51.0%
C9A. Perceived Positive Reaction	4	20,898,025	4.8%

Teen Father’s Reaction to Pregnancy News appeared in 22 videos (Table 13). These 22 videos garnered 81,794,576 views and 18.8% of total views. Videos were more likely to portray the teen father reacting negatively to pregnancy news (n=17, 75,381,227; 17.4%) than positively (n=6, 8,901,926; 2.0%).

Table 13. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Teen Father’s Reaction to Pregnancy News, 2024

Content	N*	View Count	Cumulative View %
<b>C10. Teen Father’s Reaction to Pregnancy News</b>	<b>22</b>	<b>81,794,576</b>	<b>18.8%</b>
C10B. Perceived Negative Support	17	75,381,227	17.4%
C10A. Perceived Positive Support	6	8,901,926	2.0%

\*Due to multiple pregnancies covered in one video, sub-categories are not mutually exclusive.

Family’s Reaction to Pregnancy News appeared in 38 videos (Table 14). These 38 videos garnered 186,910,186 views and 43.0% of total views. Videos were more likely to portray the family reacting negatively to pregnancy news (n=32, 141,231,668; 32.5%) than positively (n=14, 75,438,508; 17.4%).

Table 14. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Family’s Reaction to Pregnancy News, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C11. Family’s Reaction to Pregnancy News</b>	<b>38</b>	<b>186,910,186</b>	<b>43.0%</b>
C11B. Perceived Negative Support	32	141,231,668	32.5%
C11A. Perceived Positive Support	14	75,438,508	17.4%

\*Sub-categories are not mutually exclusive.

Friend’s Reaction to Pregnancy News appeared in 18 videos (Table 15). These videos garnered 69,668,062 views and 16.0% of total views. Perceived Positive Support (n=13) appeared in more videos than Perceived Negative Support (n=5), but the two sub-categories were within one percentage point of total views. Perceived Negative Support garnered 35,823,309 views (8.2%) and Perceived Positive Support garnered 33,844,753 views (7.8%).

Table 15. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Friend’s Reaction to Pregnancy News, 2024

<b>Content</b>	<b>N</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C12. Friend’s Reaction to Pregnancy News</b>	<b>18</b>	<b>69,668,062</b>	<b>16.0%</b>
C12B. Perceived Negative Support	5	35,823,309	8.2%
C12A. Perceived Positive Support	13	33,844,753	7.8%

Daily Care of an Infant or Child appeared in 51 videos (Table 16). These videos garnered 158,573,042 views and 36.5% of cumulative views. The sub-category most likely to be shown or mentioned in a video is Spending Time with Baby/Child (n=44, 146,053,017; 33.6%). Daycare was the least likely sub-category to be shown or mentioned (n=3, 6,021,816; 1.4%). There are

eight videos in the Other sub-category, all of which garnered less than 2% of total cumulative views.

Table 16. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Daily Care of an Infant or Child, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C13. Daily Care of an Infant or Child</b>	<b>51</b>	<b>158,573,042</b>	<b>36.5%</b>
C13D. Spending Time with Baby/Child	44	146,053,017	33.6%
C13A. Feeding	22	68,609,486	15.8%
C13E. Hygiene	19	51,964,434	12.0%
C13B. Sleep Schedule	10	20,767,366	4.8%
C13F. Other	8	20,664,924	4.8%
C13C. Daycare	3	6,021,816	1.4%

\*Sub-categories are not mutually exclusive.

Repeated Pregnancy During Teen Years was covered in 20 videos (Table 17). These videos garnered 47,835,374 views and 11.0% of cumulative views. Videos that portrayed teens having one repeat pregnancy appeared in 11 videos and garnered 19,261,127 views and 4.4% of cumulative views. No Repeated Pregnancy only appeared in three videos but garnered 17,612,919 views and 4.1% of cumulative views. To be coded as No Repeat Pregnancy, the subject of the video needed to be aged out of their teen years to ensure that no repeat pregnancy occurred. Videos that portrayed teen mothers who had not had a repeat pregnancy at the time of the video but were still teenagers were not included.

Table 17. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Repeated Pregnancy During Teen Years, 2024

<b>Content</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C14. Repeated Pregnancy During Teen Years</b>	<b>20</b>	<b>47,835,374</b>	<b>11.0%</b>
C14B. Repeated Pregnancy	11	19,261,127	4.4%
C14A. No Repeated Pregnancy	3	17,612,919	4.1%
C14C. Two Repeated Pregnancies	6	10,961,328	2.5%
C14D. Three or More Repeated Pregnancies	1	5,928,093	1.4%

\*Due to multiple pregnancies covered in one video, sub-categories are not mutually exclusive.



Mention of Birth Control After Pregnancy only appeared in two videos (Table 18). These two videos garnered 6,884,249 views and were 1.6% of cumulative views. Only one type of birth control was mentioned as being used after a pregnancy, which was the pill.

Table 18. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Birth Control After Pregnancy, 2024\*

Content	N	View Count	Cumulative View %
<b>C15. Birth Control After Pregnancy</b>	<b>2</b>	<b>6,884,249</b>	<b>1.6%</b>
C15D. Pill	1	5,928,093	1.4%
C15A. None	1	956,156	0.2%

\*Sub-categories that did not include any of the 100 most widely viewed videos included Withdrawal, Condoms, Patch, Shot, IUD, Breastfeeding, Multiple Methods and Other.

Sexual Abuse was mentioned in eight videos (Table 19). These eight videos garnered 80,661,195 views which is 18.6% of cumulative views. Current sexual abuse was more likely to be mentioned than past sexual abuse. Current Sexual Abuse is covered in six videos with 79,495,761 views (18.3%). A large portion of these views can be attributed to the most viewed video in the sample including Current Sexual Abuse. The most viewed video has over 59 million views and is 13.6% of cumulative views.

Table 19. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Sexual Abuse 2024\*

Content	N	View Count	Cumulative View %
<b>C16. Sexual Abuse</b>	<b>8</b>	<b>80,661,195</b>	<b>18.6%</b>
C16A. Current	6	79,495,761	18.3%
C16B. Past	2	1,165,434	0.3%

\*Sub-categories that did not include any of the 100 most widely viewed videos included Both.

Misinformation was stated in 12 videos (Table 20). These 12 videos had 44,667,421 views representing 10.3% of cumulative views. The sub-category with the most misinformation presented was Pregnancy, mentioned in four videos (20,149,473; 4.6%). The video with the most views in this sub-category portrays a teen who insists that she is pregnancy despite an ultrasound

showing otherwise. The second most-viewed video is an animation using The Sims™ that shows a teen having a positive pregnancy test the day after having unprotected sex, which is not enough time to accurately test for a pregnancy. The third video is another animated video that portrays a teen having pregnancy symptoms like nausea and food cravings the day after having unprotected sex. This is, again, not enough time for pregnancy symptoms to appear. In the video with the least views, the teen's family insists she became pregnant because she watched MTV's shows *16 and Pregnant* and *Teen Mom*.

The second most-viewed source of misinformation was a video categorized as Other in the top ten most widely viewed videos. The video is an episode of *Dr. Phil* where a teen claims to be pregnant with Baby Jesus. The next most-viewed source of misinformation is Abortion, which contains two videos. One video is a slideshow with inaccurate photos of fetuses at different gestational ages. The other video is a short film that portrays a teen visiting an abortion clinic and speaking with a counselor. The counselor shows the teen a pamphlet with an article titled "Is Abortion Safe?" with a sub-title "Eight Documented Risks." The information is clearly meant to dissuade the teen from getting an abortion despite initially wanting one.

There were three videos that contained misinformation about the cause of teen pregnancy. The two more widely viewed videos were made for comedic purposes. One video was a satirical news segment about all teen pregnancies in one town being attributed to the same teen father. The other was a stand-up comedian who claims teen pregnancy has increased because of a decline in other types of sexual activity. The third video is two people speaking about the low teen pregnancy rate in South Korea, which they attribute to no sex education classes in the high schools, which is an inaccurate association.

The next most-viewed source of misinformation is Birth Control. One video is a short film that depicts a teen getting pregnant despite taking birth control pills. The video makes no mention that the teen misused the birth control pills, giving the viewer the impression that birth control pills are not a reliable form of contraception. The second video portrays a mother explaining that if she takes her teen daughter to a family planning clinic for birth control, she is taking a risk. She might be sending the message to her daughter that she is “forcing her to sleep with boys.”

There was one video each in the Misinformation sub-categories Pregnancy Tests and Teen Fathers. The one video with misinformation on pregnancy tests is a teen sharing her experience being pregnant despite having two negative at-home pregnancy tests and confirmation from a doctor that she was not pregnant. While a false negative is not impossible, it is not likely. The one video with misinformation about teen fathers is a clip from *Dr. Phil* where he states that teen fathers always leave teen mothers, and do not help raise their children.

Table 20. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Misinformation, 2024\*

Content	N**	View Count	Cumulative View %
<b>C17. Misinformation</b>	<b>12</b>	<b>44,667,421</b>	<b>10.3%</b>
C17A. Pregnancy	4	20,149,473	4.6%
C17H. Other	1	17,231,320	4.0%
C17D. Abortion	2	11,238,030	2.6%
C17E. Cause of Teen Pregnancy	3	9,239,397	2.1%
C17B. Birth Control	2	3,302,521	0.8%
C17F. Pregnancy Tests	1	738,000	0.2%
C17G. Teen Fathers	1	515,416	0.1%

\*Sub-categories that did not include any of the 100 most widely viewed videos include Sex.

