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EXAMINING THE EFFECTS OF A MOTION COMIC INTERVENTION ON HIV-
STIGMA AMONG A SAMPLE OF ADOLESCENT MEN WHO HAVE SEX WITH
MEN

By

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B.S., Microbiology
B.A., Psychology
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A Thesis Submitted to the Graduate Faculty
of Georgia State University in Partial Fulfillment
of the
Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA
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By

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ABSTRACT

INTRODUCTION: HIV disproportionately affects African Americans, Latinos, and gay and bisexual men of all racial and ethnicity groups. People living with HIV/AIDS experience stigma related to their disease. HIV/AIDS stigma can have detrimental effects on HIV prevention, testing and treatment. Entertainment-education is a health communication strategy that can be used to influence behavioral and social change in the population.

AIM: The purpose of this study is to evaluate whether a Motion Comic intervention, an EE strategy, can decrease H/A stigma in a sample of MSM adolescents aged 15-24.

METHODS: Participants were recruited from GA, FL, NY and CA using convenience sampling. A sample of MSM adolescents aged 15-24 ($n=24$) was used for this study. The study design is a one-group pretest-posttest intervention. Participants were shown the Motion Comic episodes. Participants completed pre- and post-viewing surveys to assess HIV/AIDS stigma. A summed variable was used as the outcome for total HIV/AIDS stigma. A paired samples t -test was used to measure a statistically significant difference in HIV/AIDS stigma from pretest to posttest.

RESULTS: There was a statistically significant decrease in HIV stigma from pre-viewing survey ($M = 9.87$, $SD = 3.49$) to post-viewing survey ($M = 8.65$, $SD = 2.48$), $t(22) = 2.01$, $p < .0285$ (one-tailed). The mean decrease in HIV stigma scores was 1.22 with a 95% confidence interval ranging from 0.177 to 2.248. The eta squared statistic (.16) indicated a large effect size.

DISCUSSION: Results from this study show that viewing the Motion Comic may reduce HIV/AIDS stigma related to casual transmission of HIV and values, such as blame, shame and judgment, in MSM adolescents.

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Chapter I INTRODUCTION

1.1 Background

Human immunodeficiency virus (HIV) is the virus that can lead to acquired immunodeficiency syndrome (AIDS). The Centers for Disease Control and Prevention (CDC) estimates there are 50,000 new HIV cases each year in the United States (US) (CDC, 2013a). This rate has remained consistent since the mid-1990s. Of the 1.1 million people living with HIV, 18% do not know they are infected. Since the beginning of the AIDS epidemic, over 600,000 people living with AIDS have died (CDC, 2013a).

Human immunodeficiency virus disproportionately affects African Americans (AA), Latinos, and gay and bisexual men of all racial and ethnicity groups. African Americans accounted for 44% of all new HIV infections in 2010 (CDC, 2013c). Latinos accounted for 20% of all new HIV infections in 2009 (CDC, 2013e). Men who have sex with men (MSM) accounted for 78% of new HIV infections among men and 63% of all new infections in the US in 2010 (CDC, 2013b). Additionally, the incidence of HIV in young gay and bisexual men (aged 13 to 24) increased 22% from 2008 to 2010 (CDC, 2012b; CDC, 2013d). Factors related to why this occurs can be due to socioeconomic status (SES), stigma, discrimination, education and geographic location.

“Stigma” is defined as an attribute that reduces a person in the minds of others from “a whole and usual person to a tainted, discounted one” (Goffman, 1963, p. 3). People living with HIV/AIDS (PLWHA) experience stigma related to their disease by others and themselves. There are four domain of HIV/AIDS stigma (H/A stigma) identified by Obermeyer, the World Health Organization (WHO), and the Population Council (2009): 1) fear of HIV transmission through casual contact with PLWHA, resulting in avoidance of PLWHA; 2) negative judgments/beliefs about PLWHA; 3) enacted stigma; 4) compounded or layered stigma, where HIV-related stigma is coupled with stigma towards otherwise excluded or marginalized groups (i.e., MSM, sex workers, drug users). HIV/AIDS stigma can have detrimental effects on HIV prevention programs. Those fearing H/A stigma may avoid HIV testing and treatment services, which can lead to an increase in new infections. Fear of H/A stigma can lead to an increase in high-risk behavior including not disclosing one’s positive HIV status with a potential sex partner. Brown, McIntyre, & Trujillo describe the implications of H/A stigma as negatively affecting preventive behaviors, such as condom use (2003). Stigma can lead to both physical and mental health problems (CDC, 2012b; CDC 2013d).

