16 AND PREGNANT:

EXAMINING THE ROLE OF TRANSPORTATION AND PERSUASIVE INTENT IN

THE EFFECTS OF AN ENTERTAINMENT-EDUCATION NARRATIVE

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ABSTRACT

AUTUMN SHAFER: *16 and Pregnant*: Examining the Role of Transportation and
Persuasive Intent in the Effects of an Entertainment-Education Narrative
(Under the direction of Jane D. Brown)

In 2009, MTV began airing a documentary-style reality television show about teen

pregnancy, *16 and Pregnant*, which has been seen by millions of adolescents. The series

ignited debate about whether such portrayals were helpful or harmful.

This study investigated the role of transportation in suppressing resistance to

persuasion, and promoting attitude change and discussion by manipulating persuasive intent

and transportation using an experimental design. Treatment condition participants ($n = 83$)

watched an episode of *16 and Pregnant*. Control group participants ($n = 42$) watched an

unrelated MTV documentary-style reality episode. All participants (18-19 year-old

community college students) completed an immediate posttest; 46 percent of participants

also completed a two-week delayed posttest.

In general, watching the treatment narrative resulted in some effects associated with

teen pregnancy prevention, such as increasing adolescents' beliefs that they are more

vulnerable to getting pregnant if they have sex, and strengthening positive attitudes about

using contraception. Effects that are associated with decreases in teen pregnancy/ parenthood

prevention were also found, such that watching the treatment narrative increased expectations

that teen pregnancy/ parenthood would have positive outcomes (and would not have negative

outcomes). A promising result for post-viewing discussion found that teens who talked with a

friend about pregnancy prevention in the two weeks after viewing had healthier teen pregnancy prevention norms than teens who did not. The overall pattern of results suggested that entertainment-education narratives about sexual health may be more beneficial for virgins than non-virgins.

The findings contribute to our understanding of entertainment-education, narrative persuasion, and how older adolescents engage with sexual health messages. Although current theories posit that entertaining narratives are persuasive because viewers do not notice the persuasive intent, this study found little support for this assumption. This study also found little support for the proposition that transportation reduces resistance to persuasion. Perhaps the power of entertainment-education is less about suppressing resistance to persuasion and more about providing exemplars and scripts for situations where personal experience is lacking. Conclusions about the positive or negative sexual health effects of the series as a whole were not warranted since only one episode was examined.

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INTRODUCTION

Imagine two teenage girls who are dressed up for the homecoming dance, arriving at their friend Lizzie's house. Lizzie says to one of the girls: "You look so pretty, I really still like that dress a lot a lot." Her friend replies, "Can't give it to you, sorry." Lizzie sighs, "That's okay, I wouldn't be able to fit in it." The second friend says, "I really wish you were coming to homecoming because we had so much fun last year." Lizzie says: "I don't want to go when I have a big ol' belly when I'm trying to grind up on people. Do you want to see the dress I would have worn?" When Lizzie pulls out her gown one friend says, "That's so pretty. I love it! I wish you were going." Lizzie, looking at the dress, says: "I do too. Oh, well, stuff changes." As her friends head off to the dance, Lizzie yells after them: "Don't get pregnant!"

The scene described above is from season two, episode "Lizzie," from MTV's hit reality television program *16 and Pregnant*. As of summer 2011, the series consisted of three seasons (35 episodes) with plans for a fourth season. Each episode followed one pregnant teenage girl for a few months before and after birth. The documentary-style reality series told the story of how being a teen parent affected the teens' personal, financial, academic, and social lives. The series was called a "tool for teaching and for initiating conversation" about teen pregnancy and sexual health (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2010). The series was one of the most watched programs on television for viewers aged 12-34 years old, with more than 2.4 million regular television viewers and

millions of online viewers (Gorman, 2010). The episodes are available for online viewing on MTV's website and, by mid-2011 had been downloaded millions of times. The characters and series had nearly four million fans on Facebook (MTV, 2011).

Such broad reach is rare for sexual health interventions. Finding that such programming is popular as well as successful in shifting teens toward safer sexual behavior could help persuade the media that more such programming is warranted. It is also possible, however, that entertaining and popular programs such as *16 and Pregnant* actually glamorize teen pregnancy in the eyes of teen viewers, as the pregnant teens "star" in their own show. The current study provides evidence of the potential benefits and pitfalls of using entertainment for pregnancy prevention for one of the episodes. Examining both immediate and longer-term effects also provides evidence of the endurance of response, whether positive or negative.

The United States has the highest rate of teen pregnancy of any industrialized nation with three out of ten girls becoming pregnant before the age 20 (Ventura, Abma, Mosher, & Henshaw, 2006). Teen parents are less likely to graduate high school and their children are more likely to grow up in poverty. Teen pregnancy and childbearing cost taxpayers $10.9 billion each year (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2011a). Yet, the majority of teens have never thought about what life would be like if they got pregnant or got someone else pregnant (Albert, 2007). Strategies to get young teens thinking and talking about the consequences of teen pregnancy are needed.

Given that adolescents spend nearly 5 hours every day watching television (increasingly online), television shows could be a way to get teens thinking about the realities of teen pregnancy (Rideout, 2010). Exposure to sexualized media content affects teens'

understanding of cultural norms and expectancies regarding sex, contraception, and pregnancy (Brown, 2008). Recently published longitudinal studies provide evidence that teens who frequently view sexual content on television are more likely to have intercourse earlier and to get pregnant than those teens who view, read, or hear less sexual media content (Brown, L'Engle, Pardun, Guo, Kenneavy, & Jackson, 2006; Collins, Elliott, Berry, Kanouse, Kunkel, Hunter, et al., 2004; Chandra, Martino, Collins, Elliott, Berry, Kanouse, & Miu, 2008). The problem appears to be that the frequent sexual content on television rarely includes the negative consequences of sexual behavior, including unplanned pregnancies (Hust, Brown, & L'Engle, 2008; Strasburger, Wilson, & Jordan, 2009). Analyses have shown that only 1-15% of sexual media content portrays any consequences of sexual activity and is more likely to show positive rather than negative consequences (Brown, 2008). One cross-sectional study found that media use explained more of the variance than school related variables (e.g., grades, teachers) in teens' sexual intentions (L'Engle, Brown, & Kenneavy, 2006).

The media's role as an influential peer does not have to be harmful. As is done effectively in entertainment-education (E-E) interventions around the world, sexual health messages could be embedded in entertaining television content that attracts adolescent audiences (Singhal & Rogers, 1999). E-E is a strategy that has been used successfully both internationally (e.g., MTV's "Staying Alive" HIV-prevention campaign) and nationally (e.g., BET's "Rap It Up" condom campaign) to embed pro-social sexual health messages in entertaining media content.

Part of the success of such E-E interventions may be that the health message is embedded in a compelling story or narrative. Narrative persuasion theories suggest that

transportation into the story may lower viewers' persuasive defenses against messages that might otherwise seem boring or undesirable (Green & Brock, 2000; Moyer-Guse, 2008; Slater & Rouner, 2002). For instance, the effectiveness of narrative E-E messages may be partially attributed to the notion that the persuasive intent of the message is not obvious to viewers and thus is less likely to invoke reactance against the message (Dal Cin, Zanna, & Fong, 2004; Moyer-Guse, 2008; Slater & Rouner, 2002). When transported into a story a viewer is unlikely to counterargue the persuasive messages embedded in the story (Green & Brock, 2000). The potential of narratives to suppress resistance to persuasion may be particularly important for teens who dislike being told what they should do, especially by adults (Zeman, Klimes-Dougan, Cassano, & Adrian, 2007). A significant contribution of the current study is its examination of *if* and *how* narrative E-E reality television can promote healthier sexual behavior among adolescents in the United States.

The study reported here is innovative in that it was designed to evaluate domestic E-E programming that is the entire storyline of a television program rather than a short one- or two- minute clip or sub-plot embedded in an existing television show. Rather than promoting condom use or providing information about sexually transmitted infections, as most other E-E programs in the United States have, *16 and Pregnant*, focuses exclusively on the possible outcomes (e.g., disappointed parents, thwarted education and career goals, uninvolved boyfriends) of teen pregnancy for real teens. In line with social cognitive theory (SCT) (Bandura, 1986), teen characters may serve as models for viewers demonstrating the consequences of engaging in unprotected sex. Research suggests that reality-based programming attracts and may have stronger effects on young viewers than traditionally scripted television shows (Hall, 2009). Given that reality-based programs are increasingly

prevalent on television and popular with teens, examining the sexual health effects of an E-E documentary-style reality television show is important.

Thus, there are at least three reasons to hypothesize that a narrative E-E message, such as an episode of *16 and Pregnant*, will lead to persuasive effects (e.g., story-consistent attitudes and beliefs) for teen viewers. First, as suggested by SCT, negative behavior is modeled and punished or not rewarded and thus should decrease the desire to imitate. Second, the persuasive intent within the message should be less obvious because the show is perceived as an entertainment message and thus less likely to result in reactance or resistance to the message. Third, the series has been extremely popular with teens, which may indicate that the stories are entertaining and engaging. If teens are engaged in the program they should be less likely to counterargue, and more likely to feel they are personally experiencing the story.

The study reported here addresses two broad research questions: (1) *What* effects does a narrative E-E episode about the negative consequences of teen pregnancy have on teens' attitudes, beliefs, discussions, and intentions to avoid teen pregnancy? (2) *How* does the viewer's knowledge of the show's persuasive intent, transportation, and the suppression of resistance to persuasion contribute to a narrative E-E episode's persuasive effects? An experiment manipulating transportation level and knowledge of persuasive intent with both immediate and two-week delayed posttests was conducted to answer the research questions.

To address the first research question, immediate responses from participants who watched an episode of *16 and Pregnant* were compared with participants who watched an unrelated reality show. To see whether the treatment episode has lasting effects and to

measure whether the show prompted teens to discuss teen pregnancy with others, the dependent variables were measured two weeks after initial viewing as well.

The second research question addresses the underlying mechanisms believed to be operating in narrative E-E persuasion (e.g., reactance, counterarguing, and transportation). To examine the underlying mechanisms of persuasive effects from watching a narrative, transportation was manipulated in two of the experimental conditions. Resistance to persuasion was also manipulated by making the persuasive intent of the message obvious in half of the conditions, which should cue reactance, and counterarguing was measured.

This study contributes to the E-E and narrative persuasion literature in four ways. First, it is one of the first studies to manipulate knowledge of persuasive intent when examining narrative persuasion effects and processing. This is important because one of the key reasons narratives and E-E messages are thought to be especially persuasive is the lack of perceived persuasive intent by the viewer (Dal Cin et al., 2004; Moyer-Guse, 2008; Slater & Rouner, 2002). By manipulating knowledge of persuasive intent, and thus cuing reactance, the study reported here was able to test that foundational assumption of how narrative persuasion occurs.

Second, this study contributes to a small but growing body of literature that attempts to discern the mechanisms underlying narrative persuasion processing (e.g., Appel, & Richter, 2007; Busselle & Bilandzic, 2009; De Graaf, Hoeken, Sanders, & Beentjes, 2009; Green & Brock, 2000; Moyer-Guse & Nabi, 2010). The study reported here was designed to integrate concepts from the three existing theories on narrative persuasion (Transportation Theory, Extended-Elaboration Likelihood Model, and Entertainment Overcoming Resistance

Model), and thereby should enhance our theoretical understanding of how engaging narratives lead to persuasion.

This study is one of the first to examine the relationship between transportation and a number of resistance-to-persuasion variables (e.g., reactance, perceived invulnerability). Previous research has focused primarily on the assumption that transportation reduces counterarguing or has examined the influence of similarity, identification, and parasocial interaction on resistance to persuasion variables. The study also examined the influence of transportation on the promotion of post-viewing discussion and is one of the first to include immediate and delayed posttests, allowing examination of endurance of effects.

Third, this study contributes methodologically by adapting and testing ways to manipulate transportation and measure counterarguing, which have been difficult to manipulate and measure in previous studies (e.g., Busselle, Bilandzic, & Zhou, 2009; Green & Brock, 2000). If successful, these new manipulations and measure could then be used in subsequent research.

Fourth, the practical significance of understanding the helpful or harmful effects of this type of documentary-style reality show is considerable. The series *16 and Pregnant* has been seen by millions of people in the United States and by 2011 further seasons were planned. If beneficial effects are found then sexual health advocates could promote production of more of this type of content and consider how to integrate this type of media into sexual health interventions. If harmful effects are found then sexual health advocates may need to address those effects by working with the show's producers to improve the content.

This dissertation includes five chapters. Chapter 2 provides a detailed examination of the study's conceptual and theoretical framework. It begins by defining E-E and reviewing relevant research on E-E and how E-E effects typically have been explained using SCT. A definition of narrative is then followed by discussions of the Extended-Elaboration Likelihood Model, the Entertainment Overcoming Resistance Model, and Transportation Theory. The chapter concludes with a review of the literature on teens and sexual behavior with an emphasis on the role of the media in influencing teens' sexual attitudes and behaviors. The study's hypotheses are presented at the conclusion of the second chapter. Chapter 3 presents the methods, including participants, procedures, stimulus selection, and measures. Chapter 4 provides study results and Chapter 5 includes a discussion of the results, limitations, and suggestions for future research.

Chapter 2

THEORETICAL FRAMEWORK

Entertainment-Education

Defining Entertainment-Education

Entertainment-education (E-E) is the intentional placement of educational content in entertaining messages (Singhal & Rogers, 2002). E-E is a strategy for how to deliver a message intended to cause social and/or behavioral change. A variety of media, such as radio story dramas, magazine articles, video games, comic books, movies, and television shows (e.g., *16 and Pregnant*), can be used to deliver E-E messages. E-E typically is presented in a narrative format and most E-E interventions have focused on health behaviors, although E-E could be used for other pro-social behaviors (e.g., teaching financial literacy).

The educational component of E-E is the ability to promote socially desirable beliefs, attitudes, behaviors, and even teach skills (Slater, 2002). Singhal and Rogers (1999) defined entertainment as "a performance or spectacle that captures the interest or attention of individuals, giving them pleasure and/or amusement" (p. 10). Entertainment is also a psychological response to media that provide pleasure and enjoyment (Zillmann & Bryant, 1994). According to Zillmann (2000), these psychological responses are affective reactions that viewers find pleasing or useful, which may explain why entertaining media are especially appealing to audiences.

Research on Entertainment-Education

A number of international studies on the effects of E-E on an audience's knowledge, attitudes, and behaviors have been conducted; many fewer studies have been conducted in the United States (Singhal & Rogers, 2002). A weakness of the international evaluations is that most were quasi-experiments or surveys, rather than true experiments, so threats to internal validity were present. A few international studies have used rigorous designs and have documented positive persuasive effects for E-E, however. For example, *Soul City* was a television series that ran in South Africa for years with an ongoing HIV/AIDS prevention and control component. Pre/post panel surveys of adolescents showed that exposure to the program increased HIV/AIDS knowledge, attitudes, and condom use (Peltzer & Promtussananon, 2003).

The media market in the United States is quite different from many international markets, however, such that in the United States, E-E typically is included only as a sub-plot or quick mention rather than as an entire program or series devoted to the issue. A few studies have found, however, that even short E-E sub-plots can influence viewers. For example, an episode of *Friends* that featured an unintended pregnancy story line and mentioned condom effectiveness resulted in increased knowledge of condom effectiveness and increased interpersonal communication with peers among teens who saw the episode as compared with teens who had not (Collins, Elliott, Berry, Kanouse, & Hunter, 2003). This knowledge effect remained significant six months later.

Another study evaluated the effectiveness of embedding brief mentions of sexual health topics in a popular television show. Two separate episodes of *ER* featured brief mentions of emergency contraception (EC) and HPV. Viewers' awareness of EC and HPV

increased dramatically immediately after viewing but declined over time (Kennedy, O'Leary, Beck, Pollard, & Simpson, 2004). A pretest/posttest study that followed viewers of the show *Desperate Housewives* during a season that included a sub-plot about one of the characters having cancer, resulted in knowledge gains, attitude change, and increased talking to peers and family about cancer and cancer prevention (Murphy, Frank, Moran, & Woodley, 2011).

Three laboratory experiments on the effects of E-E on sexual health are relevant to the current study. One study compared young women's reactions to an excerpted love scene from a romance novel that either did or did not feature condom use. Women in the safe sex condition had more positive attitudes and marginally greater intentions to practice safe sex than women whose romance novel excerpt did not mention condoms (Diekman, McDonald, & Gardner, 2000).

A three-condition experiment examined effects of embedded condom use portrayals in popular entertainment television. College students were exposed to a television program that implied sex using condoms, sex with no protection, or a control program that did not contain sexual content (Farrar, 2006). For the female participants only, attitudes favoring condom use were significantly stronger in the safe sex condition than the other two conditions and were significantly weaker in the sex without protection condition than the other two conditions. Behavioral intentions were not significantly different by condition. The Farrar (2006) study demonstrates that even brief references to sexual health embedded in longer entertainment programs can result in healthy effects, whereas unhealthy sexual portrayals can have harmful effects.

Another study compared the effects of narrative E-E versus a non-narrative educational presentation of the consequences of teen pregnancy (Moyer-Guse & Nabi, 2010).

This two-condition experiment assigned college students to either watch a popular teen television drama that included a plot about teen pregnancy or an educational video about teen pregnancy. In an immediate posttest, female participants in the E-E condition reported stronger behavioral intentions to practice safe sex compared to participants in the non-narrative condition. The positive effect, however, dissipated in a delayed posttest two weeks later. For males, the E-E condition appeared to have harmful effects, such that their intentions to practice safe sex actually decreased in the E-E condition and were not affected by the educational condition. The results of Moyer-Guse and Nabi's (2010) study suggest that E-E narratives may have healthy although short-lived effects on females' and harmful effects on males' behavioral intentions.

One study previously has examined the effects of *16 and Pregnant* on adolescents' pregnancy avoidance beliefs and intentions. In 2010, MTV, in partnership with The National Campaign to Prevent Teen and Unplanned Pregnancy (The Campaign), sent Boys & Girls Clubs (BGCs) across America a DVD copy and discussion guide for six previously-aired episodes of season one of *16 and Pregnant*. I was part of the research team commissioned by The Campaign to evaluate the effectiveness of watching and discussing the series in the after-school setting.

The Campaign-commissioned study was a pretest/posttest cluster-randomized control trial by club of 18 Boys & Girls Clubs (BGCs) in North Carolina (nine control, nine intervention) (Ortiz, Scull, Brown, Shafer, Kupersmidt, & Suellentrop, 2010). The study evaluated the E-E intervention that took place over one week with pretests collected at day one, three episodes of *16 and Pregnant* shown over the next three days, and posttests collected at day seven. All intervention conditions included a 30-minute post-viewing

discussion of the episodes led by a BGC staff member. The dependent measures examined the impact of viewing and group discussion on teens' norms, outcome expectations, intentions, and conversations about teen pregnancy.

The teens reported satisfaction and enjoyment in watching and discussing the episodes in the group. Satisfaction and enjoyment were associated with stronger negative expectations about teen pregnancy and parenthood. Males in the intervention group were more likely than males in the control group to report greater susceptibility beliefs about getting a girl pregnant. A majority (82.1%) of the teens who saw and discussed the three episodes in the BGCs talked with someone (friends, 63.1%; parents, 40.5%) after the intervention about the shows or teen pregnancy.

No significant differences were found between control and intervention participants on intentions to avoid teen pregnancy, however. Exposure to the pregnant teens on television may also have increased viewers' beliefs that teen pregnancy is normative in real life. The intervention group teens were less likely than control group teens to believe that most teens do not want to get pregnant. Interestingly, this effect was not found for viewers who reported talking with a friend about the show or teen pregnancy after the intervention.

This pattern of findings suggests that whether teens informally talk with friends after viewing and engaging in a moderated discussion about E-E messages may have a significant impact on message effectiveness. The study reported here does not include a moderated discussion, but did measure whether post-viewing conversations about the show influenced viewers' subsequent attitudes, beliefs, and intentions related to sexual health.