\*\*Sub-categories are not mutually exclusive.

Context That Led to Pregnancy was mentioned in 33 videos (Table 21). These videos garnered 178,387,272 views and are 41.1% of cumulative views. The most mentioned context is

Unprotected Sex (n=18, 83,963,695; 19.3%). Following Unprotected Sex, the context with the next highest view count is Nonconsensual Sex (n=4, 64,410,981; 14.8%). Most of these views can be attributed to the most viewed video in the sample, which has over 59 million views and accounts for 13.6% of cumulative views. This video implies that a teen was sexually abused by her father, who is also the father of her baby. The one video listed as Other contains a vague reference made by the speaker as to the context of her pregnancy. She states she became pregnant “the same way everyone else gets pregnant.” This context was too vague to place in any existing sub-category. Videos that show intended teen pregnancy are second highest in video number but are not generating large numbers of views (11,968,313; 2.8%). There were no videos that mentioned Drugs or Persuasion as the context that led to the pregnancy.

Table 21. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Context that Led to Pregnancy, 2024\*

<b>Content</b>	<b>N**</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C18. Context That Led to Pregnancy</b>	<b>33</b>	<b>178,387,272</b>	<b>41.1%</b>
C18B. Unprotected Sex	18	83,963,695	19.3%
C18H. Nonconsensual Sex	4	64,410,981	14.8%
C18I. Other	1	16,000,000	18.5%
C18C. Birth Control Failure	5	12,339,161	2.8%
C18A. Intended Pregnancy	7	11,968,313	2.8%
C18F. Alcohol	1	821,509	0.2%
C18D. Birth Control Misuse	1	503,554	0.1%

\*Sub-categories that did not include any of the 100 most widely viewed videos include Drugs and Persuasion.

\*\*Due to multiple pregnancies covered in one video, sub-categories are not mutually exclusive.

### **Specific Aim 3**

The third aim of the study is to describe the most-viewed YouTube videos related to teen pregnancy according to Kirby’s 17 Characteristics of Effective Programs (Kirby & Laris, 2009).

Kirby’s 17 characteristics are organized into three groups: The Process of Developing the

Curriculum, The Contents of the Curriculum Itself, and The Implementation of the Curriculum. It is not possible to know how the videos included in the study were developed or how they are being implemented so these characteristics are not included in this study. The characteristics that were coded are in Kirby's second group, The Contents of the Curriculum Itself, that relate to the curriculum goals and objectives. Variables are grouped into four categories: specific behaviors preventing teen pregnancy, situations that might lead to needing specific behaviors to prevent teen pregnancy, psychosocial risk factors, and psychosocial protective factors (Kirby & Laris, 2009).

Specific behaviors preventing teen pregnancy and situations that might lead to needing specific behaviors to prevent teen pregnancy are shown in Table 22. These two categories are joined together as proximate factors of teen pregnancy. Context That Led to Pregnancy had the most video uploads and cumulative views (n=33, 178,387,272; 41.1%), which is categorized as situations that might lead to needing specific behaviors to preventing teen pregnancy according to Kirby's framework.

Birth Control Prior to Pregnancy and Birth Control After Pregnancy are categorized as specific behaviors preventing teen pregnancy. These variables garnered much fewer views compared to Context That Led to Pregnancy. Birth Control Prior to Pregnancy appeared in 26 videos and garnered 72,768,190 views (16.8%). However, the sub-category that appeared the most in these 26 videos was No Method (n=21, 68,044,329; 15.7%). Birth Control After Pregnancy appeared in two videos that garnered 6,884,249 views (1.6%).

Table 22. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Proximate Factors, 2024\*

<b>Proximate Factor</b>	<b>N**</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C2. Birth Control Prior to Pregnancy</b>	<b>26</b>	<b>72,768,190</b>	<b>16.8%</b>
C2A. None	21	68,044,329	15.7%
C2C. Condoms	4	5,652,373	1.3%
C2D. Pill	3	4,095,181	0.9%
C2I. Other	1	1,300,000	0.3%
<b>C15. Birth Control After Pregnancy</b>	<b>2</b>	<b>6,884,249</b>	<b>1.6%</b>
C15D. Pill	1	5,928,093	1.4%
C15A. None	1	956,156	0.2%
<b>C18. Context That Led to Pregnancy</b>	<b>33</b>	<b>178,387,272</b>	<b>41.1%</b>
C18B. Unprotected Sex	18	83,963,695	19.3%
C18H. Nonconsensual Sex	4	64,410,981	14.8%
C18I. Other	1	16,000,000	18.5%
C18C. Birth Control Failure	5	12,339,161	2.8%
C18A. Intended Pregnancy	7	11,968,313	2.8%
C18F. Alcohol	1	821,509	0.2%
C18D. Birth Control Misuse	1	503,554	0.1%

\*Sub-categories that did not include any of the 100 most widely viewed videos include Birth Control Prior to Pregnancy’s Withdrawal, Patch, Shot, IUD, and Multiple Methods; Birth Control After Pregnancy’s Withdrawal, Condoms, Patch, Shot, IUD, Breastfeeding, Multiple Methods, and Other; and Context That Led to Pregnancy’s Drugs and Persuasion.

\*\*Sub-categories are not mutually exclusive.

Psychosocial risk factors for teen pregnancy are shown in Table 23. The psychosocial risk factors that garnered the most views were Teen Mother’s Reaction to Pregnancy News, Perceived Negative Reaction (n=38, 221,514,268; 51.0%), Social Hardships (n=33, 177,610,777; 40.9%), Family’s Reaction to Pregnancy News’ Perceived Negative Support (n=32, 141,231,668; 32.5%), Sexual Abuse (n=8, 80,661,195; 18.6%), and Teen Father’s Reaction to Pregnancy News, Perceived Negative Support (n=17, 75,381,227; 17.4%). The Teen Mother’s, Family’s and Teen Father’s Reaction to Pregnancy News included any video that depicted or mentioned an initial negative reaction to the pregnancy news. Emotions that were coded as

perceived negative included sadness, anger and disappointment. The Sexual Abuse category included the most widely viewed video, which received over 59 million views. Without this video, Sexual Abuse cumulative views would be less than 5%. All remaining psychosocial risk factors received less than 10% of cumulative views.

The Social Hardships psychosocial risk factor contains eight sub-categories of various social challenges a teen may experience while pregnant that were present in varying numbers in the videos. The subcategories with the most cumulative views were Loneliness/No Friendships (n=8, 83,039,927; 19.1%) followed by Kicked Out of House/Family Tension (n=10, 45,012,188; 10.4%).

Table 23. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Psychosocial Risk Factors 2024\*

<b>Psychosocial Risk Factor</b>	<b>N**</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C5. Education***</b>	<b>20</b>	<b>59,945,454</b>	<b>13.8%</b>
C5C. High School Discontinued	9	27,745,797	6.4%
<b>C6. Socioeconomic Conditions***</b>	<b>38</b>	<b>212,021,487</b>	<b>48.8%</b>
C6B. Perceived Low Household Income	15	31,808,882	7.3%
C6C. Public Assistance	1	1,305,654	0.3%
C6D. Neighborhood Disorder	4	11,754,824	2.7%
<b>C7. Social Hardships</b>	<b>33</b>	<b>177,610,777</b>	<b>40.9%</b>
C7A. Loneliness/No Friendships	8	83,039,927	19.1%
C7F. Kicked Out of House/Family Tension	10	45,012,188	10.4%
C7D. Bullying	4	20,100,050	4.6%
C7G. Struggles with New Responsibilities	3	15,549,093	3.6%
C7E. Rumors	3	12,896,948	3.0%
C7I. Other	3	9,167,458	2.1%
C7B. Depression	3	8,643,598	2.0%
C7H. Baby's Father Leaves	2	3,150,919	0.7%
<b>C8. Sex Education in School***</b>	<b>4</b>	<b>15,704,983</b>	<b>3.6%</b>
C8B. Abstinence	2	7,988,442	1.8%
<b>C9. Teen Mother's Reaction to Pregnancy News***</b>	<b>42</b>	<b>242,412,293</b>	<b>55.8%</b>
C9B. Perceived Negative Reaction	38	221,514,268	51.0%
<b>C10. Teen Father's Reaction to Pregnancy News***</b>	<b>22</b>	<b>81,794,576</b>	<b>18.8%</b>
C10B. Perceived Negative Support	17	75,381,227	17.4%
<b>C11. Family's Reaction to Pregnancy News***</b>	<b>38</b>	<b>186,910,186</b>	<b>43.0%</b>
C11B. Perceived Negative Support	32	141,231,668	32.5%
<b>C12. Friend's Reaction to Pregnancy News***</b>	<b>18</b>	<b>69,668,062</b>	<b>16.0%</b>
C12B. Perceived Negative Support	5	35,823,309	8.2%
<b>C16. Sexual Abuse</b>	<b>8</b>	<b>80,661,195</b>	<b>18.6%</b>
C16A. Current	6	79,495,761	18.3%
C16B. Past	2	1,165,434	0.3%

\*Sub-categories that did not include any of the 100 most widely viewed videos include Social Hardship's No Parents Their Age and Sexual Abuses' Both.