Entertainment-education (EE) is a health communication strategy developed to both entertain and educate, while bringing about behavioral and social change in a population (Singhal & Rogers, 2004, p. 5). To achieve this, EE influences audience members’ awareness, attitudes and behavior toward a socially desirable end. Several forms of media have been used for EE: television (O’Leary, Kennedy, Pappas-DeLuca, Nkete, Beck, & Galavotti, 2007), radio (Vaughn, Rogers, Singhal, & Swalehe, 2000; Creel, Rimal, Mkandawire, Bose, & Brown, 2011), film (Lapinski & Nwulu, 2008), mass

media campaigns (Romer, Szitman, DiClemente, Salazar, Venable, Carey, Hennesy, Brown, Valois, Stanton, Fortune, & Juzang, 2009), comic books (Ingrand, Verneau, Silvain, Beauchant, & Network, 2004), and others. Entertainment-education topics have covered a broad range of topics, including HIV, stigma, diabetes, cancer screening and treatment, adolescent drinking and risky sexual behaviors.

Several studies implementing the EE strategy have been conducted around the world. In Africa, many of these studies used HIV education to inform the target population of facts about HIV transmission, prevention and treatment in order to reduce stigma related to myths and misconceptions. Studies that have used EE specific to reducing H/A stigma in both Africa and the US have found some success. By portraying HIV-positive characters in a humane, nonstigmatizing manner in television and film, researchers have found an increase in health information-seeking behavior (Beck, 2004), a reduction in HIV stigma related to possibility of casual transmission (O'Leary et al., 2007; Creel et al., 2011), and an increased ability to openly discuss HIV (Creel et al., 2011). These studies show that EE may be a strategy that needs to be further investigated for reducing H/A stigma. Further, there is a gap in knowledge regarding the impact EE interventions aimed at reducing H/A stigma in subpopulations, including adolescents and MSM, may have.

1.2 Purpose of Study

The purpose of this study is to evaluate whether a Motion Comic intervention, an EE strategy, can decrease H/A stigma in a sample of MSM adolescents aged 15 to 24. Results from this study may help inform future studies as to whether this intervention is

effective. Results from this study may also influence the development of future episodes of the Motion Comic series and whether H/A stigma can be reduced in this population.

1.3 Research Question

1. Will the Motion Comic intervention reduce H/A stigma in a sample of MSM adolescents aged 15 to 24?

Chapter II

REVIEW OF THE LITERATURE

2.1 Human immunodeficiency virus

Human immunodeficiency virus is the virus that can lead to acquired immunodeficiency syndrome (AIDS). Scientists have identified the source of HIV as originating from a type of chimpanzee in Africa and believe the virus was transmitted to humans in Africa as early as the 1800s. The first occurrence of HIV in the United States (US) occurred in the mid- to late 1970s. While there is no cure for HIV, the introduction of antiretroviral therapy (ART) in the 1990s has increased the quality and length of lives for those affected by HIV (CDC, 2013f). Since the height of the HIV epidemic in the US, HIV prevention strategies have decreased HIV incidence by two-thirds. However, even with these strategies and ART decreasing the risk of new infections, the Centers for Disease Control and Prevention (CDC) estimates there are 50,000 new HIV cases each year in the US (CDC, 2013a). This rate has remained consistent since the mid-1990s. The CDC estimates that of the 1.1 million people living with HIV, 18% do not know they are infected (CDC, 2013a). Since the beginning of the AIDS epidemic, 635,000 people living with AIDS have died.

2.2 Race and Ethnicity

HIV disproportionately affects African Americans (AA), Latinos, and gay and bisexual men of all racial and ethnicity groups. In the US, HIV is most commonly spread through unprotected anal or vaginal sex or through sharing equipment used for drugs with a person infected with the virus. While these risk factors are the same for all racial and ethnic groups, some groups are more affected than others. Factors related to why this occurs can be due to socioeconomic status (SES), stigma, discrimination, education, and geographic location.

African Americans represent only 12-14% of the US population, but accounted for 44% of all new HIV infections in 2010. A possible explanation for this may be the high prevalence of HIV in AA communities. African Americans tend to have sexual partners of the same race or ethnicity, which means they would be at greater risk of being infected with the disease because of the high prevalence in the community. African American communities also experience higher rates of sexually transmitted diseases (STDs), which can facilitate the transmission of HIV. They also have higher rates of poverty, which can lead to lack of health insurance, health care and HIV prevention services (CDC, 2013c). Additionally, there is a high rate of incarcerated AA men, which may lead to same-sex relationships and spread of HIV. The concern for HIV is declining in this population, which is critical due to the high prevalence of HIV infections and high rates of those who are unaware of their infection.