The Campaign-commissioned study was designed to focus on ecological validity by testing the effects of viewing plus discussion led by untrained BGC moderators. Thus, there

are legitimate concerns with the internal validity of the results, since differences in moderator style or quality of the unscripted discussions existed in the intervention groups. The study reported here, however, was designed to assess the effects of watching without organized discussion. It is important to know how simply viewing the show affects teen viewers, since most teens will see the episodes without engaging in a facilitated discussion.

The Campaign-commissioned study results along with the mixed or marginal findings from similar experiments described above (e.g., Diekman et al., 2000; Moyer-Guse & Nabi, 2010) indicate that sexual health attitudes and intentions can be affected by E-E. These effects, however, may be in undesired directions and may differ by the gender of the viewer (e.g., Farrar, 2006; Moyer-Guse & Nabi, 2010). More experimental research is needed to examine the persuasive effects of E-E messages and the mechanisms by which these effects occur. Since many (especially the international studies) have included E-E as one component of a larger intervention, the effects of E-E alone have been difficult to disentangle. Field experiments that did not control for selective exposure leave open the possibility that persuasive effects are due to positive attitudes/behaviors before exposure.

Social Cognitive Theory (SCT)

One theory frequently used to explain the effects of E-E is social cognitive theory (SCT) (Bandura, 1986). SCT suggests that characters can serve as influential peers, modeling positive or negative behaviors that are either rewarded or have negative consequences. For example, in the "Nikkole" episode of *16 and Pregnant* Nikkole is asked, "Did you guys like ever use condoms?" and she replies, "No, he said he was going to like pull out. Not surprisingly, with no protection, I got pregnant." SCT would predict that *16 and Pregnant*, which features teen characters who have had unprotected sex and are now dealing with the

consequences of that behavior, would motivate teens to want to avoid teen pregnancy by not repeating the behavior of teens in the show. This effect is more likely to occur when characters are seen as similar (e.g., in appearance, personality, or background) to the viewer (Bandura, 2001).

SCT assumes that people can learn vicariously from observing others (models). Observers can learn enduring attitudes, beliefs, emotional associations, and behaviors. At its most basic level, SCT predicts that an observer who sees a model rewarded (or not punished) for a behavior will be more likely to imitate that behavior than if the model is punished. Observation does not have to be direct (in-person), and can occur vicariously even by observing the results of behavior engaged in by models in the media.

Four sub-processes govern whether an observer will imitate modeled behavior: (1) Attention, (2) Retention, (3) Production, and (4) Motivation (Bandura, 2001). First, an observer must be paying attention to the modeled message. An observers' mental capacity, values, prior beliefs as well as the salience of the modeled behavior and the attractiveness (e.g., similarity, liking) of the model all can play a role in whether the observer even attends to the message and specific elements in the message. One of the advantages of presenting educational material in an entertaining context is that selective exposure and attentional defensive mechanisms may be less readily evoked because viewers are motivated to attend to something that provides pleasure and enjoyment (Strange, 2002).

Second, the observer has to remember the modeled behavior. A person's mood and prior beliefs can bias retention. E-E messages may be successful in aiding retention because entertaining messages may be especially memorable. People tend to remember vivid, case-based information better than base-rate information (Appel & Richter, 2007).

Third, the observer has to be able to envision or through trial and error be able to see the behavior play out. For example, if a young woman attends to a message about a female condom and remembers it, but then cannot imagine how to use one, the behavior is unlikely to be imitated successfully.

Motivation is the key component to behavior imitation. The observer needs to believe that her ability to do the modeled behavior is likely to result in similar positive outcomes that were shown for the model. In the case of punished behavior, an observer must believe that not doing something will similarly result in avoidance of the modeled punishment. Several factors influence motivation, including prior experience with similar actions, similarity of the model, and self-efficacy. Self-efficacy is an individual's belief that they can do the action to produce the desired result (Bandura, 1997).

Some additional propositions of SCT are that people are more likely to imitate a behavior (or attitude) that is performed or demonstrated compared to one that is merely recommended (Bandura, 2004). This may be an advantage of E-E over purely rhetorical messages that include only recommendations (e.g., doctors recommend taking your vitamins vs. an E-E message where the main character takes her vitamins with positive consequences). The advantage over rhetorical messages may not be realized for a show like *16 and Pregnant*, however, in which the recommended behavior (e.g., using a condom) is only discussed and not depicted. But the modeling of the negative consequences of not engaging in the protective behavior may be better than only talking about potential negative outcomes. SCT applies to learning new behaviors as well as the reinforcement or discouragement of existing attitudes or behaviors.

According to Bandura (2001), risky behavior (e.g., having sex without contraception) is regulated by two types of sources. First, people may refrain from risky behavior because they believe it will result in social censure. E-E messages can be used to alter social sanction beliefs by showing consequences for unhealthy behaviors that previously had been accepted (e.g., the reframing of driving after drinking in the 1980s). Second, people refrain from bad behavior because they think they will feel bad about themselves. E-E messages can cue self-sanctions by showing how a person's own actions cause harmful effects (e.g., a girl letting her boyfriend use withdrawal gets pregnant).

SCT is limited, however, in the ability to account for whether persuasive effects are seen or not. One major criticism of SCT is that it focuses heavily on outcome expectations and self-efficacy as the keys to behavior change and devotes little attention to the importance of attitudes (Slater, 2002). Slater and Rouner (2002) argue that E-E likely has significant effects on the viewer's attitudes and beliefs. Moyer-Guse (2008) suggested that beyond model attractiveness and similarity, whether the viewer identifies with the character and the level of parasocial interaction are important to the persuasion process. Identification occurs when a viewer adopts the perspective of a character and experiences the story from the character's perspective (Cohen, 2001). Parasocial interaction occurs when an audience member feels as if he or she has a social relationship with a character (Giles, 2002).

Perhaps the most important limitation within SCT is its ability to explain the persuasive effects of E-E messages is the absence of consideration of the narrative structure. SCT focuses on how behavioral consequences were modeled, but does not consider the impact of how engaging the E-E story plot and characters are, whether the message spurs interpersonal communication, and how a viewer's beliefs about the persuasive intent of the

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message influence their resistance to persuasion. For example, in the study that demonstrated persuasive effects of a cancer sub-plot, effects were seen only for those viewers who were transported by the E-E narrative (Murphy et al., 2011), but SCT would not account for those differences.

<div align="center">**Narrative Persuasion**</div>

Defining Narrative

A narrative is a story about a protagonist who encounters tragedy and triumph during the pursuit of a goal or the unfolding of an event (Oatley, 2002). Persuasive messages typically are a part of the subtext (more implied than explicit) of a persuasive narrative in contrast to rhetorical persuasion, which typically consists of explicit arguments, claims, or positions. Narratives have a beginning, middle, and end that are governed by a plot and populated with characters (Green & Brock, 2002; Hinyard & Kreuter, 2007). The goals an individual brings to watching entertaining narratives are likely hedonic (e.g., pleasure, distraction) (Zillmann & Bryant, 1994), and the viewer's goals and expectations may influence message processing (Moyer-Guse, 2008). For example, one study found that telling participants the excerpt they were about to read was either from a novel or a news article made a difference in reading times and what type of information participants recalled (Zwaan, 1994).

The tragedies and triumphs experienced by the character(s) are likely to elicit emotional responses from the viewer (Oatley, 2002). Narrative processing can also have cognitive effects, such that viewers might think about the story afterward or during viewing may experience participatory responses (e.g., problem solving for the character by thinking

about alternative actions they could take or things that might happen and how they would deal with them) (Polichak & Gerrig, 2002; Strange, 2002).

Another way of thinking about narrative processing is that viewers are creating mental models, which is a way to construct meaning within the narrative (Busselle & Bilandzic, 2008). Busselle and Bilandzic (2008) draw on a metaphor of a train to describe this process. The story is the train and the viewer is the track builder. As the story progresses the viewer is actively and simultaneously adding tracks, which are pieces of the story world (e.g., character and plot information), in an effort to construct a mental model story world. Thus, experiencing a narrative can be quite involving for the viewer, who may have hedonic goals and experience emotions and cognitions that feel real.

Transportation Theory

Recent scholarship suggests that a key factor in the persuasive outcome of a narrative E-E message is a viewer's transportation into the story (Green & Brock, 2000; Moyer-Guse, 2008; Slater & Rouner, 2002). Transportation Theory posits that an engaging story can transport the reader into the narrative world (Green & Brock, 2002). Transportation occurs when readers are immersed in a narrative, so much so that it feels like they are experiencing that narrative world (they have been transported to it) (Green & Brock, 2000, 2002). According to Transportation Theory, a higher level of transportation into a narrative leads to increased persuasion (story consistent beliefs).

Transportation consists of attention, emotions, and imagery that the viewer focuses on story events (Green & Brock, 2002). When transported, a reader is likely to lose his/her sense of the real world. This loss of the real world can be both physical (e.g., not noticing others in the room) and psychological (e.g., not thinking of real world contradictions with the

narrative) (Green & Brock, 2002). Transportation has been found to be positively associated with character evaluations, enjoyment, and identification (e.g., Green, 2006; Green & Brock, 2000; Green, Brock, & Kaufman, 2004). According to Green and Brock (2002), transportation can be influenced by attributes of the audience member (e.g., propensity for absorption, imagery ability), attributes of the story (e.g., quality of the narrative), and attributes of the context of the narrative (e.g., opportunities for imaginative investment).

Transportation is similar to the concept of involvement since both concepts entail being absorbed in media content. A highly involved viewer is likely to be paying close attention to the show and motivated to elaborate on the content through central processing. Unlike involvement, however, transportation does not necessarily lead to more elaboration during viewing about the people or issues in the media portrayal, but instead leads to a loss of the sense of or connection to the non-media world. As Green and Brock (2002) explain,

> Transportation is considered a convergent process, whereas elaboration might be conceived of as a divergent process. Rather than having a single focus (e.g., the narrative), a person engaged in elaboration might be accessing his or her own opinions, previous knowledge, or other thoughts and experiences in order to evaluate the message at hand. Under high elaboration, connections are established to an individual's other schemas and experiences. In contrast, under high transportation, the individual may be distanced temporarily from current and previous schemas and experiences. (p. 702).

There are three primary ways that transportation is thought to lead to greater persuasion. First, when transported, the narrative may feel like a real experience and this direct experience should lead to stronger and more enduring attitudes related to that experience compared to non-experienced attitudes (Green, Garst, & Brock, 2004). One study provided support that beliefs influenced by a narrative are enduring and even increase over time, but that study did not directly measure transportation (Appel & Richter, 2007). Another study that investigated narrative E-E effects two weeks after exposure did not find an

enduring effect and also did not examine the direct effect of transportation on persuasive over time (Moyer-Guse & Nabi, 2010). The study reported here manipulated and measured transportation, so that its influence in the endurance of persuasive effects can be examined.

When transported a viewer is likely to have both cognitive and affective reactions, similar to those produced when processing real-life experiences, Attitudes with both cognitive and affective foundations are likely to be strong and enduring (Green, 2006). One of the ways transportation enables the narrative experience to feel real is through imagery (Green & Brock, 2002). In experiencing a narrative, transported viewers are imaging the story world, which involves creating mental images. The creation of mental images based in concrete examples is thought to build heuristics that are accessible to the viewer long after the program has ended (Green & Donahue, 2009; Zillmann, 2002). These images are likely to stay with the reader, since images are more memorable than text and are highly accessible (Green & Brock, 2005). When these imagined events are remembered, source-monitoring research suggests that if those memories have qualities similar to real experiences, then they are more likely to be misremembered as real (Green, Garst, & Brock, 2004; Johnson, Hashtroudi, & Lindsay, 1993).

Second, transportation is believed to suppress resistance to persuasion by reducing counterarguing with the narrative message (e.g., Green & Brock, 2000, 2002; Slater & Rouner, 2002). Transportation is likely to reduce counterarguing because cognitive energy that would be used to produce counterarguments is already devoted to experiencing the story world (imaging it and creating mental models) (Busselle & Bilandzic, 2008; Green, 2006). Counterarguing is less likely because narratives usually have implied rather than explicit arguments to rebut. An individual's persuasive defenses are less likely to be cued because

they are not expecting a persuasive appeal (Dal Cin et al., 2004). Transportation is likely to be enjoyable and counterarguing would disrupt that enjoyment, thus a viewer is less inclined to counterargue a transporting narrative (Dal Cin et al., 2004; Green, 2006).

Even if motivated to counterargue, it would be difficult to counterargue narrative content because the experience feels so real. In other words, it is hard to come up with counterarguments against the actual experiences of another person (Dal Cin et al., 2004). This final point is especially relevant to the current study since the *16 and Pregnant* is a documentary-style reality show that portrays real life experiences of teen mothers.

Finally, a transporting narrative should lead to attachment to the characters within the narrative, making attitudes or experiences of the characters more influential (Green, 2004; Green & Brock, 2002). Transportation should increase identification with the narrative character(s) (Green, 2006; Hinyard & Kreuter, 2007; Slater & Rouner, 2002). This identification allows the viewer to take the perspective of the character (subjective recentering), which allows the viewer to gain a new understanding of an issue in the story and can bring the viewer closer to story-consistent attitudes and beliefs (Strange, 2002).

A character with whom a viewer identifies may become an especially persuasive spokesperson endorsing the adoptions of story-consistent attitudes or behaviors (Green, Garst, & Brock, 2004). In the case of the teen pregnancy narrative in the current study, viewers may identify with the pregnant teen character who wishes she had used protection when having sex. The viewer may internalize the lessons the teen in the show learned. Viewers are likely to make emotional connections with the characters with whom they identify, such that if something tragic happens to a character, then a viewer is likely to feel sad. For example, one experiment in which participants watched a crime drama about a

victim of sexual assault demonstrated that transportation predicted greater sympathy toward victims of violent crime or tragedies, even when controlling for pre-exposure sympathy (Busselle et al., 2009).

A number of studies have examined potential moderators of transportation that are relevant to the study reported here. Thus far, most studies have shown that these factors do not moderate transportation into a narrative: gender (Green, 2004), story presentation medium (print versus film) (Green, Kass, Carrey, Herzig, Feeney, & Sabini, 2008), and story source (fact versus fiction) (Green & Brock, 2000). On the other hand, personal experience with the issue and prior character involvement may increase transportation (Green, 2004; Murphy et al., 2011). For example, Green (2004) found that people who read a story about a gay man who attends his fraternity reunion and experienced homophobia among the current fraternity members were more transported if they had prior experience with Greek life or knew someone who is gay. Even controlling for these prior experiences, transportation still predicted adoption of story-consistent beliefs.

The concepts of prior experience with an issue and prior character involvement are important to the current study because participants may have or currently know someone who has experienced an unplanned pregnancy or participants may have seen the *16 and Pregnant* episode used in this study. Thus, prior experience with the issues in the episode and prior episode exposure were measured and controlled for in this study.

Relevant Non-Narrative Theories

There are a number of theories developed outside the realm of narrative persuasion that also shed some light on why narratives may be persuasive. Attitude accessibility theory posits that attitudes are more likely to predict behavior when they are accessible in

association with the appropriate context (e.g., condom use in the heat of the moment versus learning about it in a health class) (Fazio, Powell, & Williams, 1989). Narratives may be especially persuasive because they can show these associations in the appropriate context (e.g., a show with a couple who use a condom when in bed versus a poster on the wall of the doctor's office that advocates using a condom).

Agenda-setting theory provides an insight into the persuasive effects of narratives by highlighting the concept of salience. According to agenda-setting theory, issues we see or hear about in the media are made salient in our minds (McCombs, & Shaw, 1972). Narratives may operate in much the same way, in terms of bringing issues to top of mind (Strange, 2002).

Exemplification theory expands on the saliency concept by further predicting that vivid exemplars (cases) are more memorable than base-rate data (e.g., statistics) (Zillmann, 1999). These exemplars may be highly accessible and influential. Narratives could be seen as exemplars and thus especially powerful and memorable (Green, 2006).

Two recent models of narrative persuasion have been developed that attempt to address the weaknesses in using SCT and other non-narrative theories to explain the power of narratives: the Extended-Elaboration Likelihood Model (E-ELM) and the Entertainment Overcoming Resistance Model (EORM).

Extended-Elaboration Likelihood Model (E-ELM)

Slater & Rouner (2002) developed a model for how the persuasive context within E-E messages are processed and may lead (or not) to attitudes and behaviors consistent with the message. Transportation plays the pivotal role in persuasion. The E-ELM suggests that four factors of a narrative E-E message influence a viewer's level of transportation: (1) story

appeal—is the narrative entertaining to the viewer, is the viewer motivated to watch it? (2) story quality—are the writing, editing, and filming well done and of good quality? (3) obviousness of the persuasive intent—how aware is the viewer that the message is trying to persuade? and (4) character similarity—how similar is the character to the viewer? The study reported here focused primarily on the persuasive influence of the third factor (obviousness of the persuasive intent).

According to the E-ELM, transportation influences the polarity of the response to the content (positive or negative), post-viewing interpersonal communication/discussion, and character identification. Identification is also influenced by perceived similarity with the characters in the story. In the E-ELM, transportation does not directly influence attitudinal or behavioral effects of a message, but rather operates through response polarity, identification, and post-viewing discussion. The study reported here is one of the few that has examined the relationship between transportation, post-viewing discussion, and persuasive effects.

One of the major contributions of the E-ELM is that it suggests that a major factor in narrative E-E effectiveness is the suppression of the viewer's resistance to persuasion. Slater and Rouner (2002) draw from Transportation Theory to explain that transported viewers are less likely to counterargue a message than viewers who are not transported (Green & Brock, 2000). In rhetorical persuasion, counterarguing has been shown to lead to less persuasion. When transported, viewers are so engaged with the story that there is little motivation (or cognitive energy) to engage in arguing against persuasive messages within the story. The current study examined the influence of transportation on counterarguing and the extent to which counterarguing affects persuasion.

Additionally, the E-ELM posits that identification is a partial mediator between transportation and attitude/belief change. Slater and Rouner (2002) defined identification as liking, desirability, and involvement with the character. Building on SCT, when a viewer identifies with a character (or model) the viewer should be more motivated to attend to and adhere to the message. Since the influence of identification on narrative persuasion is not the focus of the current study it was measured, but not manipulated.

A major limitation of the E-ELM is that it has not yet been thoroughly tested. The definition provided for identification also is partially inconsistent with other definitions used in narrative processing and persuasion literature (e.g., Cohen, 2001; Green, 2006; Moyer-Guse, 2008) that define identification as an empathic process of perspective-taking beyond liking. Another possible limitation is that the E-ELM does not address other forms of resistance to persuasion (e.g., perceived invulnerability, normative comparison), which may be important to understanding the effects of narrative E-E messages.

Entertainment Overcoming Resistance Model (EORM)

The EORM was developed after the E-ELM and addresses some of the limitations of the E-ELM by more clearly defining identification and its influence on persuasion and considering how the suppression of other forms of resistance to persuasion plays a role in the persuasion process. Developed by Moyer-Guse (2008), the EORM was specifically designed to explain the persuasive effects of narrative E-E messages. The model is a set of propositions about how the obviousness of a message's persuasive intent and the audience's responses to the narrative (transportation, enjoyment, and character-related identification, parasocial interaction, liking, and similarity) affect seven types of resistance to persuasion, which in turn leads to more story-consistent attitudes and behaviors. The seven types of

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resistance to persuasion included in the EORM are: reactance, counterarguing, selective avoidance, perceived invulnerability, perceived norms (normative comparison), lack of self-efficacy, and incongruent outcome expectations.

Reactance is a when a message is rejected because people have a negative response to feeling that some freedom of theirs is being threatened (e.g., ability to make up their own mind) (Brehm & Brehm, 1981). Psychological reactance, in the context of health messages, occurs when an individual perceives some threat to his/her freedom and then rejects the health message (Dillard & Shen, 2005). The EORM posits that parasocial interaction with a character and character liking will reduce reactance. Relevant to the current study, awareness of persuasive intent or attempts to exert social influence has been found to elicit reactance (Benoit, 1998; Dillard & Shen, 2005; Moyer-Guse, 2008; Petty & Cacioppo, 1979). According to Moyer-Guse (2008), "the narrative structure of E-E messages will overcome reactance by diminishing the viewer's perception that the message is intended to persuade" (p. 415). The study reported here tests that assumption by manipulating the obviousness of the persuasive intent.