\*\*Sub-categories are not mutually exclusive.

\*\*\*Category title included for clarity, not in and of itself a psychosocial risk factor.



Psychosocial protective factors for teen pregnancy are shown in Table 24. The psychosocial protective factors that garnered the most views were Family Member Involvement (n=61, 219,285,764; 50.5%), Socioeconomic Conditions Perceived High Household Income (n=21, 170,920,001; 39.3%), and Family's Reaction to Pregnancy News' Perceived Positive Support (n=14, 75,438,508; 17.4%). Family Involvement was coded as any video that depicted or mentioned the positive involvement of a family member. If family members were mentioned as being unsupportive or absent from the pregnancy or parenting teen's life, the video was not included in the category. Socioeconomic Conditions Perceived High Household Income included any video that mentioned or depicted a perceived high socioeconomic status. This was often depicted as teens living in well-manicured suburban neighborhoods and comfortably relying on their parents or other family members to financially support them and the baby. Family's Reaction to Pregnancy News' Perceived Positive Support was any video that depicted or mentioned a family member's positive initial reaction to the pregnancy news. Reactions that were coded as positive included those like excitement and hope as well as supportive comments like "I will support you" or "everything will be okay." All remaining psychosocial protective factors garnered less than 10% of cumulative views.

The Family Involvement psychosocial protective factor contains seven subcategories that were present in varying amounts in the videos. The subcategory with the most cumulative views is Teen Mother's Parent(s) (n=42, 160,994,399; 37.1%) followed by Baby's Father (n=47, 143,973,088; 33.1%).

Table 24. Frequency, View Count, and Cumulative View Percent of Widely Viewed Videos About Teen Pregnancy by Psychosocial Protective Factors 2024

<b>Psychosocial Protective Factor</b>	<b>N*</b>	<b>View Count</b>	<b>Cumulative View %</b>
<b>C4. Family Member Involvement</b>	<b>61</b>	<b>219,285,764</b>	<b>50.5%</b>
C4B. Teen Mother’s Parent(s)	42	160,994,399	37.1%
C4A. Baby’s Father	47	143,973,088	33.1%
C4D. Grandparent(s)	9	40,943,711	9.4%
C4C. Teen Father’s Parent(s)	9	24,639,378	5.7%
C4E. Teen Mother's Sister	6	21,675,985	5.0%
C4F. Teen Mother's Aunt or Great Aunt	5	8,000,341	1.8%
C4G. Other	3	6,405,036	1.5%
<b>C5. Education**</b>	<b>20</b>	<b>59,945,454</b>	<b>13.8%</b>
C5A. High School Graduation	9	28,713,663	6.6%
C5E. College	5	10,470,113	2.4%
C5B. GED Program	1	418,853	0.1%
C5D. Trade School	1	411,786	0.1%
<b>C6. Socioeconomic Conditions**</b>	<b>38</b>	<b>212,021,487</b>	<b>48.8%</b>
C6A. Perceived High Household Income	21	170,920,001	39.3%
C6E. Discretionary Income	9	29,209,631	6.7%
<b>C8. Sex Education in School**</b>	<b>4</b>	<b>15,704,983</b>	<b>3.6%</b>
C8A. Contraception	1	655,156	0.2%
<b>C9. Teen Mother’s Reaction to Pregnancy News**</b>	<b>42</b>	<b>242,412,293</b>	<b>55.8%</b>
C9A. Perceived Positive Reaction	4	20,898,025	4.8%
<b>C10. Teen Father’s Reaction to Pregnancy News**</b>	<b>22</b>	<b>81,794,576</b>	<b>18.8%</b>
C10A. Perceived Positive Support	6	8,901,926	2.0%
<b>C11. Family’s Reaction to Pregnancy News**</b>	<b>38</b>	<b>186,910,186</b>	<b>43.0%</b>
C11A. Perceived Positive Support	14	75,438,508	17.4%
<b>C12. Friend’s Reaction to Pregnancy News**</b>	<b>18</b>	<b>69,668,062</b>	<b>16.0%</b>
C12A. Perceived Positive Support	13	33,844,753	7.8%

\*Sub-categories are not mutually exclusive.

\*\*Category title included for clarity, not in and of itself a psychosocial protective factor

## Chapter V DISCUSSION

At the time of this study, there were no published studies on the most widely viewed YouTube videos related to teen pregnancy. This is particularly significant given that the 100 videos in the Study sample were viewed nearly a half billion times. The United States teen birth rate has been declining since 1991 (*About Teen Pregnancy* | CDC, n.d.). The teen birth rate continues to reach record lows, with the latest being 13.5 births per 1,000 females ages 15-19 in 2022. This is a 3% drop from the previous year when the birth rate was 13.9 births per 1,000 females ages 15-19 (Kekatos, 2023). There have been several suggestions as to the reasons for the steady decline in the teen birth rate. One suggestion is the economy. The Great Recession of 2007 has been attributed some of the credit for the drop in teen birth rate, but the teen birth rate continued to decline even after the economy recovered. The more likely reasons are less sex, more effective contraception, and more information about pregnancy prevention (Pew Research Center, 2020).

Despite the declines in teen birth, there is still a high interest in teen pregnancy stories and teen pregnancy content online. The large number of views garnered by the videos in this study indicates a wide interest on the topic of teen pregnancy and teen parenting. YouTube itself is already a wealth of information with over a billion users. Many of these billion users are turning to YouTube as a source of information about teen pregnancy.

### **Main Conclusions**

The observations that videos in this study were viewed over 430 million times leads to the undeniable conclusion that YouTube is a significant source of information about teen pregnancy. The content of these videos, however, determines how useful they can be for health education purposes. The content of these videos include depictions of teen pregnancy that are

engaging and compelling. The most viewed stories are those that are sensationalized and far from a typical teen pregnancy experience. The videos in the top eight include those alluding to sexual abuse, teens being unaware of a pregnancy until they go into labor, and insisting they're pregnant with a religious figure. These are not storylines seen repeatedly in the remainder of the sample. The majority of the widely viewed videos are capturing information about the reactions and involvement of the pregnant teen's family and friends. However, the teens' stories depicted are missing or underrepresenting key points about teen pregnancy: contraceptive use, teens who have abortions, rapid repeat pregnancies, and low-income pregnant and parenting teens. Health education professionals can learn from the engagement of the videos, but the content is of limited value.

### **Upload Source and Format**

The source categories that garnered the most videos were Consumers and Television/News Entertainment. These two categories combined accounted for over 60% of cumulative views. Within the Consumer category, Parenting Teens garnered the most views. Within Television News/Entertainment, *Dr. Phil* and *Unexpected* garnered the most views. The format of *Dr. Phil* typically involves him interviewing a guest about a real-life problem or conflict they are experiencing. *Unexpected* is a reality television show that airs on TLC and follows a group of pregnant or parenting teens throughout a season. The commonality among these three sub-categories (Parenting Teens, *Dr. Phil*, and *Unexpected*) is that all of them focus on teens' experiences of pregnancy and parenting. The source sub-categories that, comparatively, did not garner a lot of views despite also depicting teens' experiences are reality TV shows produced by MTV including *16 and Pregnant*, *Teen Mom*, *Teen Mom 2*, *Teen Mom OG*, and *Teen Mom: Young & Pregnant*. All five of these shows combined accounted for only 1.6% of

cumulative views, with *Teen Mom*, *Teen Mom 2*, and *Teen Mom OG* appearing in zero videos. While the sources previously mentioned are meant to show teens' experiences with pregnancy and parenting, it is impossible to know what is "true" and what is dramatized for the video. Much of the literature focused on reality TV's impact on teen pregnancy has focused on the content of the shows that are produced by MTV. These findings suggest that the literature needs to be updated to reflect the sources of information that are currently more prominent like TLC's *Unexpected*.

It is especially noteworthy that there were no videos uploaded by Professionals, including physicians, mental health professionals, or academic professionals. This is not the case for YouTube studies on other health topics. A YouTube study on shoulder instability found that 32% of the videos in the study were from a medical source (Etzel *et al.*, 2022). Another study on lipedema found that videos were generally uploaded by health professionals for patients or the public (Esen Özdemir *et al.*, 2023) Yet another YouTube study on fibromyalgia found the most common source upload was physicians (Ozsoy-Unubol & Alanbay-Yagci, 2021). However, teen pregnancy differs from the previously mentioned health topics because it is more a part of popular culture as it is featured in realty TV programs and continues to be used in political arguments about poverty. However, a YouTube study on COVID-19 vaccines, which also became a part of everyday conversation and politics during the COVID-19 pandemic, found that 24.1% of videos in the study were produced by healthcare professionals (Li *et al.*, 2022). If professionals are making videos about teen pregnancy, they are not garnering large view counts and may be missing engagement techniques present in more widely viewed videos.

The view count for depictions of teen pregnancy was by far highest. YouTube shorts have the highest view count with 23.6% of cumulative views. All but three of the 25 YouTube

short videos were uploaded by Consumers. Following YouTube Shorts, Short films have the most cumulative views, but also include the most viewed video which accounts for 13.6% of cumulative views. With the top video removed, Documentaries has the next highest view count. Documentaries included all clips from reality TV programs about teen pregnancy. The next single format categories garnering the most views were Talk Show and Vlogs, both of which also consist of teens' experiences, which, again, cannot be assumed to be the absolute truth.