In 2009, Latinos represented 16% of the US population, but accounted for 20% of all new HIV infections in the US. Reasons for Latinos being disproportionately affected by HIV include high rates of HIV and higher rates of STDs in the Latino

community. The same SES factors that contribute to high rates of HIV infection in AA communities also affect Latinos. Latinos in Puerto Rico have a higher rate of injection drug use (IDU) compared to other Latino countries, so this increases the risk of HIV infection. One unique factor that impacts Latinos is the positive and negative effects of acculturation. While adapting to the American culture leads to more open conversations about HIV status among sexual partners, higher rates of risky behavior related to infection also occurs. Undocumented immigrants face another form of fear of stigma or discrimination. Due to fear of deportation, this can result in avoidance of doctors and health care providers where HIV prevention services could be utilized (CDC, 2013e).

2.3 Sexual Orientation

The CDC estimates that MSM represent 4% of the US male population, but represented 78% of new HIV infections among men and 63% of all new infections in the US in 2010. There was a 12% increase for HIV incidence in MSM from 2008 to 2010 (CDC, 2013b). Black men accounted for 31% of all new HIV infections in the US, with 72% of those infections among black MSM. Additionally, 38% of new HIV infections in black men were among young black MSM (aged 13 to 24). The incidence of HIV in Latinos in 2010 was 21%, with Latino men accounting for 87% of those cases. Latino MSM accounted for 79% of new infections among Latino men. Of the 31% of new HIV infections among whites, men accounted for 89% of those cases. White MSM accounted for 85% of the new infections among white men. The incidence of HIV in young gay and bisexual men (aged 13 to 24) increased 22% from 2008 to 2010. While white MSM represent the highest incidence of HIV with 11,200 cases in 2010, young black MSM

(aged 13 to 24) account for 55% of new infections among young MSM making this subgroup the most affected by new HIV infections than any other subgroup by race/ethnicity, age and sex (CDC, 2012b; CDC 2013d).

This burden cannot be explained by MSM behavior alone. The factors fueling the disparity in the MSM population include the high prevalence of HIV within the population. In 2011, MSM accounted for 62% of all new HIV infections in the US. Of those MSM tested in 2008, 44% were unaware they were infected. Those who are unaware of their status do not seek medical treatment and can continue spreading the virus. Young MSM may also underestimate their risk of HIV. Sexual risk behaviors, such as unprotected anal sex, account for the majority of HIV infections in MSM. This also increases the risk for STDs, which may explain the high rates of STDs among MSM.

2.4 HIV/AIDS Stigma

In 1963, Erving Goffman described “stigma” as an attribute that reduces a person in the minds of others from “a whole and usual person to a tainted, discounted one” and he synonymized stigma with “a failing, a shortcoming, a handicap” (p. 3). He continued by stating, “not all undesirable attributes are at issue, but only those which are incongruous with our stereotype of what a given type of individual should be” (Goffman, 1963, p. 3). He identifies three different forms of stigma:

First there are abominations of the body—the various physical deformities. Next there are blemishes of individual character perceived as weak will, domineering or unnatural passions, treacherous and rigid beliefs, and dishonesty, these being inferred from a known record of, for example, mental disorder, imprisonment, addiction, alcoholism, homosexuality, unemployment, suicidal attempts, and radical political behavior. Finally there are the tribal stigma of race, nation, and religion, these being stigma that can be transmitted through lineages and equally contaminate all members of a family (Goffman, 1963, p. 4).

Goffman (1963) further explains that, “By definition, of course, we believe the person with a stigma is not quite human. On this assumption we exercise varieties of discrimination, through which we effectively, if often unthinkingly, reduce his life chances” (p. 5). Using these definitions and explanations of stigma, PLWHA can be stigmatized according to Goffman’s first and second categories of stigma. Those PLWHA suffering from wasting syndrome and Kaposi’s sarcoma produce physical deformities, which can be stigmatized by Goffman’s first category (Mahajan et al., 2008). The means by how some people are infected, through what some consider are immoral sexual acts, are stigmatized by Goffman’s second category of blemishes of individual character (Cockerman, 2004). HIV/AIDS stigma is often coupled with other stigma associated with homosexuality, drug use, prostitution, and sex outside of marriage (Brown et al., 2003). Through the application of stigma in its different forms to produce social inequality, it causes some groups to be devalued and other groups to feel they are superior.

Obermeyer, the WHO, and the Population Council (2009) identified four domains of H/A stigma and discrimination: 1) fear of HIV transmission through casual contact with PLWHA, resulting in avoidance of PLWHA; 2) negative judgments/beliefs about PLWHA; 3) enacted stigma; 4) compounded or layered stigma, where HIV-related stigma is coupled with stigma towards otherwise excluded or marginalized groups (i.e., MSM, sex workers, drug users). Additionally, Earnshaw and Chaudoir (2009) have conceptualized a framework to measure the mechanisms of H/A stigma. The mechanisms associated with HIV uninfected persons include prejudice, stereotyping and discrimination towards PLWHA. Prejudice is described as negative emotions and

feelings such as anger, disgust, and fear. Stereotypes refer to group-based beliefs uninfected individuals feel toward PLWHA and discrimination is what is expressed towards PLWHA. These three mechanisms are related to a decrease in willingness to care for PLWHA as a result of “decreased feelings of social responsibility for, increased willingness to discriminate against, and increased desire for social distance from PLWHA” (Earnshaw & Chaudoir, 2009). These mechanisms are also related to a decrease in willingness to indicate past HIV testing.