Counterarguing occurs when a person generates thoughts that rebut or refute a persuasive statement or position within the narrative (Busselle et al., 2009; Green & Brock, 2000; Moyer-Guse & Nabi, 2010). Cacioppo (1979) operationalized counterarguments as "statements directed against the advocated position that mentioned specific unfavorable consequences, statements of alternative methods, challenges to the validity of arguments in the message, and statements of affect opposing the advocated position" (p. 494). According to the EORM, transportation, identification with the narrative character(s), and parasocial interaction with a character will reduce counterarguing. The study reported here examined

the relationship between transportation and counterarguing, such that increased transportation is predicted to lead to decreased counterarguing.

Selective avoidance occurs when a viewer resists (or avoids) exposure to persuasive content. There are two common reasons why a viewer may selectively avoid persuasive content: inertia and fear (Moyer-Guse, 2008). People may selectively avoid content that they believe will be counter to their existing attitudes, beliefs, or behaviors because of a desire to not create cognitive dissonance (Knowles & Linn, 2004; Moyer-Guse, 2008). Fear of a certain topic or issue (especially relevant to health issues) may cause a viewer to avoid exposure to content about that issue (Moyer-Guse, 2008). The EORM asserts that both identification with narrative characters and enjoyment of a narrative will lead to reductions in selective avoidance (Moyer-Guse, 2008). Selective avoidance was not assessed in the study reported here since participants were randomly assigned to either view the treatment or control narrative.

Perceived invulnerability occurs when a person resists a message about risk reduction by convincing themselves that they are at less risk than other people. The EORM posits that perceived similarity and identification with narrative characters will reduce perceived invulnerability (Moyer-Guse, 2008). For a narrative E-E program that focuses on the negative consequences of teen pregnancy, such as *16 and Pregnant*, perceived invulnerability may be a key form of resistance to persuasion because a viewer may objectively recognize the negative consequences of having sex without protection, but because of perceived invulnerability may not believe these consequences will happen to her. Although the EORM does not predict a relationship between transportation and perceived invulnerability, this relationship was investigated here. Given that transportation should make the narrative feel

more like a personal experience, a viewer's perceptions of invulnerability may be affected because in some ways he or she has just experienced it.

Perceived norms can be a form of resistance to persuasion when a person overestimates the number of people who engage in a risky (or harmful) behavior and believe that it is normative to do the behavior. The EORM predicts that parasocial interaction will change perceived norms (Moyer-Guse, 2008). This is based on the idea that normative beliefs are often associated most strongly with perceptions of what is normative for a person's peers, so that if a narrative character is seen as a peer (via parasocial interaction) the attitudes and actions of that character will influence normative beliefs. Furthermore, when a norm is made more salient through a character's actions it is more likely to be predictive of behavior (Cialdini, Kallagren, & Reno, 1991; Rhodes, Roskos-Ewoldsen, Edison, & Bradford, 2008). Social norms about teen sexual behavior, romantic relationships, and teen pregnancy are likely to be activated by an episode that centers on these issues. Perceived norms may also be a key form of resistance to persuasion relevant to the current study because the Campaign-commissioned study found that normative beliefs about teens' desire to be pregnant increased when adolescents watched and discussed three episodes of *16 and Pregnant*.

Drawing from SCT, the EORM also predicts that viewers who resist a persuasive message within a narrative E-E program may do so because they lack self-efficacy (Moyer-Guse, 2008). Resistance associated with a lack of self-efficacy may be reduced when a character, perceived as similar by the viewer, successfully demonstrates the healthy behavior. Self-efficacy was not assessed here since the narrative E-E does not include a successful

demonstration of the healthy behavior, rather it is a portrayal of the consequences of not engaging in the healthy behavior (e.g., having sexual intercourse without contraception).

Again drawing from SCT, the EORM asserts that viewers will resist a persuasive E-E narrative if their outcome expectations (what they think will or will not happen if they engage in the advocated behavior) are incongruent with the outcome expectations presented in the message (Moyer-Guse, 2008). Perceived similarity and identification with a character who experiences outcomes consistent with the advocated position should decrease incongruent outcome expectations. For example, if a teen perceives herself to be similar to the main character on an episode of *16 and Pregnant* and this character experiences negative outcomes from being a teen mother, then the teen should be less likely to resist the programs' persuasive messages (e.g., believe that teen pregnancy is likely to result in specific negative outcomes).

In the only published article that presents experimental results on the EORM, perceived persuasive intent predicted reactance, which in turn negatively predicted safe sex intentions (Moyer-Guse & Nabi, 2010). The Moyer-Guse and Nabi (2010) study, however, measured rather than manipulated perceived persuasive intent, so it is unclear what unique effect perceived persuasive intent had in processing the narrative. The study reported here manipulated perceived persuasive intent and thus was able to separately analyze its influence on narrative persuasion.

In the EORM study, participants were assigned to one of two conditions: dramatic narrative or non-narrative, both promoting safe sex, and took immediate and delayed posttests (Moyer-Guse & Nabi, 2010). Not all of the EORM propositions held up in empirical testing. For example, the study found that transportation increased counterarguing,

which is contradictory to predictions and findings from other studies (e.g., Green & Brock, 2000).

The increase in counter-arguing may have been a result of the way counterarguing was measured with closed-ended global items such as "While watching the program, I sometimes felt like I wanted to 'argue back' to what was going on onscreen." Moyer-Guse and Nabi (2010) suggested,

> Participants may have counterargued with the underlying persuasive content, the realism of the presentation, or a character's decisions or actions, rather than with the underlying message about teen pregnancy. Moreover, perhaps those viewers who were most transported responded to characters as if they were real people. These highly transported viewers may have ''argued back'' with what unfolded in front of them, thinking that the characters should follow another course of action. (p. 45).

The explanation of "arguing back" is consistent with the idea that when engaged in a narrative people tend to have participatory responses to emotional, difficult, or undesirable events in the narrative, which can manifest as active problem solving for the characters or replotting (imagining how it could have turned out differently) while viewing (Polichak & Gerrig, 2002). Far from being a sign of disengagement with the narrative, participatory responses are indicative of engagement with the narrative. For example, have you ever been watching a horror film and yelled at the screen for the character to run outside instead of up the stairs? Clearly, you were actively engaged in the narrative and attempting to problem solve for the character, but this is not the same as counterarguing persuasive messages within the movie.

Moyer-Guse and Nabi (2010) concluded that future research is needed to test and develop more reliable measures of narrative counterarguing. Green and Brock (2000) also acknowledged that measuring counterarguing with narrative messages is difficult. They

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developed a technique called Pinocchio circling, which has readers circle portions of a narrative that seemed false on a second reading. This technique, however, was developed for written narratives and thus was not practical for use in video-based narratives such as the ones that were used in the current study. In this study the measures were adapted from Moyer-Guse and Nabi (2010), but included references to specific characters within the narrative to assess the positions (e.g., the pregnant teen, the mother of the pregnant teen) to which viewers may have been "arguing back."

Few studies have examined relative (persuasive effects decline more slowly than the control) or absolute (persuasive effects increase over time) sleeper effects for narratives. The EORM study found some support for enduring persuasive effects and possible absolute sleeper effects (comparing immediate and two-week delayed posttests) when certain variables were included in the analysis (Moyer-Guse & Nabi, 2010). For females, although the persuasive effects (measured by safe sex intentions) decreased from immediate to delayed posttest in both the dramatic-narrative and the non-narrative conditions, participants in the non-narrative condition experienced a significantly sharper decline in safe-sex intentions over time. A sleeper effect was found for identification, which did not significantly contribute to the model of safe sex intentions at immediate posttest, but was significant at delayed posttest.

Moyer-Guse and Nabi (2010) suggest that initial discounting of the persuasive content because it was "merely a fictional drama" dissipated over time so the "powerful vicarious experience remained" (p. 46). The explanation for a sleeper effect for narratives as due to source memory decay aligns with Appel and Richter's (2007) explanation for the

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overall sleeper effect found in their study, which measured immediate and two-week delayed belief change after reading a story that deliberately contained false assertions.

Since transportation is a cognitive and emotionally involving experience, memory of that experience is likely to be enduring, even when dissociated from the source (Green & Brock, 2002). For example, Marsh, Meade, and Roediger (2003) found that participants' knowledge of facts within a story increased during a one-week delay and participants were likely to misattribute when they learned the facts, believing that they already knew the facts prior to story exposure (even misinformation planted within the story). Overall, even though there are not many studies that have explored a sleeper effect in narrative persuasion, evidence thus far indicates that it is likely that exposure to a narrative can have enduring effects (relative sleeper effect) and maybe even stronger effects later (absolute sleeper effect).

In sum, the EORM aids in our understanding of how E-E messages might be persuasive by including other forms of resistance to persuasion in the model than were included in the E-ELM and highlighting the role of identification and parasocial interaction. Some limitations of the EORM are that it is largely untested and that it is difficult to test. A narrative E-E program is unlikely to contain all the elements included in the model (e.g., may not address self-efficacy), so the model is unlikely to be tested as a whole model, but rather by proposition subsets. The EORM also does not account for how the independent variables (e.g., identification, transportation) might affect each other. The EORM suggests that character identification and parasocial interaction affect a number of the resistance factors but that transportation only influences counterarguing. The study reported here was designed to investigate this assumption by testing the effect of transportation on other resistance

factors (i.e., reactance, perceived invulnerability, perceived norms, and outcome expectations). Other research (e.g., Green & Brock, 2000, 2002; Busselle & Bilandzic, 2008; Slater & Rouner, 2002) has laid the foundation for this investigation by suggesting that transportation may be a powerful and predictive mediator in the relationship between story exposure and persuasion.

Summary

Based on Transportation Theory, which posits that engagement with a narrative increases the narrative's persuasive effects (e.g., story consistent attitudes, beliefs, and behaviors) (Green & Brock, 2000), and the EORM (Moyer-Guse & Nabi, 2010) the current study was designed to explore the role of transportation in suppressing five types of resistance to persuasion (reactance, counterarguing, perceived invulnerability, perceived norms, and outcome expectations), whereas previously only counterarguing has been tested in a transportation study. Two of the predictions from E-ELM were tested: (1) whether making the narrative's persuasive intent obvious hindered transportation and (2) whether transportation promoted post-viewing discussion about the narrative and its subject matter (Slater & Rouner, 2002). The study also investigated these issues in a practical context by examining the overall effectiveness of a narrative E-E reality television show in promoting attitudes, beliefs, and intentions consistent with avoiding teen pregnancy.

<h3 align="center">Media, Teens, and Sex</h3>

Media Characters as Sexual Super Peers

The media saturate teens' lives. Teens spend more time every day using various forms of media, including television and the Internet, than any other activity with the exception of sleeping (Rideout, 2010). The average teenager watches more than 30 hours of

television in a week; viewing trends indicate this amount is likely to continue to increase (Rideout, 2010).

Studies show that a significant portion (~11%) of the television content teens watch includes sexual content (e.g., Collins et al., 2004; Pardun, L'Engle, & Brown, 2005). The amount of sexual media content teens are exposed to (or, more accurately, choose to consume) has been called their sexual media diets (Brown, et al., 2006). The majority of this sexual content would not be considered healthy sexual information. For example, one content analysis of the sexual content in television shows watched by adolescents found that only 2% could be defined as healthy (e.g., promoted contraception use or abstinence) (Pardun et al., 2005). The television teens watch is likely to include sexual content that portrays sex that occurs outside of committed relationships, lacks any reference to health-related planning or consequences (e.g., sexually transmitted disease, pregnancy, contraception), and depicts women as sexual objects and men as obsessed with sex (Hust et al., 2008; Ward, 2003).

Considering the number of hours teens are exposed to media, the documented levels and kind of sexual content in their media, it is important to consider what role the media may play as a sexual socialization agent in teens' lives. Sexual socialization is the process through which people attain their knowledge, attitudes, and values related to sexuality (e.g., reproductive knowledge, relationship expectations, sexual risk-taking beliefs) (Ward, 2003). Sexual socialization typically occurs during adolescence (Simmons & Blyth, 1987) and emerging adulthood (late adolescence), the developmental periods of physical and emotional transition from childhood to adulthood (Arnett, 2006; McClure, 2000).

Emerging adulthood is a developmental period describing people aged 18 to 25 years old (Arnett, 2000). Most individuals have had sex by the early years of emerging adulthood

"when adult roles and relationships are being established. It is a time of great transition, when many individuals develop important romantic attachments" (Kaestle & Halpern, 2007, p. 134). Older teens (18 and 19 years old) were the focus of the current study because this age group has the highest rates of unplanned pregnancy relative to any other age group (Finer & Henshaw, 2006). A study by The Campaign found that only 40% of sexually active 18 and 19 year-olds who were not trying to conceive reported consistent use of contraception (Kaye, Suellentrop, & Sloup, 2009). Since teen pregnancy requires sexual contact between a male and a female, sexual orientation was measured and examined for its potential role as a control variable.

Sexual socialization through the media occurs as teens turn to sexual content in media as a source of information about a range of issues related to sexuality (e.g., questions about puberty, how to act if you have on sexual feelings, what is "normal" sexual behavior?) (Brown, Halpern, & L'Engle, 2005; Ward, 2003). In essence, media can serve as a kind of sexual super peer for teens by providing sexual role models, normative information, and cultural expectations similar to the role real-world friends play in a teen's life.

Unlike substance abuse and other risky behaviors teens may engage in, the unhealthy (or risky) part of sexual initiation is mostly a function of age, such that later in life it is expected (even encouraged) that young people will have sex (Halpern, 2010). Thus, it is important to distinguish between the potentially healthy role that media could play in fostering moral and social development related to sexual behavior (e.g., importance of practicing safe sex) and socialization that may result in harmful effects (e.g., perpetuation of gender stereotypes, sexual initiation too young, lack of consideration of physical or emotional consequences of sexual behavior).

Compared to women who have children at 20 or 21 years old, teen mothers are less likely to graduate high school, more likely to be single mothers, and more likely to live in poverty (Hoffman, 2006). Teen fathers have a lower high school graduation rate than boys their age who are not fathers. Children of teen parents are more likely to be born at a low birth weight (which is known to be associated with health problems later in life), live in poverty, and enter the child welfare system. Daughters of teen mothers are more likely to become teen mothers and sons of teen mothers are more likely to be incarcerated when they are adults (Hoffman, 2006).

Community College Students and Teen Pregnancy

The study reported here focused on 18-19 year-old community college students. Community college students are preferred participants because they are an especially high-risk group for unplanned pregnancy. Teenagers who attend community college are about 46% of all undergraduates nationally. They are twice as likely to report becoming unintentionally pregnant and less likely to be consistently using contraception compared to their four-year college counterparts (American College Health Association, 2008). It is estimated that three-fourths of the 5% increase in teen pregnancy that occurred between 2005 and 2007 in the United States was driven by teen pregnancy in teens aged 18-19 years old (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2009). Female community college students who have children after enrollment fail to finish their degree 61% of the time, which is 65% higher than the rate of women who do not have children and fail to finish community college (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2011b). Students enrolled in community colleges are 2.4 times more likely to be single parents compared to their four-year student counterparts (Horn & Nevill, 2006).

Community college students also are less likely to receive information about pregnancy prevention from their school than students attending a university (Centers for Disease Control and Prevention, 1997), which may lead community college students to rely more on media sources for sexual health information.

Research on Behavioral Effects of Sexual Media

Little scholarly attention has examined the relationship between exposure to television that includes healthy sexual content and sexual behavior. In one of the few studies (Collins et al., 2004), healthy sexual content was defined as depictions of the negative consequences of risky sexual behavior or content that emphasized the need for sexual safety (e.g., using birth control or remaining abstinent). The Collins et al. (2004) study concluded that, at least among African-American teens, those who saw more healthy sexual content on television were less likely to initiate sex than those who saw less healthy sexual content. Such an effect may have also been present for teens of other races, but because healthy sexual content is so rare the power of the statistical tests was restricted (which makes the fact that they found any significant effect for healthy sexual media exposure all the more encouraging). Collins et al. (2004) concluded that more research on the impact of exposure to healthy sexual content in television is needed. The current study took up this call to consider the effects of healthy sexual content on teens.

Most research attention on the issue of behavioral effects of sexual media has focused on the potentially harmful rather than healthy effects of sexual content in the media. A handful of methodologically rigorous longitudinal studies have investigated the effects of sexual media content on adolescents' sexual behaviors (e.g., Bleakley, Hennessy, Fishbein, & Jordan, 2008; Brown et al., 2006, Collins et al., 2004). These studies have found support

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for the basic hypothesis that exposure to sexual media affects teens' sexual behavior (and beliefs), even after controlling for likely confounds such as parental education, parental monitoring, sensation-seeking, and school performance (Wright, 2011).

To date, only one longitudinal study has examined the relationship between exposure to sexual media content and teen pregnancy (Chandra, et al., 2008). In that study a nationally representative sample of adolescents' sexual television diets were assessed at baseline and then correlated with pregnancy histories three years later. Teens in the 90th percentile of sexualized television exposure at baseline were twice as likely to have experienced teen pregnancy in the intervening three years than teens in the 10th percentile of exposure, even after controlling for likely covariates. Although not specifically focusing on teen pregnancy, a cross-sectional study found an association between watching professional wrestling and lower rates of birth control use (DuRant, Neiberg, Champion, Rhodes, & Wolfson, 2008).

Exposure to media high in sexual content has also been linked to earlier initiation of sex for adolescents. The Teen Media project, for example, a two-year longitudinal study, found that 12- to 14-year-old white adolescents whose sexual media diets (television, music, movies, and magazines) were in the top 20% were 2.2 times more likely to have had sexual intercourse by the time they were 16 years old, than white teens in the bottom 20% of sexual media exposure (Brown et al., 2006). In a large national longitudinal study focusing exclusively on exposure to sexual content on television, Collins et al. (2004) found that adolescents who were exposed to high levels of sexual content (90th percentile of exposure) were twice as likely as adolescents who watched little sexual content on television (10th percentile) to initiate sex within a year of the baseline survey.

The relationship between exposure to sexualized media and sexual behavior may be best characterized as one of reciprocal causation. One three-wave study of adolescents found that those adolescents who were sexually active (pre-coital or coital) at baseline were more likely to have heavier sexual media diets (television, music, magazines, and video games) in subsequent waves of the survey. Such consumption of sexualized media subsequently increased the probability that adolescents progressed in their level of sexual activity within the following year (Bleakley et al., 2008).

Intervening Variables between Media Exposure and Sexual Effects

Studies have also examined the effects of exposure to sexual media content on psychological variables seen as precursors to sexual behavior, such as attitudes, norms, self-efficacy, and expectations about sex.

Attitudes. A comprehensive review of 25 studies (correlational surveys and experiments) concluded that exposure to sexual media is likely to influence sexual attitudes (Ward, 2003). Some studies, for instance, have found that teens who watch more prime-time television shows with sexual content are more likely than teens who view less frequently to think sex is primarily recreational rather than part of a relationship or for procreation (Ward & Friedman, 2006). Early studies found that frequent television viewers reported more negative attitudes about remaining a virgin than infrequent viewers (Baran, 1976), although at least one longitudinal study did not find that teens' attitudes toward having sex are related to their sexual media diets (Bleakley et al., 2008). The current study specifically examined teens' attitudes about contraception, getting pregnant, and being a teen parent as possible outcomes of seeing a program depicting teen pregnancy.

Norms. Some studies have found that teens' beliefs about normative pressure to have sex are stronger for teens with heavier sexual media diets (Bleakley et al., 2008). A cross-sectional study of television viewers found that heavy viewers tended to overestimate the proportion of youth who are sexually active and/or pregnant (Davis & Mares, 1998). Through structural equation modeling another study found that heavier sexual television diets were marginally predictive ($p > .05$ and $< .10$) of normative beliefs about sex (e.g., heavy viewers believed more of their friends were having sex), which in turn predicted sexual initiation (Martino et al., 2005).

Self-efficacy. One of the longitudinal studies did find that self-efficacy for practicing safe sex was greater among teens with heavier sexual media diets compared to teens with lower exposure to sexual media content and teens with greater safe-sex self-efficacy were more likely to have had sexual intercourse (Martino et al., 2005). This is a surprising finding given the rarity of portrayals about safe sex and contraception in the media. In a different longitudinal study, self-efficacy to have sex was also stronger for teens with heavier sexual media diets compared to teens with lighter sexual media diets (Bleakley et al., 2008).