In addition to depicting the experiences of Consumers, YouTube shorts may also be the top format by view count because of their length. YouTube shorts are less than one minute in length and automatically replay on their own if the viewer doesn't pause the video or visit another webpage. This may reflect the limited attention span of users and the popularity of other social media characterized by very short communications (e.g., TikTok, Twitter (X), Instagram).

Public Service Announcements, a format commonly used amongst public health professionals and government organizations only appeared in three videos and garnered 2.5% of cumulative views. This indicates that this video format is not as engaging as others for viewers and may not be an effective method to communicate determinants and consequences of teen pregnancy.

The majority of the videos in the sample are under 20 minutes in length and garnered less than 10 million views. The videos garnering the most views appear to be under five minutes in length with the exception of the most viewed video, which is about 17 minutes long. Videos longer than 20 minutes have varying view counts. The association between length of video and view count was low ( $r = -.021$ ) and not statistically significant.

## Content

There were several content categories that garnered over half the cumulative views. The top content category, Pregnancy Outcome, garnered 66.1% of cumulative views. Following Pregnancy Outcome, How Teens Find out They're Pregnant garnered 59.1% of cumulative views, Teen Mother's Reaction to Pregnancy News garnered 55.8% of cumulative views, and Family Member Involvement garnered 50.5% of cumulative views.

One of the reasons Pregnancy Outcome has so many views may be that the source and format of most of the videos are portraying teens' experiences. Most of the time when a teen is telling the story of her pregnancy, she will also include the outcome and tell the story of the birth as well. Live birth was the pregnancy outcome that appeared the most in the videos with 52.5% of cumulative views. The one video about a self-induced abortion was the most widely viewed in the sample. Less than 3% of cumulative views was attracted by videos about miscarriages or stillbirths.

The pregnancy outcome abortion is missing from the 100 most widely viewed videos all together. However, in 2021, adolescent abortions accounted for 8.4% of all abortions from 48 reporting areas in the United States. The majority of these are attributed to adolescents 15-19 (8.2%). Despite accounting for a lower percentage of all abortions, adolescents did have the highest abortion to live birth ratio of all age groups: for adolescents under 15, 780 abortions per 1,000 live births and for adolescents 15-19, 366 abortions per 1,000 live births (Kortsmit *et al.*, 2023). The reality of adolescent abortions is missing from these 100 videos, which is concerning given the challenges any person may currently face in trying to have an abortion if they want one. Abortion access has become increasingly complex particularly in 2023, the first full year since *Roe v. Wade* was overturned. There are now 14 states that have total bans and seven more

states that have restrictions that would have been unconstitutional under *Roe v. Wade*. However, there are 22 other states as well as the District of Columbia that have enacted 129 measures to protect abortion access in their states (*State Policy Trends 2023: In the First Full Year Since Roe Fell, a Tumultuous Year for Abortion and Other Reproductive Health Care*, 2024). The politics of abortion become even more troubling when minors are involved because there are 36 states that require some form of parental involvement (*An Overview of Abortion Laws*, 2023). Navigating the abortion landscape could be challenging for anyone, especially a teenager. These stories, if present in the videos, would provide valuable insight into how teens manage to navigate abortion care.

There is juxtaposition in the data for the reaction of the teen mother, teen father, family, and friends to a teen's pregnancy news versus their later involvement in the pregnancy. The reaction category captures the initial reaction of the teen mother, teen father, family member, or friend to a teen's pregnancy news while the involvement category captures any positive involvement later in the pregnancy or care of the infant after being born. The reactions were more negative than positive for all categories. However, the videos do not show that this perceived negative support continues throughout the pregnancy and the birth. Many family members in the teen mother's life, including herself, appear to move past their initial perceived negative feelings of disbelief, disappointment, or anger and have a positive involvement in the life of the child. Teens watching these videos could be provided with comfort and reassurance that the adults in their life may be disappointed about an unplanned pregnancy at first but may become more supportive later in the pregnancy.

The high view counts for initial reactions and family involvement relate to the most viewed source and formats being those that depict teens' experiences with pregnancy. Viewers



are interested in watching what happens to teens when they become pregnant. Videos that depict or mention the reactions of the teen parents and their parents as well as how they remain involved in the teens' life are garnering millions of views. Videos that feature clips from reality TV programs often show the teen parents talking about how they found out they were pregnant, what was their reaction to the news, and how they told their families. These are important plot points in the story of a teen pregnancy.

When Socioeconomic Conditions are mentioned or observed in a video, they are more likely to be perceived as high household income (39.3% cumulative views) versus low household income (7.3% cumulative views). A teen with Perceived High Household Income was often shown living in a well-manicured suburban neighborhood, often still living at home with their parents and did not mention having a job to support the baby. The baby may have his/her own room in the house to serve as a nursery. This contrasts with teens with Perceived Low Household Income. Videos that were coded as Perceived Low Household Income often showed the teen mother working a part- or full-time job up until the birth. The teen parents may have mentioned being worried about how to afford a child or needing more space at home to care for the child. Some of the Perceived Low Household Income videos were set in other countries (e.g. Guatemala, Brazil, South Africa and United Kingdom). Therefore, the cumulative view percent of U.S. low-income teens depicted in these videos is less than the previously stated 7.3%.

This depiction of socioeconomic status is in stark contrast to the reality of teen pregnancy, which is more prominent in low-income communities compared to high-income communities. A literature review on socioeconomic influences on teen childbearing found that all studies reviewed found at least one statistically significant association relating teen childbearing to low socioeconomic status, underemployment, low income, low education levels,

neighborhood disadvantage, neighborhood physical disorder, or neighborhood-level income inequality (Penman-Aguilar *et al.*, 2013).

The most viewed Context That Led to the Pregnancy is Unprotected Sex with 19.3% of cumulative views. This corresponds to the cumulative view percent in the Birth Control Prior to Pregnancy, which is only 2.5% when No Method is removed from the results and Birth Control After Pregnancy (1.6%). These numbers do not accurately represent the number of teens who are using contraception prior to sexual intercourse. However, the low cumulative view percent for specific birth control methods may be reflective of the search terms used to select the sample. In 2019, 27.4% of students nationwide were sexually active according the YRBSS. Of these students who were sexually active, 54.3% reported that they did use a condom during last sexual intercourse. The prevalence of using a condom at last sexual intercourse was higher for males (60%) than females (49.6%) (CDC, 2019).

Social Hardships that teens may experience while pregnant or parenting received 40.9% of cumulative views. The Social Hardship that had the highest view count was Loneliness/No Friendships with 19.1% of views. Videos that were included in this subcategory included those where the teens specifically mentioned feeling lonely, missing their freedom, or missing out on social activities. Some videos also depicted teens walking through crowded school hallways alone or being in other social situations with no friends present. The frequency of this social hardship indicates that pregnant teens may need support combating loneliness during their pregnancy. This finding is in line with the literature which states that loneliness is a psychological concern for adolescent mothers (Maheshwari *et al.*, 2022).

Also in Social Hardships, Kicked Out of House/Family Tension appeared in the most videos, but received the second highest cumulative view percent (10.4%). Of the 10 videos in

this category, nine explicitly state that a teen was kicked out of their home. The videos that portrayed a teen being kicked out of their home were often not depicting a teen's experience with pregnancy, but rather was a fictional storyline as indicated in the description or format of the video. This is in contradiction to the family involvement mentioned previously. While there are some teens that are kicked out of their homes due to their pregnancy, most of the stories in the 100 widely viewed videos depict teens being supported by their families. The Social Hardships that teens are shown to be experiencing are more about friend relationships than family ones.

Repeated Pregnancy During Teen Years only received 11.0% of cumulative views. The two sub-categories that received the most views were Repeated Pregnancy (4.4%) and No Repeated Pregnancy (4.1%). There was less than 3% of views attributed to Two Repeated Pregnancies (2.5%) and even less attributed to Three or More Repeated Pregnancies (1.4%). The most widely viewed videos on teen pregnancy are underrepresenting the number of repeat births that occur for women in their teen years. According to the Office of Population Affairs, in 2022, about 15% of all births to 15-19 year old's were at least the second child born to the mother (*Trends in Teen Pregnancy and Childbearing*, n.d.). The underrepresentation of repeat pregnancies coupled with the lack of information on birth control after pregnancy mentioned previously is a concerning combination for viewers of these videos. If teens remain sexually active after a pregnancy and are not using a form of birth control, they could potentially experience a rapid repeat pregnancy. A rapid repeat pregnancy is a pregnancy interval of 18 months or fewer. Rapid repeat pregnancies are associated with adverse health outcomes like obstetrical complications, preterm delivery, and infant mortality (Qasba *et al.*, 2020). In addition to health complications, adolescents with more than one child are also at risk for educational and economic difficulties compared to adolescents with only one child (Stevens *et al.*, 2017)

There was not widespread misinformation in the most widely viewed videos. Videos were considered to include misinformation if the video stated or insinuated information about teen pregnancy that is inaccurate. Videos with misinformation of any kind received 10.3% of cumulative views (more than 40 million views). All videos but one garnered less than 3% of cumulative views. The one video with more than 3% contained sensationalized content about a teen claiming she is pregnant with Baby Jesus despite an ultrasound revealing no pregnancy. While videos with misinformation did not receive a large percentage of cumulative views, there is information in the videos that is misleading and receiving a large percentage of views. For example, the 39.3% of cumulative views attributed to Perceived High Household Income is misleading given that an association between teen pregnancy and low socioeconomic status has been repeatedly established (Penman-Aguilar et al., 2013). In addition, the low view counts for birth control use and high view counts for unprotected sex do not follow what is known about teen's sexual health behaviors (CDC, 2019). While these videos do not include misinformation, their information could mislead a viewer to hold an inaccurate perception of the reality of teen pregnancy.