When reviewing the literature on H/A stigma, Mahajan et al. (2008) discovered there are three common types of discrimination: self-imposed discrimination, resulting from expectations of stereotype application to oneself and out of fear of expected rejection or resignation, acting as if discrimination has already been imposed; individual discrimination, which is overt discrimination that occurs between two people; and structural discrimination, which refers to accumulated institutional practices that impede stigmatized groups and can occur without individual or self-imposed discrimination.

Of the three mechanisms described by Earnshaw and Chaudoir (2009), they believe stereotyping is the most dangerous. Through stereotyping, those who are uninfected may underestimate their risk for HIV. This occurs when uninfected individuals stereotype groups they believe to be more likely to contract HIV. If they feel they do not belong to these groups, they may not feel at risk for HIV and may be less likely to be tested. These three mechanisms allow the development and maintenance of stigma to occur.

There are also three stigma mechanisms experienced by PLWHA. These are: enacted stigma, which is prejudice or discrimination PLWHA believe they have

experienced from others in the community; anticipated stigma, which is expectation of PLWHA to experience prejudice and discrimination from others in the future; and internalized stigma, which occurs when PLWHA subscribe to the negative beliefs and feelings associated with HIV/AIDS about themselves (Earnshaw & Chaudoir, 2009). These mechanisms allow stigma to have detrimental effects on HIV prevention programs.

Stigma and discrimination can fuel the health disparities associated with an increase in new HIV infections. Stigma, fear, discrimination, homophobia, and negative perceptions about HIV testing can place many AA at higher risk. Many of those at risk for HIV fear stigma more than infection and may choose to hide their high-risk behavior rather than seek counseling and testing (CDC, 2013c). Stigma can lead to fear of disclosing a positive status to a potential sexual partner. One study showed that 20% of AA youth progressed to AIDS within one year of initial HIV diagnosis, compared to 14% of white youth. This may be due to AA delaying HIV testing, in turn delaying diagnosis and treatment because of stigma associated with HIV and homosexuality (CDC, 2012a). Stigma, fear, discrimination and homophobia also affect Latinos, which may lead to fear of and avoidance of HIV testing and prevention services (CDC, 2013e). Also for the MSM population, an important factor is stigma and homophobia. Stigma associated with both being gay and HIV may lead to avoidance of HIV testing and prevention services. Fear of discrimination associated with HIV and being gay may lead to avoiding treatment or disclosing one's status to friends, family and partners. Some might fear violence related to stigma. Stigma and discrimination can lead to both physical and mental health problems (CDC, 2012b; CDC 2013d).

Studies have shown that feelings of disgust and fear can fuel stigma towards PLWHA. Some people even believe that those who have contracted HIV through sex or drug use have gotten what they deserve. Brown et al. (2003) describe the implications of stigma related to HIV/AIDS as negatively affecting preventive behaviors, such as condom use. Also described are the negative effects H/A stigma has on medical care such as HIV test-seeking behavior, care-seeking behavior upon diagnosis, quality of care provided to HIV-positive patients, and perception and treatment of PLWHA by communities, families, and partner.

Several studies have shown that due to the stigma and shame associated with a positive test result, some people avoid HIV testing altogether. This is especially true of developing countries where HIV treatment is limited. Researchers have found that young adults who feel they may be judged for sexual or drug use behaviors by health care workers will not seek out testing in those environments (Valdiserri, 2002). Fear of status disclosure to potential sex partners due to discrimination or even stigma-related violence can increase the likelihood of HIV risk behaviors, including unprotected sex, substance use and multiple sexual encounters. A study in South Africa showed that of 903 HIV-positive participants who were currently sexually active, 42% had sex with a person to whom they had not disclosed their HIV status in the previous three months (Simbayi, Kalichman, Strebel, Cloete, Henda, & Mqeketo, 2007). Not disclosing one's status to partners was associated with loss of job or housing related to being HIV positive. In another study in South Africa, Kalichman & Simbayi found that of 500 participants, a mere 44% had been tested for HIV (2003). Of those who were not tested, two out of three people indicated at least one high-risk behavioral risk factor for HIV, including

being more likely to have never used a condom and to have used injection drugs. Among those who had been tested for HIV, 38% did not know the results of their most recent test and were more likely to have traded sex for food or money. Those who had not been tested for HIV were significantly more likely to have greater H/A stigma beliefs than those who had been tested. They held stigmatizing beliefs, such as those with HIV are dirty and should feel ashamed and guilty; those with HIV deserve what they have gotten; and people with HIV should not be able to work with children. In contrast, those who had been tested, regardless of knowing test results, showed no significant difference in H/A stigmatizing beliefs. Regardless of whether infected or uninfected with the HIV virus, stigma can negatively affect the physical and mental wellbeing of individuals.