Outcome expectations. Martino et al. (2005) also found a marginally significant ($p > .05$ and $< .10$) relationship between heavier sexual media diets and lower negative outcome expectations about having sex, which in turn predicted greater sexual initiation in a structural equation model analysis. Another longitudinal study found that teens with heavier sexual television diets were more likely to have positive outcome expectations about sex (e.g., feel more grown up, would prevent breakup with partner) and less likely to have negative outcome expectations (e.g., get a bad reputation, get pregnant) than teens with less exposure to televised sexual media content (Fisher, Hill, Grube, Bersamin, Walker, & Grube, 2009). In

an experiment, outcome expectations about sexual intercourse were found to align with manipulations of reward versus punishment in portrayals of the consequences of having sex (Eyal & Kunkel, 2008).

Summary

Content analyses consistently have found that teens are consuming media (e.g., television, music, magazines) content that rarely includes sexual health messages. Cross-sectional and longitudinal surveys as well as a few experiments have also found that exposure to media high in sexual content has short- and long-tem effects (e.g., unrealistic perceived norms, unhealthy beliefs and attitudes about sex, earlier initiation of pre-coital sexual acts, earlier initiation of sex, and greater likelihood of teen pregnancy). Less is known about the mechanisms that underlie these effects. Studies suggest that perceived norms, self-efficacy, and outcome expectations moderate and/or mediate the effect of sexual media content on teens' sexual behavior.

The studies that have examined possible moderators and mediators of the relationship between sexual media content and sexual behavior have focused almost exclusively on teens' exposure to unhealthy sexual media content or have failed to distinguish between healthy versus unhealthy exposure. Thus, the need for research focused on the effects of exposure to potentially healthy sexual media content is clear.

Hypotheses

The effects of an entertaining television program that contains healthy sexual content (e.g., portrayal of the negative consequences of unprotected sex) on teens' beliefs, attitudes, intentions, and post-viewing interpersonal discussions associated with teen pregnancy were examined in this study. Drawing from theories of narrative persuasion (Transportation

Theory, E-ELM, and EORM) the study also investigated the mechanisms that underlie the effects of exposure to a narrative E-E reality television show.

A 2 (persuasive intent (PI) made obvious/ no PI manipulation) X 3 (low transportation/ natural transportation/ control episode) between-subjects experimental design was used to test the following hypotheses. Participants in the treatment conditions (low-transportation and natural-transportation) watched an episode of *16 and Pregnant*. Control group participants watched an unrelated MTV documentary-style reality episode. All participants completed an immediate posttest and were asked to complete a two-week delayed posttest. See Table 1 for a visual representation of the study design. See Appendix A for a summary of the hypotheses and findings.

Research Question 1: *What* effects does a narrative E-E episode about the negative consequences of teen pregnancy and transportation during viewing have on teens' beliefs (perceived invulnerability, perceived norms, positive and negative outcome expectations), attitudes, intentions, and post-viewing interpersonal discussions about avoiding teen pregnancy?

Effects on Invulnerability, Norms, Expectations

Studies have shown mild support for the assertion that perceived invulnerability may be decreased and remain stable over time when exposed to a program that shows teens experiencing negative consequences of having unprotected sex (Moyer-Guse & Nabi, 2010; Ortiz et al., 2010). This is perhaps because the teen characters on the show say that they too thought they were invulnerable to unplanned pregnancy and thus serve as counterfactuals to the myth of invulnerability. When transported into the narrative teens' perceived

invulnerability should be decreased because the experience feels real and as if they lived through and felt vulnerable to the same consequences of unprotected sex.

Hypothesis 1a: Viewers of the treatment narrative will have a lower perceived invulnerability to teen pregnancy than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have lower perceived invulnerability than viewers in the low-transportation condition.

Hypothesis 1b: The predicted effects of H1a will remain stable at the delayed posttest.

The Campaign-commissioned study of *16 and Pregnant* indicated that exposure may have increased teen viewers' normative beliefs about other teens' desires to get pregnant (Ortiz et al., 2010). This effect was lessened if teens engaged in interpersonal discussions about the show or teen pregnancy in the two weeks post-exposure. Perhaps discussions with friends may have erased the immediate effect on norms when friends expressed that they did not have a desire to be a teen parent. Exposure to a reality show about teen parents, especially when the viewer is transported by the show, is likely to increase perceived norms about teen pregnancy because it is a vivid exemplar of teen pregnancy which may activate social norms about how common teen pregnancy is and beliefs about what their peers think teens should do to avoid teen pregnancy. This is consistent with the findings from other studies that found normative beliefs about the frequency of teen sexual activity and pregnancy were greater for adolescents with heavy sexual television diets (Bleakley et al., 2008; Davis & Mares, 1998; Martino et al., 2005). Unlike other predictions in the current study where transportation should suppress resistance to persuasion, in this instance being

transported into the narrative world may increase perceived norms about the prevalence of teen sexual activity, lack of contraceptive use, and teen pregnancy since that is what was experienced in the narrative world.

Hypothesis 2a: Viewers of the treatment narrative will believe it is more normative for teens to have sex, not use contraception, and become pregnant than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have higher perceived norms than viewers in the low-transportation condition.

Hypothesis 2b: At delayed posttest, if viewers talked with a friend about the treatment show and/or teen pregnancy then the normative effects on teen pregnancy risk factors predicted in H2a will no longer be present.

Research has generally found that unhealthy sexual media content influences positive and negative outcome expectations related to sexual health (e.g., Eyal & Kunkel, 2008; Fisher et al., 2009; Martino et al., 2005). SCT and EORM both support the idea that outcome expectations will be influenced by an E-E program that shows characters experiencing relevant outcomes. The Campaign's evaluation, however, found little to no effect of exposure to *16 and Pregnant* along with facilitated discussion on immediate outcome expectations (Ortiz et al., 2010). Since The Campaign study involved watching and participating in a moderated discussion, it is possible that something said in the moderated discussions interfered with any effects on outcome beliefs. It is also possible that the show had little to no effect on outcome beliefs. The Campaign study did not examine whether transportation into the narrative may affect outcome expectancies. Transportation into a narrative world that highlights the negative outcomes of teen pregnancy/parenthood and debunks the positive

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outcomes expectations should have an increased effect on relevant outcome beliefs since, as a part of the narrative world, transported viewers just experienced those outcomes. Narratives may create memorable images and Transportation Theory suggests that the images in transporting narratives are likely to be highly accessible (Green & Brock, 2005; Green & Donohue, 2009).

Hypothesis 3a: Viewers of the treatment narrative will have less positive outcome expectations related to teen pregnancy/parenthood than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have less positive outcome expectations than viewers in the low-transportation condition.

Hypothesis 3b: The predicted effects of H3a will remain stable at the delayed posttest.

Hypothesis 4a: Viewers of the treatment narrative will have more negative outcome expectations related to teen pregnancy/parenthood than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have more negative outcome expectations than viewers in the low-transportation condition.

Hypothesis 4b: The predicted effects of H4a will remain stable at the delayed posttest.

Effects on Attitudes, Intentions, and Post-viewing Discussion

Based on research that has examined the effects of sexual health E-E programs it seems reasonable to expect that exposure will affect attitudes as well as generate interpersonal discussions (Collins et al., 2003; Murphy et al., 2011; Peltzer &

Promtussananon, 2003). Since attitudinal effects have been found primarily females in previous studies (Diekman et al., 2000; Farrar, 2006), gender differences were also examined. One study found a sleeper effect for attitudes after exposure to a narrative message, thus it is possible that positive attitudes may increase from immediate to delayed posttest (Appel & Richter, 2007). When transported into the narrative, viewers should hold more story-consistent attitudes and as suggested by Transportation Theory these effects should remain stable over time.

Hypothesis 5a: Viewers of the treatment narrative will have more positive attitudes about avoiding sex, using contraception, avoiding pregnancy/parenthood, abortion, and adoption than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have more positive attitudes than viewers in the low-transportation condition.

Hypothesis 5b: The predicted effects of H5a will remain stable at the delayed posttest.

Studies on sexual health E-E program effects have shown little or no effect on behavioral intentions to practice safe sex (or refrain from sex) (Diekman et al., 2000; Farrar, 2006; Ortiz et al., 2010). One study found that a dramatic narrative increased female participants' intentions to practice safe sex, but decreased male participants' safe sex intentions (Moyer-Guse & Nabi, 2010). The episode of *16 and Pregnant* used in this study does include one scene where the teen and her friends discuss how the couple's lack of contraceptive use resulted in pregnancy; however, the show primarily focuses on the consequences of the decision not to use contraception rather than the decision itself. Thus, for study participants in the treatment condition minor effects on intentions to use contraception

and perhaps stronger effects on the more global intention to avoid teen pregnancy that decrease over time are predicted. Both E-ELM and EORM predict that transportation will affect story-consistent behaviors. Although sexual behavior is not measured in the current study it is hypothesized that transportation will affect behavioral intentions. Based on a prior study that found intentions supporting teen pregnancy prevention diminished in a two-week delayed posttest (Moyer-Guse & Nabi, 2010), effects on intentions are not expected to remain stable over time.

Hypothesis 6a: Viewers of the treatment narrative will have more positive intentions to avoid sex, use contraception, avoid pregnancy/parenthood, abortion, and adoption than viewers in the control group at immediate posttest. This effect will likely be greatest on intentions to avoid pregnancy/parenthood. Within the treatment conditions, viewers in the natural-transportation condition will have more positive intentions than viewers in the low-transportation condition.

Hypothesis 6b: The predicted effects of H6a will have diminished at the delayed posttest.

Interpersonal communication can also be an important outcome of exposure to health messages (Southwell & Yzer, 2007). As previously discussed, at least one study has documented the ability of transporting narratives to spur interpersonal discussions about health issues within the narrative (Murphy et al., 2011). E-ELM also predicts that increased transportation will lead to increased peer discussion (Slater & Rouner, 2002). Thus, it was predicted that at the two-week delayed posttest interpersonal discussions (especially with peers) will have been affected by narrative exposure and transportation.

Hypothesis 7: Viewers of the treatment narrative will engage in more interpersonal discussions about the show and teen pregnancy/parenthood in the two-weeks post-exposure than the control group. Within the treatment conditions, viewers in the natural-transportation condition will engage in more interpersonal discussions than viewers in the low-transportation condition.

Research Question 2: *How* does obviousness of the persuasive intent, transportation, and the suppression of resistance to persuasion contribute to a narrative E-E episode's persuasive effects?

Relationship between Obviousness of Persuasive Intent, Reactance, and Transportation

One of the features of E-E that is theorized to contribute to its persuasive effects is that the message is not interpreted by audience members as intending to persuade them because it is primarily seen as entertaining, so a viewer does not experience reactance and reject the message (Moyer-Guse, 2008). Similarly, narratives may be less obvious in their persuasive intent and also less likely to arouse a viewer's persuasive defenses (Dal Cin et al., 2004). The E-ELM suggests that the obviousness of an E-E narrative's persuasive intent can influence the viewers' transportation into that narrative, such that viewers would be less transported by messages seen as intending to persuade them (Slater & Rouner, 2002).

Hypothesis 8: When persuasive intent is made obvious, viewers of treatment and control narratives will be less transported than viewers for whom persuasive intent is not made obvious.

Hypothesis 9: When persuasive intent is made obvious, viewers of treatment and control narratives will report more reactance to the narrative than viewers for whom persuasive intent is not made obvious.

One of the study manipulations decreases the level of transportation into the treatment narrative. Based on E-ELM and EORM, we would expect that making the persuasive intent obvious should diminish the persuasive effects of the message (Moyer-Guse, 2008; Slater & Rouner, 2002). This may not be the case; however, when considering the experience of transportation. Since the narrative episode used in the current study is 42 minutes long initial reactance may be overcome if the viewer is highly transported. Thus, we might expect to see obviousness of persuasive intent diminish persuasive effects in most conditions, but to a lesser extent in the natural-transportation condition compared to the low-transportation condition.

Hypothesis 10: When persuasive intent is made obvious, viewers of the treatment narrative in the natural-transportation condition will report less reactance than when persuasive intent is made obvious for viewers in the low-transportation condition.

Relationship between Counterarguing and Transportation

Transportation and counterarguing should have an inverse relationship (Green & Brock, 2002), although one study found transportation increased counterarguing (Moyer-Guse & Nabi, 2010). That study may have suffered from counterargument measurement issues and also did not manipulate transportation, thus this relationship should be further explored with additional measures and manipulation.

Hypothesis 11: Viewers in the low-transportation condition should engage in more counterarguing with the treatment narrative than viewers in the natural-transportation condition.

Mediation Models

The EORM predicts a relationship between identification or parasocial interaction and perceived invulnerability, perceived norms, and outcome expectations (Moyer-Guse, 2008). The current study was designed to test the possibility that transportation has an influence on resistance to persuasion beliefs as well. When a viewer is transported the story feels like a real experience and should result in beliefs more consistent with the story world than when the viewer is not transported (Green & Brock, 2000). When transported, viewers lose themselves in the story world and become immersed in that reality, which can impact real world perceptions and beliefs (Green & Brock, 2002). Beliefs may be affected by transportation because the viewer now has a vivid exemplar of a teen experiencing teen pregnancy. If the viewer's beliefs align with the story world presented in *16 and Pregnant*, we would expect lower perceived invulnerability (believe they are more susceptible to teen pregnancy), increased perceived norms (believe teen pregnancy is more normal/frequent), and fewer positive and more negative outcome expectations. Apart from prior beliefs, reactions to a narrative (reactance and counterarguing) can also be forms of resistance to persuasion. EORM also predicts that counterarguing will mediate the relationship between transportation and attitudinal/behavioral effects. The possibility that reactance may also be a mediator between transportation and persuasion was tested.

Hypothesis 12: Resistance to persuasion in the form of reacting to the narrative (reactance, counterarguing) will mediate the relationship between transportation and a narrative E-E's persuasive effects (attitudes and intentions). In this meditational model, transportation will be negatively related to reactance and

counterarguing; in turn these resistance variables will be negatively related to attitudes and intentions about avoiding teen pregnancy/parenthood. See Figure 1 for a visual representation of the predicted mediation model.

Hypothesis 13: Resistance to persuasion in the form of beliefs about the health issue (perceived invulnerability, perceived norms, positive and negative outcome expectations) will mediate the relationship between transportation and a narrative E-E's persuasive effects (attitudes and intentions). In this meditational model, transportation will be negatively related to invulnerability and positive expectations and positively related to norms and negative expectations. Invulnerability, positive expectations, and norms will be negatively related to healthy attitudes and intentions, whereas negative expectations will be positively related to attitudes and intentions. See Figure 1 for a visual representation of the predicted mediation models.

The final hypothesis is predicted by E-ELM, but has not been empirically tested. Transportation should positively influence the amount of post-viewing discussion, which in turn should increase story-consistent attitudes, beliefs, and intentions (Slater & Rouner, 2002).

Hypothesis 14: Viewers who are more transported into the treatment narrative will engage in more relevant post-viewing discussions than viewers who are less transported. Relevant discussion will in turn lead to more positive attitudes and intentions about avoiding teen pregnancy/parenthood.

Chapter 3

METHODS

A 2 (persuasive intent (PI) made obvious/ no PI manipulation) X 3 (low

transportation/ natural transportation/ control message) between-subjects experiment was

conducted with older teen community college students. Participants ($n = 83$) in the treatment

conditions watched an episode of *16 and Pregnant* in a computer lab on their community

college campus. Control group participants ($n = 42$) watched an unrelated MTV

documentary-style reality episode. Participants completed an immediate posttest and another

posttest online two weeks after the initial exposure. Total participation lasted about 1.5 hours.

See Table 1 for a visual representation of the study design.

Participants

All of the 125 participants were 18 or 19 years old. Participants were recruited from

12 community colleges in North Carolina. Eighteen community colleges within driving

distance were contacted. The six colleges that declined participation were unable to provide

the necessary access to a computer lab. Within each community college, participants were

randomly assigned to a condition such that any person (regardless of community college) had

an equal chance of being assigned to one of the six experimental conditions.

Participants were recruited through fliers posted around campus advertising the study,

a recruitment email sent by the individual community colleges via a campus listserv, and in-

person solicitation about a week in advance or on the day of the study. Screening questions

asked whether potential participants were students at one of the community colleges and

were either 18 or 19 years old. Participants were told that the study would involve watching a television show popular with young adults and answering questions about their viewing experience and related opinions.

Nearly equal numbers of females ($n = 63$; 50.4%) and males ($n = 61$; 48.8%) participated in the study with one person choosing not to identify their gender. More 19 year-olds ($n = 73$; 58.4%) than 18 year-olds ($n = 52$; 41.6%) completed the viewing and immediate posttest. The sample was racially diverse with 46.4% ($n = 58$) of participants identifying themselves as White/Caucasian, 27.2% ($n = 34$) as Black/African American, 9.6% ($n = 12$) as mixed race, 7.2% ($n = 9$) as Asian, 3.2% ($n = 4$) as Hispanic/Latino, 1.6% ($n = 2$) as American Indian, and 2.4% ($n = 3$) as other with three people choosing not to report their race/ethnicity. Of all the participants 67.2% ($n = 84$) had had sexual intercourse (non-virgins). Of those who were not virgins, 63.1% ($n = 53$) reported having had sex without using any form of birth control at least once and 25% ($n = 21$) said that they had had sex without birth control in half or more of their sexual encounters. Of all the participants, 9.6% ($n = 12$) reported being sexually attracted to people of their same gender. Eleven (8.8%) participants had experienced a pregnancy (or gotten someone pregnant).

Chi-square analyses revealed no significant difference for condition by gender, age, race, virginity status, birth control use, sexual orientation, or prior pregnancy. Of the treatment condition participants, 66.3% ($n = 55$) had seen the treatment episode before compared to 47.6% ($n = 20$) of control group participants who had seen the control episode before.

Community colleges were offered $100 as a facility use fee in gratitude for their willingness to provide a computer lab to conduct the study. Student participants received $10

cash after the immediate posttest and were offered the chance to win a $20 gift card once they complete the delayed posttest. Slightly fewer than half (46.4%, $n = 58$) of the initial 125 participants completed the two-week delayed posttest. A series of chi-squares were conducted to assess attrition. No significant differences were found between participants who completed the two-week delayed posttest and those who did not by condition, $\chi^2(5, n = 125) = 4.1, p > .05$; age, $\chi^2(1, n = 125) = 3.8, p > .05$; or race (White, Black, mixed/other), $\chi^2(2, n = 122) = 3.51, p < .05$. Significant differences were found by gender ($\chi^2 [1, n = 124] = 9.5, p < .05$) and virginity status ($\chi^2 [1, n = 122] = 10.0, p < .05$), such that females and participants who were virgins were more likely to respond to the delayed posttest than males and participants who were not virgins. To minimize the impact of attrition differences, gender and virginity status were controlled for in all analyses that included delayed posttest data.

Procedure

All procedures and study materials were approved by the University of North Carolina's Institutional Review Board (Study # 11-0132). Once students arrived to participate in the study they were asked to sit at a computer that had been preloaded with the study materials, but not to begin until instructed to do so by the study proctor. Once seated all participants were thanked for their time, given a brief overview of the study, told how much time it would take, and were provided the opportunity to ask any questions. After the study introduction, participants were instructed to click on a link to answer a few initial questions before viewing the show, which included informed consent (see Appendix C), age, college name, and year in school.

If a participant was not in one of the manipulation conditions he or she then watched the stimulus episode appropriate to their condition. If in a transportation manipulation

condition, participants read manipulation instructions before beginning. If in a persuasive

intent (PI) manipulation condition, participants saw the PI message before viewing began. If

in both a transportation and PI manipulation condition, participants first received the PI

message and then the transportation manipulation instructions before viewing the episode.

All participants watched their assigned episode on their individual computer screen using

headphones.