The most widely viewed videos largely did not cover content related to Kirby's 17 Characteristics of Effective Programs (Kirby & Laris, 2009). The proximate factor that obtained the most views was Context That Led to Pregnancy (41.1%). However, the most viewed context was Unprotected Sex (19.3%). While the videos are accurately portraying that unprotected sex can lead to pregnancy, this information does not give viewers any replicable skills to prevent their own unwanted pregnancy especially when this information is coupled with the low cumulative view percent of Birth Control Prior to Pregnancy (16.8%) and Birth Control After Pregnancy (1.6%). Birth Control Prior to Pregnancy has a cumulative view percent of 2.5%

when only specific birth control methods are included, and No Method is removed from the results.

The Psychosocial Risk factors that garner the most views are Social Hardships (40.9%) and the perceived negative reaction and support of the teen's mother (501.0%), teen's father (17.4%), family (32.5%), and friends (8.2%). The depiction of social hardships related to teen pregnancy is an important finding in these videos. The most depicted hardship is Loneliness/No Friendships (19.1%). This content sends an important message to viewers that having a baby as a teen can be an isolating experience, and much of their time will be spent taking care of their baby rather than spending time with friends. The initial perceived negative support of the teen father, family, and friends is balanced out with their positive involvement later on in the pregnancy as mentioned previously.

The Psychosocial Protective Factors that garner the most views are Family Member Involvement (50.5%) and Perceived High Household Income (39.3%). As mentioned previously, the percentage of cumulative views related to Perceived High Household income does not accurately portray the reality of teen pregnancy. This is also not a psychosocial protective factor within a teen's control. There are other protective factors that need to be seen more in these videos, like Education (13.8%). Videos that mention a pregnant or parenting teen graduating from high school only garnered 6.6% of cumulative views. The numbers are even lower for GED Programs (.1%), Trade School (.1%), and College (2.4%).

### **Limitations**

The results and conclusions of this study must be interpreted considering a number of limitations. There are at least five main limitations affecting the results of the study: (1) cross-sectional design, (2) single coder, (3) inability to distinguish number of views from number of

viewers (and other information about viewers), (4) delimited scope of content coded, and (5) the most widely viewed videos skewed view counts and cumulative views.

The cross-sectional design precludes generalization to the future because view counts are constantly changing. A single coder decided which videos to include and exclude from the study as well as coded all the videos. An effort was made to mitigate this by demonstrating inter- and intra-rater reliability. It is impossible to separate number of views from number of viewers; determine how much, if any, of a video was viewed; or map the location of viewers. It is also impossible to determine if viewers are teens or members of other age groups and if viewers are located in the United States. It is likely that some viewers have viewed videos more than once. View counts for YouTube shorts are reported in numbers rounded to the nearest hundred thousand. View counts, therefore, are an inexact measure of number of viewers.

Lastly, videos with high view counts, such as the most widely viewed video in the study, can skew results for categories in the coding instrument. When the most viewed videos appear in a content category, the results appear as if a particular category garnered a large cumulative view percent. This is mitigated by reporting the number of videos alongside the view count and cumulative view percent.

### **Implications for Health Education Practice**

The over 400 million views these YouTube videos garnered make them a valuable resource for health education practice. The main takeaway for what is driving these views are teens' experiences with pregnancy and parenting. These are the sources and formats attracting the most cumulative views. This, in part, explains the success of reality TV programs focused on teen pregnancy and parenting.

There were no videos uploaded by Professionals, Government Agencies nor Nongovernment Organizations that come close to the number of views garnered by Consumers and Documentary or Reality style programming. The videos from these sources, which are designed to educate the viewer, are not garnering the millions of views that the experiences of pregnant and parenting teens are garnering. Health education professionals and organizations are not in control of the teen pregnancy narrative on YouTube. While misinformation is not widely spread at this time, view counts are constantly changing, and this may not remain true. Health education professionals and organizations need to upgrade their content to garner millions of views, like Consumers, Documentaries and Reality style programming.

Like the teens who were a part of the reality shows, teens that post videos about their pregnancy and parenting journey are garnering millions of viewers and subscribers. Teen parent influencers that appeared in the most widely viewed videos include Maddie Lambert with 1.83 million YouTube subscribers and three videos in the 100 most widely viewed videos. Brooke Morton was another influencer who appeared repeatedly. She has 656,000 YouTube subscribers and had a YouTube Short in the top 10 most viewed videos and a second YouTube Short in the top 15 most viewed videos. Health educators need to learn from what these teens are posting and how they're telling their stories. These are the types of videos that are garnering the most views, and the influencers themselves and the types of videos they post can be utilized to make content that educates viewers about preventing teen pregnancy.

The most widely used videos are of limited value for health education purposes because they do not contain much content on proximate or distal factors that are within a teen's realm of control. For example, there are comparatively fewer views for videos that mention birth control or education achievements like high school or college graduations. These are both topics that any

person could watch a video of someone else doing successfully and replicate the steps taken in the video to complete the success in his or her own life. Unfortunately, the videos in the sample mentioning these topics focused more heavily on distal factors outside a teen's realm of control like the family's involvement and socioeconomic status.

Health educators need to create a system for monitoring misinformation about public health topics, like teen pregnancy, online. While Misinformation in this study was only 10.3% of cumulative views, this is still over 40 million views. Forty million views are significant enough to be monitored. The amount of misleading information also needs to be considered as it can shape the public's perception of teen pregnancy. The public's perception of teen pregnancy has shifted across decades as the teen birth rate has been steadily decreasing. Once declared "our most serious social problem," in 1995 by President Clinton, there is now more nuance to the negative outcomes associated with teen pregnancy. Further research has shown that these negative perceptions were exaggerated substantially (Hoffman, 1998). Teen pregnancy is associated with infant mortality, childhood illness, welfare dependence, academic failure, juvenile crime, and subsequent teen pregnancies in future generations (Barker *et al.*, 2019). However, teen mothers are not a random sample of the population. They often have preexisting disadvantages that are contributing to these negative outcomes (Hoffman, 1998). Studies that control for background characteristics (i.e. family background, socioeconomic conditions, and educational attainment) have shown that teen mothers are as likely as older mothers to raise healthy, successful children. Teen mothers' life trajectories are only slightly altered by having a baby in their teens (Barker *et al.*, 2019). Currently, consumers are controlling information about teen pregnancy on YouTube, with any misinformation or misleading remaining unchecked. If



this continues to be the case, misinformation may grow over time and public perception may shift.

### **Implications For Future Research**

This study provides promising initial findings about content related to teen pregnancy on YouTube. Future research should collect additional data about the most widely viewed videos that was missing from this study like location of the pregnant or parenting teen, if not in the United States; inclusion of videos not in English; and age of the teen mother.

There were several videos in the sample that depicted teen pregnancy in other countries, particularly the United Kingdom. Future studies should include whether the subject of the video is teen pregnancy in the United States or another country. The scope of this study was to compare YouTube videos on teen pregnancy with what is known about teen pregnancy in the United States. However, there were videos of teens in other countries that have their own challenges preventing teen pregnancy. For example, the United Kingdom appeared in several videos. The United Kingdom had a conception rate of 13.2 pregnancies per 1,000 women under the age of 18 in 2021. However, the teen pregnancy rate has been declining there as it was 30.9 conception per 1,000 women under 18 just 10 years prior in 2011 (Bradford, 2023). Teen pregnancy in Guatemala was featured in one video. The public health concern of teen pregnancy in Guatemala is very different from that of the United States and United Kingdom, where the focus is on reducing the rate of teen pregnancy. Teen pregnancy in Guatemala is often caused by sexual violence, which has been prevalent since the Guatemalan Civil War (*Why Is Guatemala's Teen Pregnancy Rate so High?*, 2020). The country of origin cannot be recorded for all videos because it cannot be assumed if it is not explicitly stated. However, if it is stated it should be recorded because of the varying contexts of teen pregnancy in other countries.

Of the 16 videos that were excluded for not being in English, most of them were in Hindi. Future iterations of the study should include a Hindi translator so the content in these videos can be included in the findings. The teen birth rate in India, where Hindi is an official language, has been declining since the early 1990s. In 2021, the teen birth rate was 17 per 1,000 women ages 15-19 (*World Bank Open Data*, n.d.). Despite these declines, this is higher than the United States and the inclusion of these videos in the study could provide valuable insight about teen pregnancy in India, especially since these videos garnered many views with the top video in Hindi garnering over seven million views.

Another variable that should be included in future iterations of the study is the age of the mother at the time of the pregnancy. There were a few videos that mentioned the age of the mother in the title, which was as young as 13, to garner more views. This is data that can only be measured if it is explicitly stated in the video. In 2022, there were many fewer births to mothers ages 10-14 (0.2 births per 1,000 females) compared to ages 15-17 (5.5 births per 1,000 females) and ages 18-19 (25.6 births per 1,000 females), but this may not be accurately portrayed in the YouTube videos (Hamilton et al., 2023).