2.5 Entertainment-Education

Entertainment-education is a communication strategy developed for both entertaining and educating, “in order to increase audience members’ knowledge about an educational issue, create favorable attitudes, shift social norms, and change overt behavior,” (Singhal & Rogers, 2004, p. 5) to bring about behavioral and social change in a population. To bring about directed social change, EE influences audience members’ awareness, attitudes, and behavior toward a socially desirable end. Entertainment-education aims “to influence the audience’s external environment to help create the necessary conditions for social change at the system level” (Singhal & Rogers, 2004, p. 6). This is done in hopes of sparking change on the community or policy level. There are several forms of media that have been used for EE: television (O’Leary et al., 2007), radio (Vaughan et al., 2000), film (Lapinski & Nwulu, 2008), mass media campaigns

(Romer et al., 2009), comic books (Ingrand et al., 2004), and others. Topics including HIV, stigma, diabetes, cancer screening and treatment, adolescent drinking, risky sexual behaviors, and many others have been covered by EE.

2.6 HIV/AIDS Stigma and Entertainment-Education

Most studies utilizing EE approaches to reduce H/A stigma have been conducted in Africa due to higher rates of HIV and higher stigma related to HIV myths and misconceptions. Many of the EE studies have used HIV education to inform the target population of facts about HIV transmission, prevention and treatment in order to reduce stigma related to myths and misconceptions.

The daytime soap opera *The Bold and the Beautiful* was one of the most watched television shows in the world in 2002 with an estimated 300 million viewers in 110 countries worldwide (Beck, 2004, p. 208). The executive producer of the daytime drama series became interested in the global AIDS epidemic and reached out to the CDC to develop an HIV storyline. Together, writers and CDC scientists developed a storyline with a character named Tony who contracted HIV from a former sex partner. The storyline had Tony's character receive his positive test result for viewers to see. This led to him telling his new uninfected fiancée about his status and, later, the couple adopting a child who was orphaned when his parents died from AIDS. The actor who played Tony was featured in two public service announcements (PSA) that aired after the episodes. The PSAs encouraged viewers to call the CDC's national hotline for more information about HIV/AIDS. When the PSA aired for the second time after the episode where Tony discloses his status to his fiancée, there were an overwhelming number of calls to the

CDC's hotline within minutes. They received so many calls that the phone lines were jammed and there were not enough operators to direct calls. In fact, this was the highest number of calls during the entire calendar year (Beck, 2004, p. 210). This is an example of an audience impact where health information-seeking behavior was demonstrated.

Researchers wanted to see if the HIV storyline in *The Bold and the Beautiful* had a similar impact in Botswana and to see if the storyline decreased HIV stigma. According to data from the 2001 Botswana AIDS Impact Survey (BAIS), Botswana's population has a high level of HIV stigmatizing beliefs (O'Leary et al., 2007). Data for BAIS was collected from interviews conducted with 4,494 individuals throughout Botswana. Researchers found that 47% of men and 38% of women agreed with the statement, "A teacher who has HIV/AIDS should not be allowed to teach." Also, 61% of men and 59% of women agreed with the statement, "I would not buy vegetables from a shopkeeper who has HIV/AIDS" (Letamo, 2003). O'Leary et al. hypothesized those who viewed Tony's HIV storyline in *The Bold and the Beautiful* would exhibit lower levels of HIV stigma than nonviewers (2007). HIV/AIDS stigma was measured using a five-item scale adapted from Herek and Capitanio (1993) and Letamo (2003). After controlling for confounding factors, *The Bold and the Beautiful* viewership was associated with statistically significant lower stigma scores (beta = -.19, $t = -3.02$; $p < .01$). O'Leary et al. (2007) suggested their results signified that HIV stigma may be reduced after viewing a serial drama in which HIV infection is reacted to in a nonstigmatized, humane manner. They also believe their results suggest that stigma specifically related to the possibility of casual HIV transmission was reduced. Limitations of the study included: cross-sectional data, so no causal inference could be made; and no pre-HIV storyline stigma

data to compare to post-exposure data (O'Leary et al., 2007). The HIV storyline in *The Bold and the Beautiful* is an example of EE used in an already popular entertainment outlet. However, many other implementations of EE are developed solely with health-related goals.