After viewing the episode, participants were instructed to proceed to fill out a

questionnaire, which included the intervening, dependent, and control measures (see

Appendix D). Participants provided their email addresses so the delayed posttest

questionnaire could be sent two weeks later. Participants were sent an email two weeks after

the initial posttest that contained a link to an online questionnaire with the dependent

measures. Two reminder emails were sent and surveys remained open for one week, such

that all delayed posttests were completed between two and three weeks of viewing a

treatment or control episode. After the delayed posttest, participants were debriefed about the

study's purpose and provided information about local sexual health resources that was

customized to each community college (see Appendix E for sample debriefing form).

<div align="center">**Stimulus Material**</div>

Episode Selection Procedure

At the time of the study 16 episodes of *16 and Pregnant* had been broadcast and were

available on DVD. Eight of the teens featured in episodes also starred in the spin-off series

Teen Mom and were not considered because of the possibility that teens may have seen the

episodes of *Teen Mom*. Of the remaining eight episodes, two featured adoption so were not

as relevant to the study's focus, which left six episodes that could potentially be used. Of

<div align="center">56</div>

those six, three included episodes in which the girlfriend and boyfriend have a solid relationship that appears strengthened and likely to lead to marriage because they had a child. Since that outcome does not reflect what typically happens with teen parents (about 80% of teen parents do not ever marry each other [Brein & Willis, 1997]), those episodes were excluded. The three episodes that did portray relationship struggles between the teen mother and father varied in terms of what consequences of teen pregnancy/parenthood were highlighted. Besides relationship drama, one episode centered around the teen mother's desire to go to high school instead of being home schooled; in another episode the teen mother's mother was also pregnant.

In the episode selected, the teen mother Nikkole struggles to maintain her friendships and return to her pre-baby life. The episode was selected because the issues Nikkole faced, such as keeping her boyfriend and the baby's father in her life, the difficulty of maintaining other friendships, and adjusting to post-baby life, seemed the most typical and most relevant to the maximum number of community college students.

Treatment Stimulus

The "Nikkole" episode is 41 minutes and 17 seconds long and was shown without commercials. The episode has been downloaded more than one million times from the MTV website. The main characters featured in the episode are the teen mother, Nikkole, the teen father, Josh, and Nikkole's mother. Nikkole is White, her parents are divorced and her father is not in her life, and she appears to be from a lower-middle class family. The show begins with an introduction to Nikkole who is described as a cheerleader and a "prankster" who lives in Michigan with her mother. Nikkole explains that she has an on-again-off-again relationship with Josh who broke up with her when she refused to get an abortion.

In a scene with her girlfriends Nikkole explains that she and Josh used the "pull-out" method and no other type of birth control and retells how her mother initially reacted to the news of her pregnancy by getting mad and kicking her out of the house. In the following scene Nikkole's mother is crying and says she felt "betrayed" by Nikkole, but that she will support her. Nikkole expresses her nervousness to her friend about returning to high school after getting "big" over the summer because of the pregnancy. The first day of school ends with Josh confessing his love for Nikkole and asking to be a couple again.

There are several scenes with Nikkole and her mom or Nikkole and her friends arguing about her decision to start up a relationship with Josh again, who cheats on her and treats Nikkole poorly throughout the episode. For example, Josh says he will pick Nikkole up from a dance, but then leaves her alone in tears in the school parking lot. Josh and Nikkole also have a fight when she is shopping for dresses and cannot find one that fits her pregnant belly. In one episode Josh's mother lectures him about being responsible when the baby comes, but he does not seem engaged.

During the delivery, Josh and Nikkole's mother get into a fight because Josh is not behaving appropriately. The birth is shown as painful both physically and emotionally. After the delivery Nikkole complains of being in pain and is disgusted when the baby spits up. She talks about how hard it has been while alarms buzz and the baby cries in the background. Her mother and Josh's mother are shown providing emotional support and help take care of the baby.

In the weeks after the birth, Josh is rarely shown spending any time with his son. At one point, Nikkole tries to talk to him about being a better father saying, "Hold him Josh, maybe if you hold him he'll stop crying." Nikkole's attempts to coax Josh to be a better

father are unsuccessful and Josh breaks up with Nikkole by telling her that he has been

cheating on her. Nikkole is devastated. In her tearful closing epilogue Nikkole says:

> Before I had Lyle [her son] I was hoping that me and Josh could be like really close and we could be like a family with our son, but it really has had like the opposite effect...At sixteen I definitely don't think I was ready to be a mom and I still don't think I'm ready to be a mom, but I think I'm doing the best I can. My mom being here and helping me take care of Lyle has made things a lot easier for me...Even though I love Lyle I still wish I would have waited to have children because I can't be as carefree as I used to be and if I could have made a different decision then I would have.

It is important to note that although the majority of the episode features undesirable

outcomes of teen pregnancy/parenthood (e.g., the ending of the romantic relationship,

interpersonal tension with family and friends, short-term physical pain, emotional pain, and

loss of freedom), the story also features some tender moments between Nikkole and her son

and lacks long-term academic/career or physical consequences. Cut in between Nikkole's

epilogue are scenes of her smiling baby and her family at Christmas. Nikkole is also shown

trying on her old cheerleading uniform and her mother remarks, "It still fits...that looks really

cute."

Control Stimulus

The control stimulus was chosen because it is of similar length and style to *16 and

Pregnant*. An episode of MTV's documentary-style reality show *True Life* called "I Stutter"

was shown as the control episode. The control episode tells the story of three teens seeking

help and adapting to problems they experience because they stutter. The episode does not

include any sexual content.

<center>**Measures**</center>

Manipulated Variables

   Low transportation. Transportation can be difficult to manipulate (Busselle et al.,

2009; Green & Brock, 2000). At least three studies have been successful, however, in

manipulating a decrease in transportation either by asking participants to focus on surface

aspects of the story or by cutting parts of the story to seem less coherent and including an

instruction reminder part way through the narrative (Busselle et al., 2009; Green & Brock,

2000, 2005). Since the current study was designed to assess the effects of the episode itself,

cutting parts of the episode would defeat the purpose. The low-transportation manipulation

was achieved by providing instructions for participants to read prior to watching the video.

The instructions were timed to remain on screen for 45 seconds, so participants could not

skip past them and directed them to watch carefully, but not immerse themselves in the story

and to remain emotionally detached. There was also a question immediately following the

instructions that asked if they understood them. All participants answered yes, that they

understood the instructions.

   In a pretest with university undergraduates, a similar manipulation instruction

approached but did not achieve statistical significance. After the pretest, the instructions were

made more explicit and a second component of the manipulation was added that involved a

pause in the video every six-seven minutes when a light blue screen slowly faded in with an

instruction reminder. Thus, transportation was decreased by asking participants to focus on

the world around them and not to be immersed in the story:

    Today you will be watching a story about teen parents. We are interested in
    how viewing styles influence information processing.
    As you are watching try as hard as you can to be very aware of your
    surroundings (the place where you are right now). Try not to miss any of the

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sounds and other sensations that are occurring in your normal environment while you are watching the show. Try not to immerse yourself in the story. Watch carefully, but remember to remain emotionally detached and aware of your surroundings.
We will be asking you questions about your experience watching the story.

The instruction reminder read:

Instruction reminder:
We are interested in how viewing styles influence information processing. Try not to immerse yourself in the story.
Watch carefully, but remember to remain emotionally detached and be very aware of your surroundings in the computer lab.

The instruction reminder remained on screen for approximately 45 seconds. The episode automatically continued after the reminder. While proctoring the study it appeared that participants were following instructions when the reminder came on screen and no one complained about the instructions.

Obviousness of persuasive intent. Half of the study participants received a message immediately prior to viewing that was designed to manipulate the obviousness of the persuasive intent of the show they were about to watch. Based on Petty and Cacioppo (1979), participants in this condition read the following on screen before they viewed the narrative:

Disclaimer:
The show you are about to watch was designed specifically to try to persuade you and other teens to want to avoid teen pregnancy by showing mostly negative consequences of pregnancy. The show creators want teens to abstain from sex, use condoms, or take hormonal birth control (like the pill).

To move past this screen participants had to click a button that read, "I acknowledge that I have read the disclaimer above." Control condition participants saw a similar persuasive intent message, but about stuttering. Participants in the natural-transportation without PI manipulation condition did not receive any message before viewing.

Manipulation Checks

Low transportation. Participants responded to six items about their compliance (or noncompliance) with the manipulation instructions, such as "I tried to be emotionally detached from what was happening in the lives of the teens on the show" and "I intentionally made an effort to notice what was happening in the room around me." These items were measured on a six-point Likert-type scale from "Strongly disagree" to "Strongly agree." The six items were averaged together to form a composite measure ($M = 2.82$, $SD = .92$, $\alpha = .66$). (See Appendix B for a list of all the items.)

Obviousness of the persuasive intent. All participants were asked three items that included the one item used in Moyer-Guse and Nabi (2010) measured on a six-point semantic differential anchored by "Entertain" and "Persuade:" "Do you think the program you just watched was created more to entertain or more to persuade?" All other items were measured on a six-point Likert-type scale from "Strongly disagree" to "Strongly agree:" "The point of the show was to be entertaining" (reverse-coded) and "It was obvious the show was supposed to be more entertaining than persuasive" (reverse-coded). The three items were averaged together to create a composite measure ($M = 4.23$, $SD = 1.16$, $\alpha = .80$). Additionally, participants were asked two condition specific items derived from the wording of the persuasive intent manipulation such as, "The real purpose of the show was to persuade me to avoid teen pregnancy," "The real purpose of the show was to persuade me to be nicer to people who stutter." (See Appendix B for a list of all the items.)

Intervening Variables

All measures were collected on six-point Likert-type scales and reverse-coded when necessary to form composites, unless otherwise indicated. See Appendix B for a complete list of all items.

Transportation

Transportation was measured using the 11-item scale from Green and Brock (2000), which included items such as, "The show affected me emotionally," "I found my mind wandering while watching the show," and "I wanted to learn how the show ended." An initial reliability check on all 11 items found a Cronbach's alpha of .73; a principal components analysis revealed two factors. The initial extraction showed that the first factor explained 30.29% of the variance (Eigen value = 3.33) and the second factor 15.88% of the variance (Eigen value = 1.75). Four double-loaded items were removed from the scale, two of these items may not be as relevant to visual narratives since they involve picturing the scene, "I could easily picture the events taking place" and "I could picture myself in the scene of the events described in the show." The other two items loaded weakly on both factors and scale reliability was improved by removing them: "The events in the show are relevant to my everyday life" and "I found myself thinking of ways the show could have turned out differently." The final transportation scale included the remaining seven items ($M = 3.95$, $SD = .97$, $\alpha = .76$) with factor loadings ranging from .43 to .75. Transportation was measured only in the immediate posttest, higher scores on the scale signify greater transportation into the narrative.

Reactance

Reactance was measured using the five logical items and four affective items, which had previously demonstrated good reliability (logical, α = .83-.87; affective, α = .92-.94) from Dillard and Shen (2005). The logical (e.g., "The show tried to make a decision for me") and affective (e.g., "While watching the show how much did you feel the following: angry") items were averaged to create separate composite measures, both with strong reliability (logical, $M = 2.06$, $SD = 1.12$, α = .89; affective, $M = 3.03$, $SD = 1.77$, α = .94). Reactance was measured only in the immediate posttest, higher scores on the composite measure indicate greater reactance to the narrative.

Counterarguing

Counterarguing has been particularly hard to measure in narrative persuasion because it can become intermingled with participatory responses and persuasive arguments in narratives are less overt than in didactic genres. Moyer-Guse and Nabi (2010) adapted a closed-ended scale to measure counterarguing with four items: (1) "While watching the program, I sometimes felt like I wanted to "argue back" to what was going on onscreen:" (2) "While watching the program, I sometimes found myself thinking of ways I disagreed with what was being presented;" (3) "While watching the program, I couldn't help thinking about ways that the information being presented was inaccurate or misleading;" and (4) "I found myself looking for flaws in the way information was presented in the program."

The latter three items were used here. The first statement about arguing back was expanded into four items that named a specific character (Nikkole, Josh, Nikkole's mom, Nikkole's friends). For example: "While watching the program, I sometimes felt like I wanted to "argue-back" to what Josh was saying." Because Nikkole's mother and friends

were usually promoting the healthy message in the show -- protect against teen pregnancy --

but Josh, the baby's father, was portrayed as absentee and immature, arguing back with Josh

may be seen as agreeing with the healthy message rather than a counterargument against the

persuasive intent of the program. Only participants in the treatment conditions were asked the

"argue back" items since they are specific to the treatment episode.

None of the argue back items could be reliably combined with the three general

counterargument statements, thus the three counterargument statements were combined into

one composite ($M = 2.70$, $SD = 1.23$, $\alpha = .72$). The Nikkole ($M = 4.31$, $SD = 1.42$) and Josh

($M = 5.48$, $SD = 1.03$) argue back items did not strongly correlate with any of the other

counterarguing items. The Mom and Friends argue back items strongly correlated with each

other ($r = .69$, $p < .01$) and were averaged into a composite item ($M = 2.09$, $SD = 1.22$).

Counterarguing was measured at immediate posttest and higher scores are indicative of more

counterarguing.

Perceived Invulnerability

Perceived invulnerability was measured using six items adapted from Moyer-Guse

and Nabi (2010) ($\alpha = .55\text{-}.63$) and included questions about the likelihood of getting pregnant

if they have sex with or without different forms of birth control. Examples of items include:

"What are the chances that you would get pregnant (or get someone else pregnant) if: You

had sex once without the female using prescription hormonal birth control (the pill, Depo-

Provera, or an IUD)" and "What are the chances that you would get pregnant (or get

someone else pregnant) if: You had sex regularly (once a week for a year) without ever using

any form of birth control." The scale points were anchored by "No chance" to "Definitely

would happen." All items combined into a reliable composite measure and were reverse

coded, such that higher scores mean the participant believes they are invulnerable to pregnancy (immediate posttest, $M = 3.31$, $SD = 1.35$, $\alpha = .83$; delayed posttest, $M = 3.35$, $SD = 1.15$, $\alpha = .81$).

Perceived Norms

Seventeen descriptive and injunctive norms about having sex, using contraception, getting pregnant, and the desire to get pregnant/ avoid pregnancy were measured. These norms were adapted from two sources (DeHart & Birkimer, 1997; Kirby & LePore, 2007). Kirby and LePore (2007) conducted a large meta-analysis that included recommended measures of sexual norms for use with adolescents. The DeHart and Birkimer (1997) measures focus primarily on the use of condoms and have been validated with adolescents and young adults (inter-item reliability: $\alpha = .83$). A principal components analysis revealed four factors at initial extraction with the first factor explaining 25.30% of the variance (Eigen value = 4.30), the second factor explaining 20.14% of the variance (Eigen value = 3.42), the third factor explaining 11.05% of the variance (Eigen value = 1.88), and the final factor explaining 9.41% of the variance (Eigen value = 1.60). This analysis was conducted to sort and reduce items. After double- and weak-loaded items were removed the results supported three subsets of norms that created reliable scales labeled "sexual," "contraception," and "pregnancy/ parenthood." Higher scores on the norms scales means that participants thought it was more normative to have sex, not use contraception, and be pregnant/ or a parent as a teen.

The sexual norms included five items such as "Most of my friends will have sex in the next six months" and "Most of my friends believe it's okay for people my age to have sex" (immediate posttest, $M = 4.49$, $SD = 1.20$, $\alpha = .86$; delayed posttest, $M = 3.95$, $SD =$

1.17, α = .83) with factor loadings ranging from .68 to .88. The contraception norms included four items such as: "Most of my friends use condoms when they have sex" (reverse coded), and "Most of my friends believe a girl my age should be on some form of prescription birth control (for example, the pill or the Depo-Provera shot), if she is having sex" (reverse coded) (immediate posttest, $M = 2.45$, $SD = 1.11$, α = .82; delayed posttest, $M = 2.50$, $SD = 1.18$, α = .88) with factor loadings ranging from .70 to .91. The pregnancy/ parenthood norms included three items such as "Most of my friends want to be a parent before they graduate college" and "Most of my friends would think it was a good thing if I got pregnant or got someone else pregnant before I graduated college" (immediate posttest, $M = 1.73$, $SD = .95$, α = .78; delayed posttest, $M = 1.81$, $SD = .91$, α = .71) with factor loadings ranging from .80 to .88.

Outcome Expectations

Expectations about teen pregnancy and parenthood were adapted from 17 items used in the Campaign-commissioned study that asked about positive (α = .79-.82) and negative (α = .72-.83) expectations about what it would be like to be pregnant and have a baby as a teen (Ortiz et al., 2010). The items were developed in collaboration with The Campaign, and included statements such as: "If I became a parent in college, the baby's father (or mother) and I will be together forever," (positive) and "I will have someone who loves me no matter what" (positive), "If I get pregnant (or get someone pregnant) in college, I will feel socially isolated" (negative) and "I will not have enough money to take care of the baby" (negative). A principal components analysis was conducted to sort and reduce items. Initial extraction of the positive outcomes identified three factors, such that the first factor explained 32.77% of the variance (Eigen value = 3.60), the second factor explained 16.65% of the variance (Eigen value = 1.83), and the third factor explained 10.13% of the variance (Eigen value = 1.11).

Eliminating the weak- and double-loaded items resulted in a reliable five-item positive expectations scale (immediate posttest, $M = 3.65$, $SD = 1.05$, $\alpha = .72$; delayed posttest, $M = 3.51$, $SD = 1.13$, $\alpha = .80$) with factor loadings ranging from .57 to .80.

The negative outcome items initially produced two factors. The first factor explained 50.22% of the variance (Eigen value = 3.01) and the second factor explained 16.82% of the variance (Eigen value = 1.01). Eliminating double-loaded items resulted in a reliable five item negative expectations scale (immediate posttest, $M = 4.20$, $SD = 1.15$, $\alpha = .77$; delayed posttest, $M = 4.23$, $SD = 1.17$, $\alpha = .81$) with final factor loadings that ranged from .63 to .83. Higher scores on the positive expectations scale indicate that participants had greater expectations of experiencing the positive outcomes of teen pregnancy/ parenthood if they were to become pregnant; higher scores on the negative expectations scale meant that participants thought they would likely experience negative outcomes of teen pregnancy/ parenthood if they were to become pregnant.

Dependent Variables

Post-viewing Discussions

On the delayed posttest, participants ($N = 58$) were asked whether they had discussed the show with anyone else after viewing the episodes: "Since the study, who did you talk to about the show you watched (choose all that apply)?" (a) did not discuss with anyone, (b) parent, (c) sibling, (d) other family member, (e) friend, (f) girlfriend/boyfriend, (g) teacher/counselor, (h) religious leader, (i) health professional, and (j) other. A similar response set was provided for the question, "Since the study, who did you talk to about preventing pregnancy?" These items were adapted from the Campaign-commissioned study (Ortiz et al., 2010).

Based on response frequency, these categories were collapsed into: (1) "Did not discuss" (show, $n = 7$, 12.1%; pregnancy prevention, $n = 24$, 41.4%) when participants did not report speaking to anyone; "Friend" (show, $n = 42$, 72.4%; pregnancy prevention, $n = 21$, 36.2%) when participants reported speaking to a friend; "Girl/ boyfriend" (show, $n = 21$, 36.2%; pregnancy prevention, $n = 18$, 31.0%) when participants reported speaking to their girlfriend or boyfriend; "Family" (show, $n = 27$, 46.6%; pregnancy prevention, $n = 11$, 19.0%) when participants reported speaking to a parent, sibling, or other family member; and "Other" (show, $n = 7$, 12.1%; pregnancy prevention, $n = 2$, less than 1%) when participants reported speaking to a teacher/ counselor, religious leader, health professional or other.

Attitudes

Twenty-five items measuring attitudes were adapted from the same two sources as perceived norms (DeHart & Birkimer, 1997 ($\alpha = .88$); Kirby & LePore, 2007). Attitudes about: (1) having sex, (2) using contraception, (3) avoiding pregnancy, (4) abortion, and (5) adoption were measured. The abortion and adoption attitudes measures were adapted from a reliable scale ($\alpha = .92$) developed by Sloan (1983) and presented in a book of recommended sexual measures (Davis, Yarber, Bauserman, Schreer, & Davis, 1998). Separate composites were created for each of the five attitudes topics with a principal component analysis conducted to create reliable scales when more than three items were present. Higher scores on any of the attitudes scales means that participants favor actions or beliefs that would prevent teen pregnancy/ parenthood, such that they would support not having sex, using contraception, not being pregnant/ or a parent as a teen, having an abortion if pregnant, or putting their child up for adoption.