In addition to collecting additional data on the most widely viewed videos, health education resources need to be devoted toward the development and evaluation of videos. The results of this study indicate that viewers gravitate towards teens' experiences with pregnancy and parenting, and there are already parenting teens on YouTube who have garnered a large following. The types of videos these teens are posting can serve as a blueprint for engagement techniques that health educators can also use in their own videos. The teen influencers can also be utilized given that they already have a following, but teens can be unreliable narrators in a public health campaign if their future choices do not align with the campaign.

The priority audience for these videos is teens before they become sexually active. According to the 2015-2017 National Survey of Family Growth, by age 15, 21% young females ages 15-24 have ever had sexual intercourse. By age 17, the percentage increases to 53% of young females, and by age 20, 79% of females have ever had sexual intercourse (Martinez & Abma, 2020). This pinpoints the target audience to teens younger than 15 years old. It is impossible to know the age of the viewer in this study because that information is not provided by YouTube. After the development of health education videos, formative evaluations should be completed with teens younger than 15 years old to determine engagement quality.

Lastly, ongoing monitoring studies need to be completed to continue to monitor the information on YouTube pertaining to teen pregnancy. These videos were viewed over 430 million times, and the content they're sharing is widely spread. As new videos are uploaded and others gain more views, the amount of misinformation and the teen pregnancy experience that is portrayed needs to be monitored by a health education agency.

### **Final Thoughts**

The millions of views that these videos garnered are evidence that viewers are very interested in teen pregnancy. Even though the most popular days of MTV's reality shows have passed, people are turning to other mediums, like YouTube, to follow the stories of other pregnant teens. The teens that appear in new reality shows, like *Unexpected*, or make their own content, like Maddie Lambert, are changing but the topic of teen pregnancy still fascinates viewers. More can be done to ensure that the content seen by millions is informative and accurate. Health education needs to evolve and learn to create social media content that will be viewed by millions. The stories of teens who experience pregnancy are what garners the most views, and these stories can, and should, be utilized.

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APPENDIX A: Codebook

Date Coded:

Video Number:

Length of Video (Minutes):

Number of Views:

Date Uploaded:

Title:

<b>Source</b>		
<b>S1. Consumer</b>	1 = Yes	0 = No
S1A. Pregnant Teen	1 = Yes	0 = No
S1B. Parenting Teen	1 = Yes	0 = No
S1C. Pregnant and Parenting Teen	1 = Yes	0 = No
S1D. Former Teen Parent	1 = Yes	0 = No
S1E. Other	1 = Yes	0 = No
<b>S2. Professional</b>	1 = Yes	0 = No
S2A. Physician	1 = Yes	0 = No
S2B. Mental Health Professional	1 = Yes	0 = No
S2C. Academic Professional	1 = Yes	0 = No
S2D. Other	1 = Yes	0 = No
<b>S3. Government Agency</b>	1 = Yes	0 = No
<b>S4. Nongovernment Organization</b>	1 = Yes	0 = No
<b>S5. Television News/Entertainment</b>	1 = Yes	0 = No
S5A. <i>16 and Pregnant</i>	1 = Yes	0 = No
S5B. <i>Teen Mom</i>	1 = Yes	0 = No
S5C. <i>Teen Mom 2</i>	1 = Yes	0 = No
S5D. <i>Teen Mom OG</i>	1 = Yes	0 = No
S5E. <i>Unexpected</i>	1 = Yes	0 = No
S5F. Other	1 = Yes	0 = No
<b>S6. Celebrity</b>	1 = Yes	0 = No
<b>S7. Other</b>	1 = Yes	0 = No
<b>Format</b>		
<b>F1. Documentary</b>	1 = Yes	0 = No
<b>F2. Interview (one person and interviewer)</b>	1 = Yes	0 = No
<b>F3. Talk by Professional</b>	1 = Yes	0 = No
<b>F4. Talk Show/Discussion Panel with the Host (several people)</b>	1 = Yes	0 = No
<b>F5. Animation</b>	1 = Yes	0 = No
<b>F6. Still Images</b>	1 = Yes	0 = No
<b>F7. News Report with Anchor</b>	1 = Yes	0 = No
<b>F8. Vlog</b>	1 = Yes	0 = No
<b>F9. YouTube Short</b>	1 = Yes	0 = No
<b>F10. Multiple Formats</b>	1 = Yes	0 = No
<b>F11. Other</b>	1 = Yes	0 = No

<b>Content</b>		
<b>C1. How Teens Find Out They're Pregnant</b>	1 = Yes	0 = No
C1A. At Home Pregnancy Test	1 = Yes	0 = No
C1B. Missed Period	1 = Yes	0 = No
C1C. Weight Gain	1 = Yes	0 = No
C1D. Frequent Urination	1 = Yes	0 = No
C1E. Nausea	1 = Yes	0 = No
C1F. Doctor's Appointment	1 = Yes	0 = No
C1G. Contractions/Labor	1 = Yes	0 = No
C1H. Other	1 = Yes	0 = No
<b>C2. Birth Control Prior to Pregnancy*</b>	1 = Yes	0 = No
C2A. None*	1 = Yes	0 = No
C2B. Withdrawal*	1 = Yes	0 = No
C2C. Condoms*	1 = Yes	0 = No
C2D. Pill*	1 = Yes	0 = No
C2E. Patch*	1 = Yes	0 = No
C2F. Shot*	1 = Yes	0 = No
C2G. IUD*	1 = Yes	0 = No
C2H. Multiple Methods*	1 = Yes	0 = No
C2I. Other*	1 = Yes	0 = No
<b>C3. Pregnancy Outcome</b>	1 = Yes	0 = No
C3A. Abortion	1 = Yes	0 = No
C3B. Self-Induced Abortion	1 = Yes	0 = No
C3C. Miscarriage	1 = Yes	0 = No
C3D. Live Birth	1 = Yes	0 = No
C3E. Stillbirth	1 = Yes	0 = No
<b>C4. Family Member Involvement****</b>	1 = Yes	0 = No
C4A. Baby's Father****	1 = Yes	0 = No
C4B. Teen Mother's Parent(s)****	1 = Yes	0 = No
C4C. Teen Father's Parent(s)****	1 = Yes	0 = No
C4D. Grandparent(s)****	1 = Yes	0 = No
C4E. Other****	1 = Yes	0 = No
<b>C5. Education</b>	1 = Yes	0 = No
C5A. High School Graduation****	1 = Yes	0 = No
C5B. GED Program****	1 = Yes	0 = No
C5C. High School Discontinued***	1 = Yes	0 = No
C5D. Trade School****	1 = Yes	0 = No
C5E. College****	1 = Yes	0 = No
<b>C6. Socioeconomic Conditions</b>	1 = Yes	0 = No
C6A. Perceived High Household Income****	1 = Yes	0 = No
C6B. Perceived Low Household Income ***	1 = Yes	0 = No
C6C. Public Assistance***	1 = Yes	0 = No
C6D. Neighborhood Disorder***	1 = Yes	0 = No
C6E. Discretionary Income****	1 = Yes	0 = No
<b>C7. Social Hardships</b>	1 = Yes	0 = No

C7A. Loneliness***	1 = Yes	0 = No
C7B. Depression***	1 = Yes	0 = No
C7C. Lack of Friendships***	1 = Yes	0 = No
C7D. No Parents Their Age***	1 = Yes	0 = No
C7E. Other***	1 = Yes	0 = No
<b>C8. Sex Education in School</b>	1 = Yes	0 = No
C8A. Contraception****	1 = Yes	0 = No
C8B. Abstinence***	1 = Yes	0 = No
C8C. Both****	1 = Yes	0 = No
<b>C9. Teen Mother's Reaction to Pregnancy News</b>	1 = Yes	0 = No
C9A. Perceived Positive Reaction****	1 = Yes	0 = No
C9B. Perceived Negative Reaction***	1 = Yes	0 = No
<b>C10. Teen Father's Reaction to Pregnancy News</b>	1 = Yes	0 = No
C10A. Perceived Positive Support****	1 = Yes	0 = No
C10B. Perceived Negative Support***	1 = Yes	0 = No
<b>C11. Family's Reaction to Pregnancy News</b>	1 = Yes	0 = No
C11A. Perceived Positive Support****	1 = Yes	0 = No
C11B. Perceived Negative Support***	1 = Yes	0 = No
<b>C12. Friend's Reaction to Pregnancy News</b>	1 = Yes	0 = No
C12A. Perceived Positive Support****	1 = Yes	0 = No
C12B. Perceived Negative Support***	1 = Yes	0 = No
<b>C13. Daily Care of an Infant or Child</b>	1 = Yes	0 = No
C13A. Feeding	1 = Yes	0 = No
C13B. Sleep Schedule	1 = Yes	0 = No
C13C. Daycare	1 = Yes	0 = No
C13D. Spending Time with Baby/Child	1 = Yes	0 = No
C13E. Hygiene	1 = Yes	0 = No
C13F. Other	1 = Yes	0 = No
<b>C14. Repeated Pregnancy During Teen Years</b>	1 = Yes	0 = No
C14A. No Repeated Pregnancy	1 = Yes	0 = No
C14B. Repeated Pregnancy	1 = Yes	0 = No
C14C. Two Repeated Pregnancies	1 = Yes	0 = No
C14D. Three or More Repeated Pregnancies	1 = Yes	0 = No
<b>C15. Birth Control After Pregnancy*</b>	1 = Yes	0 = No
C15A. None*	1 = Yes	0 = No
C15B. Withdrawal*	1 = Yes	0 = No
C15C. Condoms*	1 = Yes	0 = No
C15D. Pill*	1 = Yes	0 = No
C15E. Patch*	1 = Yes	0 = No
C15F. Shot*	1 = Yes	0 = No
C15G. IUD*	1 = Yes	0 = No
C15H. Breastfeeding*	1 = Yes	0 = No
C15I. Multiple Methods*	1 = Yes	0 = No
C15J. Other*	1 = Yes	0 = No
<b>C16. Sexual Abuse***</b>	1 = Yes	0 = No