An EE intervention conducted in Nigeria by Lapinski & Nwulu (2008) used prosocial messages targeting H/A stigma and perceived risk for HIV. This was a pilot study used to develop a larger intervention. Nigeria was selected due to a high prevalence rate of HIV and not much H/A stigma research has been conducted there. Using a short film, a storyline was developed which featured the main character, Andrew, testing positive for HIV after a one-time casual sex encounter. Andrew's employer tells his parents without permission and the film shows the negative social impact of this action. The researchers' hypotheses examined the impact a short film can have on perceived risk for HIV/AIDS as well as examined the impact of stigma manifestation. This included endorsement of stigmatizing policies, attributions of blame to PLWHA for becoming infected with HIV, and comfort with PLWHA in social settings. Participants were randomly assigned to either a control or intervention group and assessments were performed posttest only. Risk perception and stigma was measured. The results indicated the film was successful in changing males' perceptions of HIV severity, but did not have the same effect in females. The results did not find a change in the perceived susceptibility to HIV in either males or females. Results indicated a limited impact on stigma perceptions. An unintended consequence of the intervention was that women were more likely to support policies that allowed HIV status disclosure without the permission of the person being tested. Lapinski and Nwulu (2008) state this may be an

inadvertent consequence of EE when, due to the storyline developed by writers, there are unintended positive or negative impacts made. A limitation of the study is not all known factors related to stigma were evaluated. Also, knowledge was not measured, so it is unknown whether HIV was better understood after viewing the film (Lapinski & Nwulu, 2008).

The Malawi “Radio Diaries” (RD) was a mass media campaign featuring PLWHA telling stories from their everyday lives. Malawi was chosen due to high HIV prevalence and a high level of HIV-related stigma. “Radio Diaries” was developed as a component for a larger HIV prevention communication campaign and was disseminated through radio stations that played weekly episodes. Diarists, including both female and male characters, talked about relationships, health care experiences, and adjusting to life with HIV. Preliminary data suggested greater exposure to the program led to increased ability to discuss HIV openly and increased perception that PLWHA are similar to oneself. A limitation to the study is that it was cross-sectional data, so researchers were unsure if exposure to the program reduced stigma or people who were interested in HIV/AIDS listened to the program compared to those who did not have an interest in HIV/AIDS. Creel et al. evaluated the RD program’s effect on stigma and additional effects of group discussion (2011). Post-intervention surveys assessed four stigma outcomes: fear of casual contact; shame, blame, and judgment; and willingness to disclose HIV status. They hypothesized that exposure to the RD program would reduce stigma in the intervention group compared to the control group. Also, another intervention group was added where participants, in addition to listening to the RD program, participated in group discussions, divided by gender. Researchers evaluated

whether this group would have a higher reduction in HIV stigma than the intervention group with no discussion. Creel et al. (2011) used measures developed by Nyblade and MacQuarrie (2006) to assess stigma. Regression analyses indicated that fear of casual contact was reduced by RD intervention. Shame was reduced by the RD program, but only for those reporting prior exposure to the radio program and for those who did not have a close friend or relative with HIV. Shame was not reduced when the radio program was followed by discussion. The intervention reduced blame for men and not women and for younger participants, but not older participants. Creel et al. (2008) concluded that featuring PLWHA in a HIV prevention mass media campaign might impact stigma reduction. Post-exposure group discussion may not enhance the effects and could possibly have adverse effects. Limitations of this study include that the participants were volunteers, so findings may not be generalizable to the entire population. Another limitation is that a pretest was not used to assess baseline stigma.

Chapter III

METHODS AND PROCEDURES

3.1 Study population

Participants were recruited using convenience sampling from youth-based organizations including outreach groups, schools, universities, civic-based organizations; internet advertisements were also used. Participants were mostly recruited from Georgia, but other states used were Florida, New York and California. The target populations recruited for included: black MSM, black heterosexuals, Latino MSM, Latino heterosexuals and white MSM in the age range of 15 to 24. The estimated approach and acceptance rate for recruitment is 95%. To protect identity, we conducted MSM-only groups.

3.2 Study design

The design of this study is a one-group pretest-posttest intervention. There were three rounds of focus groups for the Motion Comic intervention. The first two rounds of focus groups were used for formative research for development of the Motion Comic storyline. Round 3 used to evaluate the intervention content of the Motion Comic. This round consisted of 15 focus groups (n=138) and was conducted between May 2011 and

June 2012. Participants for Round 3 focus groups were administered a paper and pencil pre-test survey. They then viewed the Motion Comic, and immediately after, were administered a post-viewing survey. The pre- and posttests were designed to capture changes in KABI about HIV/STI, including H/A stigma. Participants received \$35 Visa gift certificates as incentive to participate in focus groups and complete surveys. Participants provided informed consent and parental consent was obtained in cases where participants were under the age of 18. Both the CDC and Georgia State University institutional review boards approved this study. For the purposes of this study, a subsample of the population was used (n=24).