The sexual attitudes scale included three items, such as "Once you are an adult, it is okay to have sex, even if you aren't in a committed relationship" (reverse coded) and "It is okay for people in committed relationships to have sex" (reverse coded) (immediate posttest, $M = 3.52$, $SD = 1.26$, $\alpha = .71$; delayed posttest, $M = 3.79$, $SD = 1.24$, $\alpha = .77$).

The contraception attitudes scale included five items, such as "I believe condoms should always be used if a person my age is sexually active" and "Girls my age should always be on hormonal birth control (for example, the pill or Depo Provera), if they are sexually active" (immediate posttest, $M = 4.89$, $SD = 1.02$, $\alpha = .79$; delayed posttest, $M = 4.66$, $SD = 1.23$, $\alpha = .86$). These five items were reduced from six items using a principal components analysis that revealed two factors, such that the first factor explained 45.91% (Eigen value = 2.76) and the second factor explained 20.09% of the variance (Eigen value = 1.21). Only one item strongly loaded onto the second factor and also loaded weakly onto the first factor; this item was eliminated and the final factor loadings ranged from .56 to .81.

The pregnancy/ parenthood attitudes scale included five items, such as "In the near future, I'd like to be a mother (or father)" (reverse coded) and "I am really not ready to be a parent" (immediate posttest, $M = 4.70$, $SD = 1.20$, $\alpha = .80$; delayed posttest, $M = 4.79$, $SD = 1.15$, $\alpha = .86$). Although the initial principal components analysis revealed only one factor (51.17% of variance explained, Eigen value = 3.07), upon further inspection one of the items "If I got pregnant (or got someone else pregnant) tomorrow, it would not be a big deal" may have been confusingly worded and also loaded the weakest onto the initial factor. Removing this item resulted in a more reliable scale with final factor loadings ranging from .60 to .83.

The abortion attitudes scale included five items, such as "If an unmarried teen got pregnant (or got someone else pregnant) they should consider abortion as an option," and

"People should not look down on those who choose to have abortions" (immediate posttest, $M = 2.77$, $SD = 1.23$, $\alpha = .84$; delayed posttest, $M = 2.89$, $SD = 1.19$, $\alpha = .84$). These five items were reduced from eight items using a principal components analysis that revealed two factors, such that the first factor explained 45.03% (Eigen value = 3.60) and the second factor explained 16.45% of the variance (Eigen value = 1.32). Weak- and double-loaded items were eliminated and the factor loadings ranged from .60 to .91.

The adoption attitudes scale included two items: "If an unmarried teen got pregnant (or got someone else pregnant) they should consider adoption as an option" and "Adoption is a good option for pregnant teens" (immediate posttest, $M = 3.96$, $SD = 1.60$, $r = .78$, $p < .001$; delayed posttest, $M = 4.56$, $SD = 1.29$, $r = .85$, $p < .001$).

Intentions

Nineteen items about intentions to: (1) have sex, (2) use contraception, (3) avoid pregnancy, (4) abortion, and (5) adoption were measured. These intention items also were adapted from Kirby and LePore, (2007) and Somers, Johnson, and Sawilowsky (2002). Separate composites were created for each of the five intention topics with a principal component analysis conducted to create reliable scales when more than three items were present. Similar to attitudes, higher scores on any of the intentions scales means that participants intend to act in a manner that would prevent teen pregnancy/ parenthood, such that they would intend to not have sex, use contraception, not be pregnant/ or a parent as a teen, have an abortion if pregnant, or adopt their child if pregnant.

The sexual intentions scale included three items, such as "I intend to have sex in the next six months" (reverse coded) and "I will probably have sex in the next six months"

(reverse coded) (immediate posttest, $M = 3.42$, $SD = 1.96$, $\alpha = .92$; delayed posttest, $M = 3.85$, $SD = 1.95$, $\alpha = .95$).

The contraception intentions scale included five items, such as "I intend to use a condom the next time I have sex" and "I (or my partner) will be on some form of prescription birth control (for example, the pill or the shot) within the next six months, if I have sex" (immediate posttest, $M = 4.68$, $SD = 1.45$, $\alpha = .88$; delayed posttest, $M = 4.23$, $SD = 1.68$, $\alpha = .92$). These five items were reduced from six items using a principal components analysis that revealed two factors, such that the first factor explained 57.05% (Eigen value = 3.42) and the second factor explained 17.18% of the variance (Eigen value = 1.03). Only one item strongly loaded onto the second factor and also loaded weakly onto the first factor; this item was eliminated and the final factor loadings ranged from .68 to .89.

The pregnancy/ parenthood intentions scale included four items, such as "I will do whatever it takes to avoid getting pregnant (or get someone pregnant) in the next six months" and "I intend to get pregnant (or get someone pregnant) while I'm in college" (reverse coded) (immediate posttest, $M = 5.50$, $SD = .96$, $\alpha = .83$; delayed posttest, $M = 5.25$, $SD = 1.14$, $\alpha = .84$). These four items loaded onto one factor on initial extraction (68.08% of the variance explained, Eigen value = 2.72, with loadings that ranged from .65 to .91).

The abortion intentions scale included two items: "If I got pregnant (or got someone else pregnant) tomorrow, I would consider abortion" and "I plan to have an abortion (or ask my partner to have one) if I got pregnant during college" (immediate posttest, $M = 1.98$, $SD = 1.45$, $r = .85$, $p < .001$; delayed posttest, $M = 2.26$, $SD = 1.60$, $r = .89$, $p < .001$).

The adoption intentions measure consisted of a single item: "If I got pregnant (or got someone else pregnant) tomorrow, I would consider adoption" (immediate posttest, $M = 3.08$, $SD = 1.88$; delayed posttest, $M = 3.09$, $SD = 1.77$).

Control Variables

Identification and Parasocial Interaction

Although identification and parasocial interaction with characters are conceptually intervening variables in E-ELM and EORM, in this study they were used as control variables in analyses to measure the effects of transportation on the resistance to persuasion variables above and beyond the influence of identification or parasocial interaction. Measures were based on scales from Moyer-Guse and Nabi (2010) and included three sets of each question for each of the main characters in the episode (Nikkole, Josh, and Nikkole's mom). Example identification items include: "When I watched Nikkole on the show, I imagined myself doing the same things she was doing" and "At key moments in the show, I felt I knew exactly what Josh was going through." The six identification items (per character) were highly reliably and combined into composites (Nikkole, $M = 3.45$, $SD = 1.27$, $\alpha = .86$; Josh, $M = 2.19$, $SD = 1.06$, $\alpha = .80$; and Nikkole's mom $M = 4.42$, $SD = 1.36$, $\alpha = .94$).

Eight items (per character) measured parasocial interaction and included items such as, "If I could, I would like to meet Nikkole in person" and "When Nikkole's mom shows me how she feels about an issue, it helps me make up my own mind about the issue." The eight items were internally reliable and combined into a composite for each character (Nikkole, $M = 2.79$, $SD = 1.34$, $\alpha = .93$; Josh, $M = 1.53$, $SD = .68$, $\alpha = .75$; and Nikkole's mom $M = 2.98$, $SD = 1.34$, $\alpha = .92$).

Demographics

Participants were asked to report their sex, race/ethnicity, age, religiosity, sexual orientation, education level, the highest education level of either of their parents, and income. Each of these demographic variables were measured by a single item multiple-choice question (e.g., "Please indicate your gender" with a bubble that could be clicked for either male or female) except for religiosity and sexual orientation.

Religiosity was measured with two items adapted from Cornwall, Albrecht, Cunningham, and Pitcher (1986): "How important or unimportant is religious faith in shaping how you live your daily life" anchored by "Not at all Important" and "Extremely Important" and "Do you attend religious services more than 1-2 times a year, not counting weddings, baptisms, and funerals" as a yes/ no question. To combine the six-point Likert measure of importance of religious faith and the yes/no measure of church attendance into a categorical variable that could be used as a control, the Likert item about importance of religious faith was dichotomized (responses in the lower half of the scale = 0, responses in the upper half = 1). The new dichotomized religious importance measures was summed with responses to the church attendance item (No = 0 and Yes = 1) ($r= .47, p < .001$) which created a three-level measure of religiosity (0 = not at all, 1 = somewhat, and 2 = a lot) ($M = 1.35, SD = .81$).

Sexual orientation was measured with two Yes/ No items: "Are you sexually attracted to males?" and "Are you sexually attracted to females?" and then computed based on the participant's gender. These items were recommended as the best practice for surveys if only two items could be used to measure sexual orientation (Saewyc et al., 2004).

Prior Experience

        Participants were asked to report their virginity status ("have you ever had sex?" Yes/ No) and pregnancy experiences ("Have you ever been pregnant or gotten someone else pregnant?" Yes/ No; "Has one of your closest friends been pregnant or gotten someone else pregnant?" Yes/ No). If participants were not virgins, then they were also asked about previous and current contraceptive practices ("Have you ever had sex without any form of birth control?" Yes/ No; "When you have sex, how often do you use some form of birth control?" sliding scale from "1 out of 10 times I have sex" to "10 out of 10 times I have sex"). Participants were also asked (Yes/ No) if they previously had seen the episode they just watched and whether they previously had seen any episode of *16 and Pregnant*.

Chapter 4

RESULTS

Manipulation Checks

Low Transportation

To test whether participants complied with the transportation manipulation

(instructions plus reminders) participants who watched the treatment episode were compared

in an independent-samples t-test. There was a significant difference in scores for those who

did ($M = 3.63$, $SD = .70$) or did not ($M = 2.53$, $SD = .79$) receive the manipulation, $t(79) = -$

6.65, $p < .001$, two-tailed. The direction of the means revealed that participants who received

the low-transportation manipulation were significantly more likely to try to be less

transported than participants who did not receive any transportation instructions. A partial

eta-squared of .36 indicated this is a large difference between the two groups.

As an additional check to ensure that trying to being less transported actually led to

being less transported a t-test was conducted to compare transportation levels across the

treatment conditions. Participants in the low-transportation conditions ($M = 3.34$, $SD = .84$)

were significantly less transported than participants in the natural-transportation conditions

($M = 4.09$, $SD = .93$), $t(81) = 3.77$, $p < .001$, two-tailed, $\eta^2 = .15$.[1]

Obviousness of Persuasive Intent

Half of the participants were told that the program they were about to watch was

created to persuade them either to want to avoid teen pregnancy (treatment conditions) or to

_____

[1]All effect sizes are reported as partial eta-squared (η^2).

be nicer to people who stutter (control conditions). Participants who watched the treatment episode were compared in an independent-samples t-test. For participants who watched the "Nikkole" episode, there was not a significant difference in obviousness (PI) scores for those who did ($M = 4.14$, $SD = 1.16$) and did not ($M = 4.26$, $SD = 1.20$) receive the PI manipulation, $t(81) = .46$, $p > .05$, two-tailed. Control group participants, who received a PI manipulation about the stuttering episode ($M = 4.75$, $SD = .86$), were significantly different in their belief that the show they just watched was meant to be persuasive as opposed to entertaining in an independent samples t-test, $t(40) = -3.14$, $p < .01$, two-tailed, $\eta^2 = .20$, than control group participants who did not receive the PI manipulation ($M = 3.74$, $SD = 1.22$). The direction of the means indicated that the PI manipulation was successful for participants in the control group.

Analyses revealed that the transportation manipulation was successful and the persuasive intent manipulations were successful for control participants, but not treatment participants. Since the PI manipulation was successful only for control group participants, only the responses from control participants were used to test the hypotheses about the effects of knowledge of a show's persuasive intent (H8-H10) on transportation and reactance. Given that the PI manipulation was not successful for the treatment groups, the six conditions were collapsed into three conditions (low transportation, natural transportation, and control group) by combining PI manipulated and no PI conditions within each (e.g., collapsing low transportation with PI and low transportation no PI into one condition labeled low transportation). Although the control group PI manipulation was successful, the PI and no PI manipulation conditions within the control conditions were still combined for all analyses (expect H8-H10) to be comparable to the manipulation conditions. Control participants

received a PI manipulation about stuttering and not about pregnancy prevention, thus, their beliefs, attitudes, and intentions related to pregnancy prevention should not be affected by a persuasive intent message about stuttering. (See Table 2 for a summary of the manipulation check analysis).

Tests of Hypotheses

Data Preparation and Analysis Strategy

Table 3 provides the correlation matrix for the independent, intervening, and dependent variables used in this analysis. All cases were examined for univariate outliers and multivariate outliers (when used in a multivariate model) for each of the variables; however, no cases were excluded since very few outliers were present and none were extreme. To reduce controls within the analysis, partial correlations were conducted and the zero-order correlations were inspected to explore the unique variance contributed by each control variable on the relationship between condition and the dependent variable associated with each hypothesis. When a control variable had a substantial unique contribution it was included in the analysis for the corresponding hypothesis. The control variables included in one or more of the analyses were: gender, virginity status, race, had a close friend who had been pregnant, and identification and parasocial interaction with Nikkole.

For immediate posttest analyses, ANOVAs and MANOVAs were used to test for condition main effects on intervening and dependent variables. Multivariate analysis was used instead of univariate when two or more of the resistance to persuasion variables were significantly correlated at $r > .30$. The default position was to independently examine these variables, since the EORM presents these as separate variables rather than one large

resistance to persuasion variable. The independence of these variables is supported by the lack of moderate or strong correlation among them as noted in Table 3.

For delayed posttest analyses, repeated measures ANOVAs examined the effects of condition at delayed posttest compared to immediate posttest responses. Since the attrition analysis revealed differences in delayed posttest response rate by gender and virginity status those controls were used in all delayed posttest analyses.

Mediation analyses were conducted using the Preacher-Hayes indirect effects bootstrapping macro in SPSS (Hayes, 2009; Preacher & Hayes, 2008) with data from all four treatment conditions combined. Measured transportation served as the independent variable, the resistance to persuasion variables as mediators, and attitudes/ intentions as dependent variables for H12 and H13. Interpersonal discussion was examined as a mediator to delayed posttest attitudes/ intentions for H14.

H1-H4: Effects on Invulnerability, Norms, and Outcome Expectations

H1-H4 predicted that condition would have an effect on perceived invulnerability (H1), perceived norms (H2), and positive (H3) and negative outcome expectations (H4) at immediate posttest and delayed posttests. Effects were predicted to be amplified for participants in the natural-transportation conditions compared to the low-transportation conditions.

H1a- Invulnerability at immediate posttest. To see if watching the treatment narrative decreased perceived invulnerability compared to the control narrative an ANOVA with perceived invulnerability as the dependent measure was conducted. Results showed no significant main effect for condition at immediate posttest, $F(2, 114) = .27, p > .05$. Thus, H1a was not supported for perceived invulnerability.

H1b- Invulnerability at delayed posttest. A repeated measures ANOVA also revealed no significant within-subjects effect of time (immediate vs. delayed posttests) by condition on participants perceived invulnerability to pregnancy, Wilks' Lambda = .98, $F(2, 41) = .47$, $p > .05$.[2] There was, however, a significant between-subjects interaction effect for condition, virginity status, and gender, $F(2, 114) = 3.52$, $p < .05$, $\eta^2 = .15$. Post-hoc analysis of the three-way interaction, however, found no significant differences. A non-significant post-hoc is likely due to the small size of each cell when the sample is partitioned into interaction groups (Cardinal & Aitken, 2006). Mean trends (see Figure 2), although not significance in the Tukey post-hoc, indicated that the difference is likely seen in the following interactions: lower perceived invulnerability among female virgins in the low-transportation condition ($M = 2.35$, $SD = .50$) and male virgins in the natural-transportation condition ($M = 2.67$, $SD = .50$), compared to higher perceived invulnerability for the female virgins in natural-transportation condition ($M = 4.31$, $SD = .38$) or the control condition ($M = 4.18$, $SD = .45$).[3] While the non-significant within-subjects findings for time and condition revealed that the groups did not change in perceived invulnerability from immediate to delayed posttest, the between-subjects significant three-way interaction indicated that the combination of condition, virginity status, and gender may be significant regardless of the passage of time. Thus, H1b received some support that condition effects would remain stable over time; however, without significant post-hoc tests for the interaction effect that possibility cannot be confirmed.

[2]Wilks' lambda was reported for multivariate tests as a direct measure of the proportion of variance in the combination of dependent variables that is unaccounted for by the independent variable (the closer to zero the more that variable differentiates the groups).

[3]Mean trends were assessed when Tukey post-hoc analyses were unable to confirm at $p < .05$ which interactions may be contributing to the significant interaction effect found in the original model. The means for all significant interactions within the pairwise comparisons were then identified and examined to find the patterns of interaction.

H2a- Normative beliefs at immediate posttest. Watching the treatment narrative was predicted to lead to beliefs that teen pregnancy is more normative, especially if participants were in the natural-transportation condition. Separate ANOVAs were conducted for the dependent normative variables—norms about having sex, using contraception, and being pregnant/ parenting as a teen—with condition as the independent variable.

Norms about having sex. Since virginity status substantially affected norms about having sex in the partial correlations, the measure was included in the ANOVA model testing the effects of condition on normative beliefs about have sex. Results revealed that condition was marginally significant as a main effect on normative beliefs about having sex, $F(2, 112)$ = 3.07, $p < .10$, $\eta^2 = .05$, and a significant two-way interaction effect between condition and virginity status, $F(2, 112) = 4.23$, $p < .05$, $\eta^2 = .07$. Post-hoc analysis of the interaction effect found that virgins in the natural-transportation condition ($M = 3.14$, $SD = .29$) had significantly ($p < .05$) lower perceived norms about having sex than participants in the low-transportation condition (virgins, $M = 4.46$, $SD = .30$; non-virgins, $M = 4.68$, $SD = .22$) and participants who were not virgins in the control condition ($M = 5.06$, $SD = .19$) and the natural-transportation condition ($M = 4.77$, $SD = .21$). Participants in the control condition who were not virgins also had significantly higher normative beliefs about having sex compared to the control group participants who were virgins ($M = 3.71$, $SD = .32$). Although, for virgins, condition did significantly affect perceived norms about sex, the direction is counter-hypothetical. Natural transportation also resulted in lower perceived norms about sex compared to low transportation (the opposite of the predicted direction) (see Figure 3).

Norms about using contraception. An ANOVA with perceived norms about using contraception as the dependent measure was conducted with condition as the independent

variable. Results showed no significant main effect for condition at immediate posttest, $F(2, 119) = .51$, $p > .05$. Thus, H2a was not supported for normative beliefs about using contraception.

Norms about teen pregnancy and parenthood. An ANOVA with perceived norms about getting pregnant or becoming a parent as a teen as the dependent measure was conducted with condition as the independent variable. No significant main effect for condition at immediate posttest was found, $F(2, 120) = .21$, $p > .05$. Thus, H2a was not supported for normative beliefs about teen pregnancy/ parenthood.

H2b- Normative beliefs at delayed posttest. This hypothesis predicted that increases in perceived norms about having sex, using contraception, and teen pregnancy/ parenthood would return to control levels at delayed posttest if viewers of the treatment narrative had talked to a friend about the show or teen pregnancy. A repeated measures ANOVA revealed no significant within-subjects effect of time (immediate vs. delayed posttests) by condition and whether participants talked with a friend about the show or avoiding pregnancy on participants' perceived norms about having sex (show, Wilks' Lambda $= .99$, $F[2, 34] = .32$, $p > .05$; avoiding pregnancy/ parenthood, Wilks' Lambda $= .99$, $F[2, 33] = .44$, $p > .05$), using contraception (show, Wilks' Lambda $= .97$, $F[2, 31] = .43$, $p > .05$; avoiding pregnancy/ parenthood, Wilks' Lambda $= 1.00$, $F[2, 29] = .03$, $p > .05$), or being pregnant/ parenting as a teen (show, Wilks' Lambda $= .83$, $F[2, 32] = 3.30$, $p > .05$; avoiding pregnancy/ parenthood, Wilks' Lambda $= 1.00$, $F[2, 32] = .14$, $p > .05$). Within normative beliefs about pregnancy/ parenthood, a three-way interaction among time, condition, and talked with a friend about the show was just at significance at $p = .050$. Follow up analysis suggested that the significant interaction was in the predicted direction,

such that participants in the natural-transportation condition who talked with a friend about

the treatment narrative ($M = 1.67$, $SD = .83$) in between the immediate and delayed posttest

had normative beliefs about teen pregnancy/ parenthood similar to the control group ($M =$

1.75, $SD = .90$) and lower than natural-transportation participants who did not discuss the

show with a friend ($M = 3.08$, $SD = .83$) (see Figure 4). Thus, H2b was supported for teen

pregnancy/ parenthood norms, but not for sexual or contraceptive norms.