C16A. Current***	1 = Yes	0 = No
C16B. Past***	1 = Yes	0 = No
C16C. Both***	1 = Yes	0 = No
<b>C17. Misinformation</b>	1 = Yes	0 = No
C17A. Pregnancy	1 = Yes	0 = No
C17B. Birth Control	1 = Yes	0 = No
C17C. Sex	1 = Yes	0 = No
C17D. Other	1 = Yes	0 = No
<b>C18. Context that Led to Pregnancy**</b>	1 = Yes	0 = No
C18A. Intended Pregnancy**	1 = Yes	0 = No
C18B. Unprotected Sex**	1 = Yes	0 = No
C18C. Birth Control Failure**	1 = Yes	0 = No
C18D. Birth Control Misuse**	1 = Yes	0 = No
C18E. Drugs**	1 = Yes	0 = No
C18F. Alcohol**	1 = Yes	0 = No
C18G. Persuasion**	1 = Yes	0 = No
C18H. Other**	1 = Yes	0 = No

\*Specific behavior leading to the prevention of teen pregnancy (i.e. proximate factors).

\*\*Situations that might lead to needing behaviors to prevent teen pregnancy (i.e. proximate factors).

\*\*\* Psychosocial risk factors (i.e. distal factors).

\*\*\*\*Psychosocial protective factors (i.e. distal factors).

APPENDIX B: Coding Manual

Variable	Coding Definition
<b>Source</b>	
<b>S1. Consumer</b>	Consumer videos included videos uploaded by (A) pregnant teens, (B) parenting teens, (C) pregnant and parenting teens, (D) Former teen parent or (E) other. A consumer video is described as upload by someone with no obvious professional credentials or by a teenager that was not featured on a reality television program during or after their pregnancy.
<b>S2. Professional</b>	A professional video is characterized as a video uploaded by someone with professional credentials such as a (A) physician, (B), mental health professional, (C) academic professional, or (D) other.
<b>S3. Government Agency</b>	Government agency videos are identified by the top-level domain (TLD) .gov, and videos uploaded by a governmental agency
<b>S4. Nongovernmental Organization</b>	Nongovernmental organization videos are identified by the TLD .org.
<b>S5. Television News/Entertainment</b>	All videos uploaded by a news-based or entertainment-based major television network are considered television news/entertainment. The includes all clips from teen pregnancy related reality programming including (A) <i>16 and Pregnant</i> , (B) <i>Teen Mom</i> , (C) <i>Teen Mom 2</i> , (D) <i>Teen Mom OG</i> , (E) <i>Unexpected</i> , and (F) Other.
<b>S6. Celebrity</b>	Celebrity is defined as any video uploaded by a celebrity. Any videos uploaded by cast members of <i>16 and Pregnant</i> , <i>Teen Mom</i> , <i>Teen Mom 2</i> , <i>Teen Mom OG</i> , and <i>Unexpected</i> are considered celebrity videos if uploaded under the cast member's personal account. This differentiates videos from the actual television show, which are coded as television news/entertainment.
<b>S7. Other</b>	Any video that does not meet the criteria for the previous seven categories.
<b>Format</b>	
<b>F1. Documentary</b>	Any nonfictional video that documents the reality of teen pregnancy or teen parenthood.
<b>F2. Interview (one person and interviewer)</b>	Any video with a formal or informal talk between two people.
<b>F3. Talk by Professional</b>	Any video that is a recording of a professional giving a presentation.

<b>F4. Talk Show/Discussion Panel with the Host (several people)</b>	Any video with a formal or informal talk between more than two people.
<b>F5. Animation</b>	Any video with any style of animation.
<b>F6. Still images</b>	Any video that contains only still images or photographs.
<b>F7. News Report with Anchor</b>	Any video that contains part of a local or national news segment.
<b>F8. Vlog</b>	Any video that acts as an online diary or journal.
<b>F9. YouTube Short</b>	Any video that is listed by YouTube as a YouTube short.
<b>F10. Multiple Formats</b>	Any video that fits multiple formats listed. All formats contained in the video must be individually coded as well.
<b>F11. Other</b>	Any format not previously listed.
<b>Content</b>	
<b>C1. How Teens Find Out They're Pregnant</b>	Any video that mentions how the teen found out or suspected she was pregnant.
C1A. At Home Pregnancy Test	Any video that mentions a teen finding out she is pregnant using an at home pregnancy test.
C1B. Missed Period	Any video that mentions a teen finding out or suspecting pregnancy because of a missed period.
C1C. Weight Gain	Any video that mentions a teen finding out or suspecting pregnancy because of weight gain.
C1D. Frequent Urination	Any video that mentions a teen finding out or suspecting pregnancy because of frequent urination.
C1E. Nausea	Any video that mentions a teen finding out or suspecting pregnancy because of a nausea or morning sickness.
C1F. Doctor's Appointment	Any video that mentions a teen finding out about pregnancy at a doctor's appointment or hospital visit.
C1G. Contractions/Labor	Any video that mentions a teen finding out about pregnancy because she has contractions or has gone into labor.
C1H. Other	Any video that mentions a teen finding out or suspecting pregnancy from a symptom not previously listed.
<b>C2. Birth Control Prior to Pregnancy*</b>	Any birth control method used to prevent pregnancy. If the birth control method failed or is used incorrectly, it is included.
C2A. None*	Any video that mentions no birth control method used prior to pregnancy.
C2B. Withdrawal*	Any video that mentions withdrawal as a birth control method prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C2C. Condoms*	Any video that mentions condoms as a birth control method prior to pregnancy. Include even if method



	failed, was used incorrectly, or is used in combination with another method.
C2D. Pill*	Any video that mentions birth control pills as a birth control method prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C2E. Patch*	Any video that mentions the patch as a birth control method prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C2F. Shot*	Any video that mentions the shot as a birth control method prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C2G. IUD*	Any video that mentions an IUD as a birth control method prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C2H. Multiple Methods*	Any video that mentions more than one method of birth control prior to pregnancy. Include even if methods failed or were used incorrectly.
C2I. Other*	Any video that mentions a birth control method not previously listed prior to pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
<b>C3. Pregnancy Outcome</b>	Any video that mentions the outcome of a teen pregnancy.
C3A. Abortion	Any video that mentions an abortion that was completed at a medical facility. Videos that mention seeking an abortion as an option, but ultimately deciding otherwise are not included.
C3B. Self-Induced Abortion	Any video that mentions an attempt to self-induce an abortion. A self-induced abortion is any abortion not completed at a medical facility.
C3C. Miscarriage	Any video that mentions a pregnancy terminated via miscarriage.
C3D. Live Birth	Any video that mentions a pregnancy that leads to a live birth.
C3E. Stillbirth	Any video that mentions a pregnancy that leads to a stillbirth.
<b>C4. Family Member Involvement****</b>	Any video that mentions the involvement of family member(s) in the pregnancy or care of the infant.
C4A. Baby's Father****	Any video that mentions the involvement of the baby's father during the pregnancy or care of the infant. Videos that mention the absence of involvement are not included.

C4B. Teen Mother's Parent(s)****	Any video that mentions the involvement of the teen mother's parent(s) during the pregnancy or care of the infant. Videos that mention the absence of involvement are not included.
C4C. Teen Father's Parents(s)****	Any video that mentions the involvement of the teen father's parent(s) during the pregnancy or care of the infant. Videos that mention the absence of involvement are not included.
C4D. Grandparent(s)****	Any video that mentions the involvement of the teen mother's or father's grandparent(s) during the pregnancy or care of the infant. Videos that mention the absence of involvement are not included.
C4E. Other****	Any video that mentions the involvement of a family member not previously listed during the pregnancy or care of the infant. Videos that mention the absence of involvement are not included.
<b>C5. Education</b>	Any video that mentions the education of the pregnant or parenting teen.
C5A. High School Graduation****	Any video that mentions the pregnant or parenting teen attending high school, completing high school and/or earning a high school diploma. Videos that mention intentions to complete or return to high school, but not actively working towards a high school diploma are not included.
C5B. GED Program****	Any video that mentions the pregnant or parenting teen attending a GED program, studying for a GED, or earning their GED. Videos that mention intentions to complete a GED, but not actively working towards a GED are not included.
C5C. High School Discontinued***	Any video that mentions the pregnant or parenting teen discontinuing high school.
C5D. Trade School****	Any video that mentions the pregnant or parenting teen attending a trade school. Videos that mention intentions to attend a trade school, but not actively enrolled or applying to a trade school are not included.
C5E. College****	Any video that mentions the pregnant or parenting teen attending college. Videos that mention intentions to attend college, but not actively enrolled or applying to college are not included.
<b>C6. Socioeconomic Conditions</b>	Any video that mentions the socioeconomic conditions on the pregnant or parenting teen.
C6A. Perceived High Household Income****	Any video that mentions or depicts a perceived high household income prior to the teen pregnancy. A specific dollar amount does not need to be mentioned but rather might include phrases like "comfortable childhood", "didn't want for anything", etc.