3.3 Motion Comic content

During the six episodes of the Motion Comic, participants viewed storylines aimed to reduce HIV stigma. One storyline features a high school-aged, AA MSM character named Derek who is HIV positive. Derek contracted HIV through a former sexual partner. The story follows him as he struggles with his status and shows the hesitation he has in disclosing his status to his peers. Another storyline features a college-aged, AA female character named Summer who is HIV positive. Summer contracted HIV through vertical transmission from her mother. She is also hesitant to disclose her status, but eventually tells her roommates that she is HIV positive. Summer's roommates are accepting of her status and encourage her to disclose to her new love interest, Marc. The current Motion Comic episodes end with Summer disclosing her status to Marc, which leaves the audience waiting to see his reaction.

3.4 Measures of stigma

HIV/AIDS stigma was measured by assessing negative attitudes of participants towards PLWHA. The two dimensions of H/A stigma that were measured were: 1) fear of transmission through casual contact with PLWHA, resulting in avoidance of PLWHA; and 2) negative judgments/beliefs about PLWHA. Participants were asked to relay attitudes about statements based on a 5-point Likert Scale ranging from 1 (strongly agree) to 5 (strongly disagree). Six statements were used for measuring H/A stigma in the pre- and post-viewing survey. The following six statements were used in this study to measure H/A stigma. All variables were scaled toward the negative: *I would sit next to an HIV-positive person, People who are HIV-positive have gotten what they deserve, I would be afraid to live with an HIV-positive person, I would buy fruit from someone I knew was HIV-positive, I would not eat in a restaurant if I found out that someone who was HIV-positive worked there, and I would date someone who is HIV-positive.* These items were adapted from other works measuring H/A stigma conducted by Letamo (2003), Herek & Capitanio (1993) and Visser, Kershaw, Makin, & Forsyth (2008). A summed variable, which was used as the outcome, was created from responses to these statements for pre- and post-viewing surveys to assess total H/A stigma.

3.5 Data management and analysis

Data management, including coding of pre- and posttest data, was performed in SPSS version 19. Data analysis was performed in SAS version 9.3 and included univariate frequencies, confirmatory factor analysis and a paired samples one-tailed *t*-test for statistically significant differences within the sample between pre- and post-viewing

surveys. A confirmatory factor analysis was conducted to confirm that the H/A stigma response variables measured the correct H/A stigma dimensions. The paired samples one-tailed *t*-test was chosen because it appropriately tests a one-group design at two time points, pre- and posttest, using a scaled variable as the outcome. A one-tailed *t*-test was conducted because a directional hypothesis is being tested.

CHAPTER IV RESULTS

4.1 Univariate descriptives

For this analysis, MSM were defined as sexually active males reporting male sex partners (n=24). Table 1 presents demographic characteristics of the sample. The age of participants in this sample ranged from 19 to 24. African Americans made up 48.5% (n=11) of the sample, followed by white (n=5) and Latino (n=5) participants. This sample consisted of 87.5% of males who identified as homosexual (n=21) and 12.5% of males who identified as bisexual (n=3). Of the male participants who identified as homosexual, four males (19.0%) had female sex partners in addition to male sex partners.

Table 1

Demographics of sample by sexual identity (n=24)

	<u>Homosexual</u>	<u>Bisexual</u>	<u>Total</u>	<u>%</u>
<u>Age</u>				
19-21	11	0	11	45.8
22-24	10	3	13	54.2
<u>Race</u>				
African American	9	2	11	45.8
Asian	1	0	1	4.2
White	4	1	5	20.8
Latino ^a	5	0	5	20.8
Multiracial	2	0	2	8.3
<u>Sexual partner</u>				
Male and female sex partner	4	2	6	25.0
Male sex partner only	17	1	18	75.0
Total (n=32)	21	3	24	
%	87.5	12.5		

Note: ^aOne participant who identified as Latino also identified as African American.

4.2 Factor analysis

A confirmatory factor analysis was performed on the response variables using alpha-factoring with varimax rotations with 3 iterations. A cut-off value of 0.6 was used and cases were excluded pairwise. Scree plots and magnitude and distance of eigenvalues suggested a two-factor solution. The factors were identified as “Fear of transmission through casual contact with PLWHA, resulting in avoidance of PLWHA” and “Negative judgments/beliefs about PLWHA” (factor loadings presented in Table 2). Items 2, 3 and 5 loaded on the Negative judgments/beliefs about PLWHA factor and items 1, 4 and 6 loaded on the Fear of transmission through casual contact with PLWHA, resulting in avoidance of PLWHA factor. All factor loadings were >0.6 and no items double-loaded, so the scale used in this study has reliability in measuring the concepts.