H3a and H4a- Positive and negative outcome expectations at immediate posttest.

A MANOVA was used to test H3a and H4a, since positive and negative outcome

expectations were moderately correlated ($r = -.37$, $p < .001$) (see Table 3). Whether or not

participants had a close friend who had been pregnant was found to influence the relationship

between condition and outcome expectations, so this control variable was included in the

analysis. The difference between conditions on outcome expectations was not significant,

Wilks' Lambda = .94, $F(2, 116) = 1.82$, $p < .05$. When the results for positive and negative

outcome expectations were considered separately, condition effect on negative outcome

expectations was significant, $F(2, 116) = 3.43$, $p < .05$, $\eta^2 = .06$. A post-hoc inspection of the

mean scores by condition for negative outcome expectations did not find any significant

differences, however. Analysis of the mean trends suggest the greatest difference is between

the control group ($M = 4.53$, $SD = 1.23$) and either of the treatment groups (low

transportation, $M = 4.02$, $SD = 1.25$; natural transportation, $M = 4.05$, $SD = .93$). Thus, H3a

and 4a were not supported.

H3b and H4b- Positive and negative outcome expectations at delayed posttest. To

examine effects between the immediate and delayed posttest, separate repeated measures

ANOVAs were conducted with positive and negative outcome expectations as the dependent

variable. No significant within-subjects effect of time (immediate vs. delayed posttests) by condition on participants positive outcome expectations related to teen pregnancy/ parenthood was found, Wilks' Lambda = .94, $F(2, 39) = 1.32$, $p > .05$. There was, however, a significant between-subjects effect for condition, $F(2, 39) = 3.55$, $p < .05$, $\eta^2 = .15$. Tukey post-hoc analysis revealed that a difference existed between the scores of participants in the natural-transportation condition ($M = 3.97$, $SD = .72$) who had higher positive expectations compared to the control condition ($M = 2.99$, $SD = 1.21$). Results for positive expectations were found to be stable over time. Overall condition effects analysis found, however, that the natural-transportation condition produced significantly more positive outcome expectations for teen pregnancy/ parenthood, which is the opposite of what was predicted, thus H3b was not supported. The repeated measures ANOVA for negative expectations found no significant within-subjects effects for time and condition, Wilks' Lambda = .99, $F(2, 40) = .82$, $p > .05$, or between-subjects condition effects, $F(2, 40) = .94$, $p > .05$. Thus, H4b was not supported.

H5-H7: Effects on Attitudes, Intentions, and Post-viewing Discussion

H5-H7 predicted that viewing condition would have an effect on perceived attitudes (H5), perceived intentions (H6), and post-viewing discussions (H7). Effects were predicted to be greater for participants in the natural-transportation conditions compared to the low-transportation conditions.

H5a- Attitudes at immediate posttest. This hypothesis predicted that participants who watched the treatment episode, especially in the natural-transportation condition, would have more positive attitudes about avoiding sex, using contraception, avoiding pregnancy/parenthood, abortion, and adoption than the participants who watched the control

narrative. Separate ANOVAs were conducted with each attitude as the dependent variable and condition as the independent variable.

Attitudes about avoiding sex. An ANOVA with attitudes about avoiding sex as the dependent measure was conducted with condition as the independent variable. Results showed no significant main effect for condition at immediate posttest, $F(2, 119) = 1.87$, $p >$ .05. Thus, H5a was not supported for attitudes about avoiding sex.

Attitudes about using contraception. No significant effects of condition on attitudes about using contraception were found in an ANOVA, $F(2, 118) = .44$, $p > .05$. Thus, H5a was not supported for attitudes about using contraception.

Attitudes about avoiding teen pregnancy/ parenthood. An ANOVA with attitudes about avoiding teen pregnancy/ parenthood as the dependent measure was conducted with condition as the independent variable. Results revealed a significant main effect for condition at immediate posttest, $F(2, 119) = 3.33$, $p < .05$, $\eta^2 = .05$. A Tukey post-hoc analysis of the main effect found that participants in the control condition were more likely to hold attitudes in favor of avoiding teen pregnancy/ parenthood ($M = 5.04$, $SD = .90$) than participants in the low-transportation condition ($M = 4.35$, $SD = 1.36$). Although a significant difference was found between treatment and control viewers, the effect was in the opposite direction hypothesized and no differences existed between low transportation and natural transportation. Thus, H5a was not supported for attitudes about avoiding teen pregnancy/ parenthood.

Attitudes about abortion. Since participants' race (White, Black, mixed/other) affected attitudes about abortion, race was included in the ANOVA model testing the effects of condition on attitudes about abortion. Results revealed that condition was not significant

as a main effect on attitudes about abortion, $F(2, 110) = .93$, $p > .05$, however, a significant

two-way interaction effect between condition and race was found, $F(4, 110) = 2.53$, $p < .05$,

$\eta^2 = .08$. The post-hoc analysis of the two-way interaction did not find any significant effects,

although the mean trends indicated that Black control condition participants ($M = 3.70$, $SD =$

1.64) had more favorable attitudes towards abortion than low-transportation White

participants ($M = 2.34$, $SD = .98$), natural-transportation Black participants ($M = 2.37$, $SD =$

1.05), and also mixed/other race participants in the control group ($M = 2.65$, $SD = .84$) (see

Figure 5). These mean trends for Black participants appear in the opposite direction than was

hypothesized. Thus, H5a was not supported for attitudes about abortion.

Attitudes about adoption. An ANOVA with attitudes about adoption as the dependent

measure was conducted with condition as the independent variable. No significant effects of

condition on attitudes about adoption were found, $F(2, 120) = .54$, $p > .05$. Thus, H5a was

not supported for attitudes about adoption.

H5b- Attitudes at delayed posttest. This hypothesis predicted that changes

in attitudes about avoiding sex, using contraception, avoiding pregnancy/ parenthood,

abortion, and adoption would remain stable over time. A repeated measures ANOVA

revealed no significant within-subjects effect of time (immediate vs. delayed

posttests) by condition on participants attitudes about avoiding sex (Wilks' Lambda =

.99, $F[2, 40] = .18$, $p > .05$), using contraception (Wilks' Lambda = .94, $F[2, 39] =$

.1.37, $p > .05$), avoiding teen pregnancy/ parenthood (Wilks' Lambda = .92, $F[2, 40]$

= 1.82, $p > .05$), abortion (Wilks' Lambda = .98, $F[2, 39] = .47$, $p > .05$), or adoption

(Wilks' Lambda = .99, $F[2, 40] = .30$, $p > .05$). Thus, H5b was not supported.

Within-subjects interaction for attitudes about abortion. There was, however, a significant within-subjects three-way interaction among time, condition, and virginity status on attitudes about abortion, Wilks' Lambda = .82, $F(2, 39)$ = 4.43, $p < .05$, $\eta^2 = .19$. Post-hoc analyses of this three-way interaction were not significant, but mean trends suggested that immediate posttest control group participants who were not virgins ($M = 3.50$, $SD = 1.30$) and delayed posttest control group virgins ($M = 3.40$, $SD = 1.49$) were more supportive of abortion than immediate posttest low-transportation participants who had had sex ($M = 2.00$, $SD =$ .93), immediate posttest natural-transportation participants who had had sex ($M =$ 2.44, $SD = 1.39$), and delayed posttest natural-transportation participants who were virgins ($M = 2.46$, $SD = .76$) (see Figure 6). These effects are mostly counter-hypothetical, such that the control group participants tended to have more supportive attitudes about abortion compared to the treatment groups. Thus, this interaction effect does not lend support to H5b.

Between-subjects interaction effect for attitudes about using contraception. A significant between-subjects two-way interaction effect also was found for condition and virginity status on attitudes about using contraception, $F(2, 39) = 3.39$, $p < .05$, $\eta^2 = .15$. Post-hoc analysis of the two-way interaction, however, found no significant differences. Mean trends revealed that participants in the low-transportation condition who were virgins had more supportive attitudes about using contraception ($M = 5.82$, $SD = .37$) than participants in most other conditions (e.g., control group virgins, $M = 4.58$, $SD = .32$) (see Figure 7). Although this interaction effect indicates a stable effect of condition and virginity status, the direction of the

means indicates that low-transportation respondents tended to have the most supportive attitudes about using contraception, which is contrary to the prediction that natural-transportation participants would have the most supportive contraception attitudes. Thus, this interaction is supportive of the notion that exposure to the episode would have positive effects on attitudes about contraception, although the effect was found only among low-transportation virgins.

   Between-subjects interaction effect for attitudes about avoiding teen pregnancy/ parenthood. There was also a significant between-subjects two-way interaction effect for condition and virginity status for attitudes about avoiding teen pregnancy/ parenthood, $F(2, 40) = 3.80$, $p < .05$, $\eta^2 = .16$. Follow up analysis revealed that low-transportation participants who were not virgins reported significantly less supportive attitudes about avoiding teen pregnancy/ parenthood ($M = 3.49$, $SD = .38$, $p < .05$) than either low-transportation participants who were virgins ($M = 5.68$, $SD = .41$) or non-virgin control group participants ($M = 5.13$, $SD = .29$) (see Figure 8). Although this interaction effect indicates a stable effect of condition and virginity status, the direction of the means indicates that low-transportation respondents tended to have the least positive attitudes about avoiding teen pregnancy/ parenthood, which is contrary to the prediction that treatment group participants would have more positive attitudes than the control group. Thus, this interaction effect does not support H5b.

   H6a- Intentions at immediate posttest. This hypothesis predicted that participants who watched the treatment episode, especially in the natural-transportation condition, would have more positive intentions to avoid sex, use contraception, avoid pregnancy/parenthood,

have an abortion, and put their child up for adoption than the participants who watched the control narrative. Separate ANOVAs were conducted with each attitude as the dependent variable and condition as the independent variable.

Intentions to avoid sex. An ANOVA with virginity status and race as controls was conducted with condition as the independent variable and intentions to not have sex in the near future as the dependent variable. No significant main effect was found for condition, $F(2, 100) = .17,\ p > .05$. There was a three-way interaction among condition, virginity status, and race, $F(4, 100) = 3.15,\ p < .05, \eta^2 = .11$. Post-hoc analysis revealed significant effects between intentions to avoid sex were mostly dependent on participants' virginity status (see Figure 9). Generally, condition effects were not seen among White participants, although for Black non-virgin participants in both treatment groups (low transportation, $M = 4.06, SD = 1.50$; natural transportation, $M = 3.73, SD = 1.64$) exhibited greater intentions to avoid sex compared to the non-virgin control participants ($M = 1.96, SD = 1.11$). These interaction effects generally support the H6a prediction that treatment groups will produce more positive intentions to avoid sex than the control group, but only for Black participants who were not virgins. Furthermore, there was not a significant difference between the low-transportation and natural-transportation groups. Thus, H6a was partially supported.

Intentions to use contraception. An ANOVA was conducted to test the hypothesis that participants in the treatment conditions, especially natural transportation, would have greater intentions to use contraception than the control group. Virginity status was significant in the partial correlation and so was included in the ANOVA analysis. While the condition main effect was not significant, $F(2, 114) = 1.23,\ p > .05$, the interaction between condition and virginity status was significant, $F(2, 94) = .15,\ p < .05, \eta^2 = .07$. A Tukey post-hoc

analysis found marginally significant differences ($p < .10$), such that participants in the natural-transportation condition who were virgins had lower intentions to use contraception ($M = 3.67$, $SD = 2.10$) than participants in that condition who were not virgins ($M = 4.92$, $SD = 1.01$) or control group participants who were not virgins ($M = 4.93$, $SD = .98$) (see Figure 10). These interactions are contrary to predictions, thus H6a was not supported for intentions to use contraception.

Intentions to avoid teen pregnancy/ parenthood. An ANOVA with intention to avoid teen pregnancy/ parenthood as the dependent measure was conducted with condition as the independent variable. Results showed no significant main effect for condition at immediate posttest, $F(2, 121) = .40$, $p > .05$. Thus, H6a was not supported for intentions to avoiding teen pregnancy/ parenthood.

Intentions to have an abortion if pregnant (or got someone else pregnant). An ANOVA that included race as a control variable was conducted to test the effects of condition on intentions to have an abortion. Results showed no significant main effect for condition at immediate posttest, $F(2, 110) = .69$, $p > .05$, or interaction effect, $F(4, 110) = 2.35$, $p > .05$. Thus, H6a was not supported for intentions to have an abortion.

Intentions to put child up for adoption if pregnant (or got someone else pregnant). An ANOVA with intention to avoid teen pregnancy/ parenthood as the dependent measure was conducted with condition as the independent variable. Results showed no significant main effect for condition at immediate posttest, $F(2, 120) = .01$, $p > .05$. Thus, H6a was not supported for intentions to adopt if pregnant.

H6b- Intentions at delayed posttest. This hypothesis predicted that increases in intentions to avoid sex, use contraception, avoid pregnancy/parenthood, abortion, and adoption would diminish over time. A repeated measures ANOVA revealed no significant within-subjects effect of time (immediate vs. delayed posttests) by condition on participants intentions to avoid sex (Wilks' Lambda = .99, $F[2, 39]$ = .11, $p > .05$), use contraception (Wilks' Lambda = .92, $F[2, 38]$ = 1.71, $p > .05$), avoid teen pregnancy/ parenthood (Wilks' Lambda = .93, $F[2, 40]$ = 1.18, $p > .05$), have an abortion if pregnant (Wilks' Lambda = .96, $F[2, 39]$ = 1.13, $p > .05$), or adopt if pregnant (Wilks' Lambda = .97, $F[2, 39]$ = .69, $p > .05$). Thus, H6b was not supported.

Between-subjects interaction effect for intentions to use contraception. There was a significant between-subjects two-way interaction effect for condition and virginity status for intentions to use contraception, $F(2, 38) = 4.16$, $p < .05$, $\eta^2 = .18$. Follow up Tukey post-hoc tests did not find significant differences within the interaction; however, mean trends indicated the difference may be that non-virgin participants in the low-transportation condition had lower intentions to use contraception than participants who were virgins. Given that this interaction was not significant in follow-up tests and the mean differences were in only one condition, H6b was not supported.

Between-subjects effect for intentions to have an abortion if pregnant (or got someone else pregnant). Although there was no significant within-subjects effect for time, when examining both immediate and delayed posttest, a significant between-subjects effect for condition emerged for intentions to have an abortion, $F(2,$

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39) = 6.8, $p < .05$, $\eta^2 = .26$. Tukey post-hoc tests revealed that control group participants ($M = 2.89$, $SD = 1.94$) had significantly ($p < .05$) greater intentions to get an abortion if pregnant than both treatment groups (low transportation, $M = 1.77$, $SD = 1.48$; natural transportation, $M = 1.82$, $SD = 1.13$). This pattern of findings is counter-hypothetical, thus H6b was not supported.

H7- Promotion of interpersonal discussion. H7 predicted that among the treatment groups, the natural-transportation condition would promote more post-viewing discussion about the show and preventing pregnancy measured at the delayed posttest and also that the treatment conditions would result in more post-viewing discussion about preventing pregnancy. Overall, 87.9% (n = 51) of participants who completed the posttest reported talking with someone about the show they watched (low-transportation [n = 13, 92.9%]; natural-transportation [n = 20, 83.3%]; and control [n = 18, 90.0%]), and 58.6% (n = 34) talked with someone about preventing pregnancy after viewing (low-transportation [n = 7, 50.0%]; natural-transportation [n = 14, 58.3%]; and control [n = 13, 65.0%]). Chi-square analyses revealed no differences either among any of the conditions on whether participants talked with anyone about the show or about preventing pregnancy. Thus, H7 was not supported.

H8-H11: Persuasive Intent, Transportation, Reactance, and Counterarguing

H8- Persuasive intent and transportation. Since the persuasive intent manipulation was successful only within the control groups, only those participants were included in testing this hypothesis, which predicted that viewers in the PI made obvious condition will be less transported into the narrative than viewers who were not made aware of the persuasive intent of the show they were about to watch. An

independent samples t-test, however, did not find a significant difference in transportation based on the PI manipulation, $t(40) = -.93$, $p > .05$, two-tailed. Thus, H8 was not supported.

H9- Persuasive intent and reactance. This hypothesis predicted that when persuasive intent was made obvious viewers would report more reactance. Similar to H8, only control group participants were included in the test of this hypothesis. Independent samples t-tests with (1) logical reactance and (2) emotional reactance as the dependent variables and PI condition as the independent variable were run. No significant difference was found for either logical reactance, $t(40) = -1.11$, $p > .05$, two-tailed, or emotional reactance, $t(40) = -.29$, $p > .05$, two-tailed. Thus, H9 was not supported.

H10- Manipulated transportation and persuasive intent. This hypothesis predicted an interaction effect between the treatment transportation manipulation and PI manipulation conditions. Unfortunately, since the PI manipulation was not successful for either treatment condition, this hypothesis could not be tested.

H11- Transportation and counterarguing. This hypothesis predicted that when transportation is manipulated to be lower in the low-transportation treatment condition, participants will be more likely to counterargue than participants in the natural-transportation condition. Only the low-transportation and natural-transportation conditions were used to test this hypothesis. No significant differences were found for the general counterargument composite, $t(81) = -.77$, $p > .05$, two-tailed, or any of the character specific measures of counter arguing (Nikkole's

mother/ friends, $t[80] = -.51$, $p > .05$, two-tailed; Nikkole, $t[81] = .39$, $p > .05$, two-tailed; Josh, $t[80] = 1.08$, $p > .05$, two-tailed). Thus, H11 was not supported.

H12-H14: Mediation Models

Treatment conditions (low transportation and natural transportation) were combined to test the mediation hypotheses using the Preacher-Hayes indirect effects bootstrapping macro (Hayes, 2009; Preacher & Hayes, 2008). H12 and H13 predicted the resistance to persuasion variables would serve as mediators between transportation into a narrative and changes in attitudes or intentions related to avoiding teen pregnancy/parenthood. When examining the mediation model results the total indirect effects of the independent variable on the dependent variable are evaluated by reporting the total indirect effect estimation provided in the model output. This indirect estimation provides corrected upper and lower bias and accelerated confidence intervals. If zero is within the 95% confidence interval, the indirect effect is considered to be non-significant (no different than zero at $p < .05$, two-tailed). It is possible for mediation to have occurred even in the presence of a non-significant total indirect effect, especially in a multiple mediation model, because effects may be in opposite directions (thus summing to zero) or a significant effect of a single mediator may be drowned out by noise (error) of other non-significant mediators. If direct effects from an independent variable to a mediator variable (a path) and the direct effect from that mediator on the dependent variable (b paths) are significant, then mediation has still occurred.

H12- Reactance and counterarguing as mediators between transportation and narrative persuasion. To test the hypothesized mediated relationship between transportation and narrative persuasion a series of bootstrapping mediation models were conducted with each of the attitude and intention variables separately as the dependent variable and

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transportation (measured) as the independent variable. The mediators were logical reactance, emotional reactance, and the overall counterarguing composites. Virginity status was used as a control variable, since it so often contributed to the models in earlier hypothesis tests. Identification and parasocial interaction with Nikkole's character were also used as controls.

H12 was not supported for any of the attitudes or intention variables (attitudes about avoiding sex, CI: -.22 to .09, $p > .05$; attitudes about using contraception, CI: -.12 to .08, $p > .05$; attitudes about avoiding teen pregnancy/ parenthood, CI: -.24 to .11, $p > .05$; attitudes about abortion, CI: -.20 to .06, $p > .05$; attitudes about adoption, CI: -.19 to .13, $p > .05$; intentions to avoid sex, CI: -.24 to .10, $p > .05$; intentions to use contraception, CI: -.25 to .12, $p > .05$; intentions to avoid teen pregnancy/ parenthood, CI: -.15 to .07, $p > .05$; intentions to have an abortion if pregnant, CI: -.20 to .05, $p > .05$; and intentions to give baby up for adoption if pregnant, CI: -.38 to .12, $p > .05$.