C6B. Perceived Low Household Income***	Any video that mentions or depicts a perceived low household income prior to the teen pregnancy. A specific dollar amount does not need to be mentioned but rather might include phrases like “we struggled financially”, “money was tight”, etc.
C6C. Public Assistance***	Any video that mentions utilizing a public assistance program prior to the teen pregnancy.
C6D. Neighborhood Disorder***	Any video that mentions neighborhood disorder in the neighborhood of the teen prior to the pregnancy. Neighborhood disorder includes graffiti, alcohol containers, cigarette butts, litter, and abandoned cars.
C6E. Discretionary Income****	Any video that mentions a teen having discretionary income during or after a pregnancy. Discretionary income is any income not spent on necessities.
<b>C7. Social Hardships</b>	Any video that mentions a social hardship a teen may experience during or after pregnancy.
C7A. Loneliness***	Any video that mentions a pregnant or parenting teen experiencing loneliness. Videos may also indicate loneliness by showing dramatized scenes of pregnant teens walking or being alone in larger crowds like a school hallway. Videos that mention the absence of loneliness are not included.
C7B. Depression***	Any video that mentions a pregnant or parenting teen experiencing depression. Videos that mention the absence of depression are not included. Videos that mention or show sadness should not be included.
C7C. Lack of Friendships***	Any video that mentions a pregnant or parenting teen not having any or enough friends since becoming pregnant or having a baby. Videos may also indicate lack of friendships by showing a teen in a social situation with no friends while other teens their age are surrounded by friends.
C7D. No Parents Their Age***	Any video that mentions a pregnant or parenting teen not knowing any or enough parents their own age.
C7E. Other***	Any video that mentions a social hardship a teen may experience during or after pregnancy that is not previously listed. Videos that mention the absence of social hardships are not included.
<b>C8. Sex Education in School</b>	Any video that mentions sex education received in any grade in school.
C8A. Contraception****	Any video that mentions sex education received in any grade in school that included an accurate lesson on contraception.
C8B. Abstinence***	Any video that mentions sex education received in any grade in school that included an emphasis on abstinence as the only choice.

C8C. Both****	Any video that mentions sex education received in any grade in school that included an accurate lesson on contraception and lessons on abstinence.
<b>C9. Teen Mother's Reaction to Pregnancy News</b>	Any video that mentions the teen mother's reaction to learning that she was pregnant.
C9A. Perceived Positive Reaction	Any video that mentions the teen mother's perceived positive initial reaction to learning that she was pregnant. Perceived positive emotions include being happy, excited, hopeful, etc.
C9B. Perceived Negative Reaction	Any video that mentions the teen mother's perceived negative initial reaction to learning that she was pregnant. Perceived negative emotions include being scared, disappointed, angry, etc.
<b>C10. Teen Father's Reaction to Pregnancy News</b>	Any video that mentions the teen father's initial reaction to learning about the pregnancy
C10A. Perceived Positive Reaction****	Any video that mentions the teen father's perceived positive initial reaction to learning about the pregnancy. Perceived positive emotions include being happy, excited, hopeful, etc.
C10B. Perceived Negative Reaction***	Any video that mentions the teen father's perceived negative initial reaction to learning about the pregnancy. Perceived negative emotions include being scared, disappointed, angry, etc.
<b>C11. Family's Reaction to Pregnancy News</b>	Any video that mentions the teen mother's family's initial reaction to learning about the pregnancy
C11A. Perceived Positive Reaction****	Any video that mentions the teen mother's family's perceived positive initial reaction to learning about the pregnancy. Perceived positive emotions include being happy, excited, hopeful, etc.
C11B. Perceived Negative Reaction***	Any video that mentions the teen mother's family's perceived negative initial reaction to learning about the pregnancy. Perceived negative emotions include being scared, disappointed, angry, etc.
<b>C12. Friend's Reaction to Pregnancy News</b>	Any video that mentions the teen mother's friend's initial reaction to learning about the pregnancy
C12A. Perceived Positive Reaction****	Any video that mentions the teen mother's friend's perceived positive initial reaction to learning about the pregnancy. Perceived positive emotions include being happy, excited, hopeful, etc.
C12B. Perceived Negative Reaction***	Any video that mentions the teen mother's friend's perceived negative initial reaction to learning about the pregnancy. Perceived negative emotions include being scared, disappointed, angry, etc.
<b>C13. Daily Care of an Infant or Child</b>	Any video that mentions or shows a teen care for their infant or child.

C13A. Feeding	Any video that mentions or shows a teen breastfeeding or formula feeding their infant.
C13B. Sleep Schedule	Any video that mentions or shows a teen discussing their infant or child's sleep or putting the infant or child down for a nap or to sleep or at night.
C13C. Daycare	Any video that mentions or shows a teen bringing their infant or child to a daycare facility. Videos that include teens hypothetically discussing daycare are not included.
C13D. Spending Time with Baby/Child	Any video that mentions or shows a teen spending time with their infant or child.
C13E. Hygiene	Any video that mentions or shows a teen caring for their infant or child's hygiene needs including baths, diaper changes, haircuts, etc.
C13F. Other	Any video that mentions or shows a teen caring for their infant or child in way that is not previously mentioned.
<b>C14. Repeated Pregnancy During Teen Years</b>	Any video that mentions more than one pregnancy during the mother's teen years.
C14A. No Repeated Pregnancy	Any video that mentions a teen mother having only one pregnancy during their teen years.
C14B. One Repeated Pregnancy	Any video that mentions a teen mother having two pregnancies during their teen years. Include all pregnancies regardless of outcome.
C14C. Two Repeated Pregnancies	Any video that mentions a teen mother having three pregnancies during their teen years. Include all pregnancies regardless of outcome.
C14D. Three or More Repeated Pregnancies	Any video that mentions a teen mother having four pregnancies during their teen years. Include all pregnancies regardless of outcome.
<b>C15. Birth Control After Pregnancy*</b>	Any birth control method used to prevent repeated pregnancy after a pregnancy. If the birth control method failed or is used incorrectly, it is included.
C15A. None*	Any video that mentions no birth control method used after pregnancy.
C15B. Withdrawal*	Any video that mentions withdrawal as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15C. Condoms*	Any video that mentions condoms as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15D. Pill*	Any video that mentions birth control pills as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.

C15E. Patch*	Any video that mentions the patch as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15F. Shot*	Any video that mentions the shot as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15G. IUD*	Any video that mentions an IUD as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15H. Breastfeeding*	Any video that mentions breastfeeding as a birth control method after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
C15I. Multiple Methods*	Any video that mentions more than one method of birth control after pregnancy. Include even if methods failed or were used incorrectly.
C15J. Other*	Any video that mentions a birth control method not previously listed after pregnancy. Include even if method failed, was used incorrectly, or is used in combination with another method.
<b>C16. Sexual Abuse***</b>	Any video that mentions current or past sexual abuse by any person.
C16A. Current***	Any video that mentions current sexual abuse by any person.
C16B. Past***	Any video that mentions past sexual abuse by any person.
C16C. Both***	Any video that mentions current and past sexual abuse by any person. The current and past abuse may be committed by the same or different people.
<b>C17. Misinformation</b>	Any video that includes misinformation about a topic related to teen pregnancy.
C17A. Pregnancy	Any video that includes misinformation about pregnancy.
C17B. Birth Control	Any video that includes misinformation about birth control.
C17C. Sex	Any video that includes misinformation about sex.
C17D. Other	Any video that includes misinformation about a topic related to teen pregnancy not previously listed.
<b>C18. Context that Led to Pregnancy**</b>	Any video that mentions that context that led to the teen pregnancy.
C18A. Intended Pregnancy**	Any video that mentions the teen pregnancy being intended.

C18B. Unprotected Sex**	Any video that mentions unprotected sex preceding the pregnancy.
C18C. Birth Control Failure**	Any video that mentions birth control failure preceding the pregnancy. Birth control must be used correctly consistently for the video to be included.
C18D. Birth Control Misuse**	Any video that mentions birth control misuse preceding the pregnancy.
C18E. Drugs**	Any video that mentions drug use immediately preceding the pregnancy.
C18F. Alcohol**	Any video that mentions alcohol use immediately preceding the pregnancy.
C18G. Persuasion**	Any video that mentions persuasion from a partner immediately preceding the pregnancy.
C18H. Other**	Any video that mentions the context leading to the pregnancy that was not previously listed.

**\*Specific behavior leading to the prevention of teen pregnancy (i.e. proximate factors).**

**\*\*Situations that might lead to needing behaviors to prevent teen pregnancy (i.e. proximate factors).**

**\*\*\* Psychosocial risk factors (i.e. distal factors).**

**\*\*\*\*Psychosocial protective factors (i.e. distal factors).**