Table 2

Rotated Factor Matrix for stigma response variables

Question	Factor	
	Negative judgments/beliefs about PLWHA	Fear of casual transmission of HIV and avoidance of PLWHA
5. I would not eat in a restaurant if I found out that someone who was HIV-positive worked there.	.76	
3. I would be afraid to live with an HIV-positive person.	.70	
2. People who are HIV-positive have gotten what they deserve.	.60	
4. I would buy fruit from someone who I knew was HIV-positive.		.75
6. I would date someone who is HIV positive.		.64
1. I would sit next to an HIV-positive person.		.64

Note: Extraction Method: Alpha Factoring.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

For ease of interpretation, only loadings greater than 0.6 are presented.

4.3 *t*-test

A one-tailed, paired-samples one-tailed *t*-test was conducted to evaluate the impact of the Motion Comic intervention on participants' HIV stigma scores. There was a statistically significant decrease in HIV stigma from pre-viewing survey ($M = 9.87$, $SD = 3.49$) to post-viewing survey ($M = 8.65$, $SD = 2.48$), $t(22) = 2.01$, $p < .0285$ (one-tailed). The mean decrease in HIV stigma scores was 1.22 with a 95% confidence interval ranging from 0.177 to 2.248. The eta squared statistic (.16) indicated a large effect size.

CHAPTER V DISCUSSION AND CONCLUSION

5.1 Discussion of Research Questions

Results from this study show that viewing the Motion Comic may reduce H/A stigma related to fear of transmission through casual contact with PLWHA, resulting in avoidance of PLWHA; and negative judgments/beliefs about PLWHA, in MSM adolescents. The findings from the *t*-test performed are statistically significant. Due to the participatory process by the target population for the development of the Motion Comic storyline, these results are not surprising. Using the information, including myths and misconceptions, from the focus groups, allowed creators to address these H/A stigma issues within the episodes.

Results from this study are consistent with similar studies conducted. In the Motion Comic, characters with HIV were created in a way that their disease was not stigmatized by their peers. O’Leary et al. (2007) found similar results when creating a character with HIV that the audience could relate to and emphasize with. Our results are also similar to Creel et al. (2011) in reducing H/A stigma related to fear of transmission through casual contact with PLWHA, resulting in avoidance of PLWHA; and negative judgments/beliefs about PLWHA.

5.2 Study Strengths and Limitations

Limitations for this study include the shortcomings of convenience sampling. Due to the recruitment locations, HIV knowledge of participants may be higher than average adolescents. Another limitation is the small sample size of a select population. This may make results found unrepresentative to the general public (Brown et al., 2003). Because of self-administered testing of participants, researchers are at a disadvantage in knowing truthfulness of respondents' answers. For future studies, a control group would be beneficial for comparing results with the intervention group. Additionally, follow-up testing would be valuable in determining long-term effects of the intervention.

Strengths of this study include the participatory process of developing the storyline. Feedback from focus groups guided creators in the appropriate content that would be relatable to adolescents. Another strength is recruitment of the target population was successful. Participants were intrigued by the Motion Comic episodes. Several participants gave email addresses and requested they be contacted when future episodes are created. Interest of the participants is a definite strength of this study.

5.3 Recommendations for Future Research

More HIV/AIDS stigma reduction EE programs should be implemented in the US. However, conducting studies in the US may call for altering the design and methods of study based on HIV prevalence and level of H/A stigma. Using EE to reduce H/A stigma in MSM adolescents should be further evaluated. In this study, four out of twenty-one male participants who identified as homosexual had both female and male sex partners. Addressing the risks of both vaginal and anal sexual intercourse should not be

forgotten when educating MSM adolescents. Future EE intervention studies should include a larger sample size as well as a control group. Implementing another time point in later months after the study may be useful in determining the long-term effects of this kind of intervention. The relationship between other HIV factors, such as HIV knowledge, and H/A stigma would be interesting to investigate. For example, does higher HIV knowledge correlate with lower H/A stigma? These relationships could be researched in future studies to further understand H/A stigma. In this study, reducing only two of the four dimensions of H/A stigma were investigated. Future studies should research the effects of EE interventions on the other two dimensions: enacted stigma and compounded/layered stigma.

5.4 Conclusion

As Mulford & Lee stated, HIV first appeared in the US among already stigmatized groups, including MSM and injection drug users (1996). Due to this occurrence, blaming victims of HIV has become common practice. Feeling that PLWHA deserve what they have gotten leads to further H/A stigma. This stigma not only affects PLWHA and leads to discrimination, prejudice and stereotypes, but also leads to those who are uninfected avoiding HIV testing and can possibly lead to high-risk behaviors. Reducing H/A stigma is imperative to HIV prevention strategies. By reducing stigma, there may be an increase in HIV testing and treatment services, reducing rates of HIV. Due to the high prevalence of HIV in MSM adolescents, interventions like the Motion Comic should be further investigated as a possible means of reducing new infections. Reducing H/A stigma may possibly lead to increased rates of HIV testing and treatment

in MSM. Findings from this study suggest that using EE interventions, similar to the Motion Comic, may help reduce H/A stigma.

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