In some of the mediation models for H12, however, individual pathways were significant. There was a direct effect of transportation on attitudes about having sex (c-prime path) ($\beta = .37$, $t = 2.11$, $p < .05$), although none of the mediator a and b paths were significant. A direct effect of logical reactance on attitudes about avoiding teen pregnancy (b path) ($\beta = .27$, $t = 2.19$, $p < .05$) was found. This significant b path did not indicate a mediated effect since there was not a significant relationship from transportation to logical reactance (a path) ($\beta = -.25$, $t = -1.47$, $p > .05$). A significant path between counterarguing and intentions to adopt (b path) ($\beta = .44$, $t = 2.47$, $p < .05$) was found, although this did not indicate mediation since the path between transportation and counterarguing (a path) was not significant ($\beta = -.11$, $t = -.65$, $p > .05$).

H13- Perceived invulnerability, perceived norms, and outcome expectations as mediators between transportation and narrative persuasion. To test the hypothesized mediated relationship between transportation and narrative persuasion a series of bootstrapping mediation models were conducted with each of the attitude and intention variables separately as the dependent variable and transportation (measured) as the independent variable. The mediators were perceived invulnerability, perceived norms (about sex, contraception, and teen pregnancy/ parenthood), and positive and negative outcome expectations. Virginity status was used as a control variable, since it so often contributed to the models in earlier analyses. Identification and parasocial interaction with Nikkole's character were also used as controls.

H13 was not supported for any of the attitudes or intention variables (attitudes about avoiding sex, CI: -.07 to .41, $p > .05$; attitudes about using contraception, CI: -.50 to .08, $p > .05$; attitudes about avoiding teen pregnancy/ parenthood, CI: -.25 to .33, $p > .05$; attitudes about abortion, CI: -.17 to .20, $p > .05$; attitudes about adoption, CI: -.33 to .24, $p > .05$; intentions to avoid sex, CI: -.22 to .40, $p > .05$; intentions to use contraception, CI: -.55 to .16, $p > .05$; intentions to avoid teen pregnancy/ parenthood, CI: -.20 to .21, $p > .05$; intentions to have an abortion if pregnant, CI: -.17 to .26, $p > .05$; and intentions to give baby up for adoption if pregnant, CI: -.33 to .33, $p > .05$.

In some of the mediations models for H13, however, individual pathways were significant. A significant direct effect of norms about having sex on attitudes about avoiding sex (b path) ($\beta = -.29$, $t = -2.18$, $p < .05$) was found, but the relationship between transportation and sexual norms was not significant (a path) ($\beta = -.16$, $t = -.90$, $p > .05$). A

significant direct effect of norms about using contraception on attitudes about using contraception (b path) (β = -.60, t = -6.97, p < .001) was found, but a significant relationship between transportation and contraception norms (a path) (β = .22, t = 1.18, p > .05) was not found. A significant direct effect of norms about teen pregnancy/ parenthood on attitudes about avoiding teen pregnancy/ parenthood (b path) (β = -.67, t = -3.36, p < .01) was found, but the relationship between transportation and teen pregnancy/ parenthood norms was not significant (a path) (β = -.07, t = -.57, p > .05).

The pathway from positive outcome expectations about teen pregnancy/ parenthood to intentions to avoid sex was significant (b path) (β = .45, t = 2.05, p < .05), but the pathway between transportation and positive expectations was not (a path) (β = -.09, t = -.58, p > .05). Significant direct effects of norms about sex (b path) (β = .36, t = 2.24, p < .05) and norms about using contraception (b path) (β = -.59, t = -3.48, p < .01) on intentions to use contraception was found; however, the relationship between transportation and sexual norms (a path) (β = -.23, t = -1.22, p > .05) or contraceptive norms (a path) (β = .15, t = -.70, p < .05) was not significant. There was a significant total effect of transportation on intentions to adopt (c path) (β = -.59, t = -2.20, p < .05). While a direct relationship was present between the independent and dependent variables within the intentions to adopt model, no mediation was found.

H14- Post-viewing discussion as a mediator between transportation and narrative persuasion. To test the hypothesis that transportation into the treatment narrative promotes post-viewing discussion about the show and the topic of teen pregnancy prevention, which then influences delayed posttest attitudes and intentions about preventing pregnancy, the indirect effects bootstrapping mediation macro was

used. Only participants who completed the delayed posttest and watched the treatment narrative could be used in this analysis, since time had to pass to measure post-viewing discussions. Transportation into the treatment narrative was entered as the independent variable and delayed attitudes and intentions as the dependent variables. Four post-viewing discussion variables served as potential mediators: discussion of the show with friends, discussion of the show with boyfriend/girlfriend, discussion of pregnancy prevention with friends, discussion of pregnancy prevention with boyfriend/girlfriend.

H14 was not supported for any of the attitudes or intention variables and in all models no other pathways were significant (attitudes about avoiding sex, CI: -.34 to .15, $p > .05$; attitudes about using contraception, CI: -.16 to .19, $p > .05$; attitudes about avoiding teen pregnancy/ parenthood, CI: -.17 to .31, $p > .05$; attitudes about abortion, CI: -.14 to .33, $p > .05$; attitudes about adoption, CI: -.17 to .27, $p > .05$; intentions to avoid sex, CI: -.72 to .22, $p > .05$; intentions to use contraception, CI: -.32 to .24, $p > .05$; intentions to avoid teen pregnancy/ parenthood, CI: -.26 to .13, $p > .05$; intentions to have an abortion if pregnant, CI: -.17 to .39, $p > .05$; and intentions to give baby up for adoption if pregnant, CI: -.43 to .29, $p > .05$.

Summary of Findings

Most of the predicted hypotheses were not supported. Complete or partial support was found for H2b (for teen pregnancy/ parenthood norms), H5a (for abortion attitudes), and H6a (for sexual intentions). Some of the tested hypotheses produced significant results, but in the opposite direction than hypothesized (H2a for sexual norms; H4a; H5a for teen pregnancy/ parenthood attitudes; H5b for abortion attitudes;

and H6a for contraception intentions). These findings indicate that there may have been differences, but not necessarily in the hypothesized direction. Possible explanations for these unexpected patterns are considered in Chapter 5.

None of the hypotheses testing the effects of knowledge of a show's persuasive intent resulted in significant findings (H8, H9). Additionally, none of the mediation models found evidence that resistance to persuasion mediates the relationship between transportation and narrative persuasion (H12, H13). Post-viewing discussion was not related to the show or transportation (H7) and did not mediate the relationship between transportation and narrative persuasion (H14). Post-viewing discussion, however, was significant in H2b, which predicted that if participants talked with their friends about the show or pregnancy prevention then unhealthy increases in norms about teen pregnancy/ parenthood from the treatment episode would return to levels similar to control participants. See Table 4 for a summary of sexual health effects by condition.

Chapter 5

DISCUSSION

This study set out to answer two research questions: (1) *What* effects does a narrative

E-E episode about the negative consequences of teen pregnancy have on teens' attitudes,

beliefs, discussions, and intentions to avoid teen pregnancy? (2) *How* does the viewer's

knowledge of the show's persuasive intent, transportation, and the suppression of resistance

to persuasion contribute to a narrative E-E episode's persuasive effects? In the process of

investigating these questions, hypotheses were proposed that predicted: (1) the E-E narrative

would have healthy effects on teens, such that they would be more likely to adopt attitudes,

beliefs, and intentions that aligned with avoiding teen pregnancy and parenthood after

watching the treatment episode compared to the control episode; and (2) transportation into

the E-E narrative would enhance healthy effects by suppressing resistance to persuasion and

promoting post-viewing discussion about the episode and the issue of pregnancy prevention.

For this study, healthy effects were defined as beliefs, attitudes, or intentions associated with

or in support of avoiding teen pregnancy or parenthood (e.g., increased perceived

vulnerability—the belief that you are susceptible to pregnancy, or increased intentions to

allow your child to be adopted if pregnant as a teen).

Although most of the hypotheses were not supported, several interesting and

important effects were found that can contribute to our understanding of entertainment-

education, narrative persuasion, and how older teens engage with sexual health messages in

an entertaining format. Four possible contributions of this study were proffered in the

introduction: (1) testing the assumption that E-E messages and narratives may be especially persuasive because the persuasive intent of entertaining messages is less obvious, (2) determining what some of the underlying mechanisms are (or are not) for narrative persuasion, specifically, exploring the relationship between transportation and resistance to persuasion as well as transportation and post-viewing discussion, (3) developing and testing a successful manipulation of transportation into a video narrative and how best to measure counterarguing with a narrative, and (4) evaluating the effects (healthy or harmful) on a number of key sexual health variables of one episode from a television series that has been both popular and controversial. With the exception of developing a successful counterargument measure, results were found for each of these contributions, although not always in the direction hypothesized.

A major strength of this study is that participants -- teenage community college students -- are an important target audience for the kind of E-E intervention evaluated here. Community college students are at high risk of experiencing unplanned pregnancy and receive less information from their schools about pregnancy prevention than most university students (Centers for Disease Control and Prevention, 1997; The National Campaign to Prevent Teen and Unplanned Pregnancy, 2011b). Reactions to just a few of the sexual health measures demonstrate the complex nature of pregnancy prevention in this population. For instance, while more than half of the non-virgin participants responded that they agreed or strongly agreed that "Getting pregnant (or getting someone pregnant) in the near future would really mess up my life," nearly one-fourth of those same respondents said they did not use any form of contraception at least half of the time they have sex and more than half reported using "the pull-out method" for contraception.

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The pattern of results in this study suggests that virgin and non-virgin teenage community college students responded differently to the narrative about teen pregnancy (see Table 4 for a summary of sexual health effects by condition). Compared to the control condition, one or both of the treatment conditions produced effects consistent with teen pregnancy/ parenthood prevention for virgins in terms of lower perceived invulnerability, beliefs that teen sexual activity is less normative, and attitudes in support of contraceptive use (e.g., believe they are vulnerable to pregnancy if they have sex, more positive attitudes about using condoms or another form of birth control). In contrast, the non-virgins were more likely to experience effects consistent with factors supportive of teen pregnancy/ parenthood (e.g., were less concerned about avoiding teen pregnancy/ parenthood and were less likely to endorse abortion as an alternative to teen parenthood) compared to those who did not see the *16 and Pregnant* episode. The only prevention effect for non-virgins was found among Black participants who watched the "Nikkole" episode, such that they reported greater intentions to avoid sex in the near future compared with teens who watched the show about stuttering. There was also one pro-teen pregnancy effect for virgins, who were less likely to intend to use contraception if they were in the natural-transportation condition.

These findings suggest that E-E narratives about sexual health may be more beneficial for virgins. Given the idea that media can serve as a sexual socialization source for adolescents and emerging adults (Brown, Halpern, & L'Engle, 2005; Ward, 2003), it may be that virgins are more influenced by narrative examples than non-virgins because of their lack of personal experience on these issues. More research is needed to examine any potential differences on engagement and processing between virgins and non-virgins for sexual health narratives; in the current study no differences were found for virginity status on

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transportation, reactance, or counterarguing. A chi-square analysis did reveal significant differences by virginity status for prior exposure to any episode of *16 and Pregnant.* Non-virgins were more likely than virgins to have watched the show before participating in this study (χ^2 [1, $n = 121$] $= 4.05$, $p < .05$), although no significant differences were found as a result of prior exposure to the "Nikkole" episode. Future studies should examine the potential impacts of genre interest and selective exposure to sexual health narratives.

Theoretical Implications

The hypotheses were drawn primarily from four theories or models: Transportation Theory, E-ELM, EORM, and SCT. Transportation Theory asserts that transportation into a narrative leads to more story-consistent attitudes and beliefs and that one explanation of how this effect is achieved is because transportation decreases counterarguing (Green & Brock, 2000). E-ELM is a model of narrative persuasion that proposes that some aspects of the story will influence transportation levels (e.g., obviousness of persuasive intent), which in turn affect related attitudes and behaviors through a number of pathways (including peer discussion) (Slater & Rouner, 2002). EORM forwarded the idea that narrative persuasion may occur by suppressing more than counterarguing, but also other types of resistance to persuasion (e.g., reactance, invulnerability, norms, and outcome expectations) (Moyer-Guse, 2008). EORM also included the idea that the lack of obviousness of persuasive intent within narratives may be one reason for their effectiveness. SCT provided the idea that messages and characters within them serve as models for behavioral consequences that when rewarded encourage imitation and when punished discourage imitation.

Some aspects of the current study tested assumptions previously proposed, but which had not been thoroughly tested or when tested produced inconsistent results. For example,

the study was designed to test the importance of obviousness of persuasive intent, whether transportation promotes post-viewing discussion, and the role of resistance to persuasion in narrative persuasion. Other hypotheses tested new propositions, such as the possibility that transportation may reduce other types of resistance to persuasion besides counterarguing, and that normative beliefs generated by viewing might be affected by post-viewing discussion.

Does Awareness of Persuasive Intent Matter?

A common theme in E-E and narrative persuasion literature is that entertaining narratives are effective because people (viewers, readers, listeners) do not realize the content is meant to be persuasive and thus their persuasive defenses are not activated (Dal Cin et al., 2004; Moyer-Guse, 2008; Singhal & Rogers, 2002; Slater & Rouner, 2002). E-ELM predicts that obviousness of persuasive intent will reduce transportation and EORM states that obviousness of persuasive intent will activate reactance; however, prior to the current study these propositions were largely untested. Three hypotheses (H8, H9, and H10) tested whether knowledge of persuasive intent affects narrative processing.

This study is one of the first to manipulate obviousness of the persuasive intent of a narrative. Unfortunately, the manipulation for obviousness of persuasive intent worked in the control condition, but did not in the treatment conditions. The failure of the persuasive intent manipulation in the treatment groups meant that the hypotheses could be tested in only a limited way. It is unclear why the PI manipulation did not work for the treatment condition. One possibility is that the pop culture debates in numerous news and entertainment forums about the effects of the series *16 and Pregnant* (e.g., media star Kim Kardashian has blogged and tweeted about the show being harmful to teenagers) predisposed all the participants to view the program as promoting a specific message.

Nevertheless, tests within the control condition also did not find a relationship between awareness of persuasive intent and transportation (H8) or reactance (H9). While Moyer-Guse and Nabi (2010) found that persuasive intent was perceived as lower for a narrative compared to a non-narrative message and persuasive intent was significantly associated with reactance, persuasive intent was measured and not manipulated. Without manipulating persuasive intent, there is a possibility that some other factor explains the relationship. Perhaps people who already agree with the message's position reported less persuasive intent and less reactance compared to people predisposed to disagree with the message. The current study's results suggest that persuasive intent may not be as important to narrative processing or narrative persuasion as previously assumed. Future studies should continue to explore this possibility.

Does Transportation Promote Post-viewing Discussion?

Two hypotheses (H7 and H14) explored whether transportation into a narrative would promote post-viewing interpersonal discussion and whether post-viewing discussion influenced relevant attitudes and intentions. Neither hypothesis was supported. Both hypotheses were derived directly from predictions made in E-ELM. Surprisingly, however, a majority of participants from both the treatment and control conditions reported talking to someone about the show they watched and the treatment and control condition participants did not differ in whether they talked to other people about pregnancy prevention in the two weeks following the immediate posttest. Since the control condition episode had no sexual or pregnancy-related content, this was an unexpected finding.

One explanation for why the treatment and control groups did not differ on post-viewing discussions about pregnancy prevention is that the study was administered with

control and treatment participants in the same room. Since there were more treatment conditions, more computer screens were playing the *16 and Pregnant* episode per experimental session than were playing the stuttering episode. It is possible that some control condition participants noticed the treatment episode and that somehow this mere exposure was enough to prompt them to talk about pregnancy prevention following the study. Another possibility is a testing effect, such that the immediate posttest questions about teen pregnancy prompted even the control condition participants to discuss the issue with their friends, partners, and family. Two potential solutions for future studies are to: (1) show the treatment and control episodes in separate sessions after random assignment, and (2) employ a Solomon four-group design to control for testing effects.

One finding suggested that post-viewing discussion could be beneficial. Participants in the natural-transportation condition who engaged in post-viewing discussion with a friend had normative beliefs about teen pregnancy/ parenthood similar to the control participants, but respondents in the natural-transportation condition who did not talk with a friend had significantly stronger beliefs that teen pregnancy/ parenthood was normative. Although this finding indicates that the treatment episode may result in unhealthy normative beliefs, it also suggests that talking with friends can diminish that effect. This effect may occur because a teen's unhealthy or exaggerated normative beliefs, which were influenced by the narrative example of teen pregnancy, are returned to control levels once he or she checks in with friends about teen pregnancy and adjusts expectations accordingly. Since at least one other study has found that transportation into a television narrative promotes post-viewing discussion over time (Murphy et al., 2011), the interplay of transportation and interpersonal discussion is worthy of further study.

Does Transportation Suppress Resistance to Persuasion?

Previous studies had documented that transportation suppresses counterarguing, but had not examined other forms of resistance to persuasion. This study, however, found little support for the proposition that transportation reduces resistance to persuasion. In this study transportation did not suppress counterarguing (H11), perceived invulnerability (H1), positive outcome expectations (H3), or negative outcome expectations (H4) at immediate posttest.

Another study also found that transportation did not suppress counterarguing (Moyer-Guse & Nabi, 2010), which is contrary to most theorizing about transportation. Besides possible measurement issues, there may be another reason counterarguing was not suppressed in the treatment or control conditions here. As suggested by Dal Cin et al. (2004), it is difficult to counterargue the real experience of another person, which is exactly what was presented in the treatment and control episodes in this study. The means for counterarguing among the conditions ranged from 2.07 to 3.12, in the lower half of the six-point scale, indicating a general lack of counterarguing across conditions. It is also possible that most people are unlikely to adopt a pro-teen pregnancy position and thus are not motivated to counterargue teen pregnancy prevention messages.

Some of the findings for the resistance measures (e.g., negative expectations). were, in fact, counter-hypothetical, indicating that higher levels of transportation (natural-transportation condition) resulted in increased resistance to persuasion relative to the control condition. The counter-hypothetical argument that increased transportation led to increased pro-teen pregnancy/ parenthood effects because the "Nikkole" episode was actually a message supportive of teen pregnancy, would be supported if participants in the natural-

transportation condition had reported more pro-teen pregnancy/ parenthood effects than participants in the low-transportation condition. This pro-teen pregnancy explanation of the transportation findings does not hold up, however, since counter-hypothetical findings were often qualified by interactions with the participant's characteristics (e.g., race or virginity status) and resulted from a difference between treatment and control rather than differences between natural-transportation and low-transportation. In fact, in only two instances did natural- and low-transportation conditions differ significantly (or marginally) on any of the resistance to persuasion variables: (1) female virgins in the natural-transportation condition had greater perceived invulnerability than low-transportation female virgins, and (2) virgins in the natural-transportation condition had lower perceived norms about having sex at immediate posttest compared to participants in the low-transportation condition. One explanation for a lack of effects on the dependent variables when comparing the natural and low-transportation conditions is that although participants' level of transportation was significantly different between these conditions, both conditions still produced relatively moderate to high levels of transportation (low condition mean = 3.34 versus natural condition mean = 4.09). The mean in the low-transportation condition indicates that those participants were still moderately transported.

Given these limited findings, it was not surprising that none of the mediation models showed a mediation effect for resistance to persuasion between transportation and attitudes/ intentions. Thus, the findings provide relatively little support for the idea that transportation influences resistance to persuasion—in either direction (suppressing or activating).

Are Effects Enduring?

Attitudes about abortion were the only enduring effects found among the treatment conditions and results were counter-hypothetical, such that treatment condition participants maintained attitudes that were less supportive of abortion than control group participants (H5b). The high attrition rate at delayed posttest reduced statistical power and limited the possibility that enduring effects would be found, so this question is largely unanswered. The available data, however, indicate the absence of any sleeper effect across the majority of the dependent variables.

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Methodological Implications

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Manipulating Transportation

Perhaps the most significant methodological implication of the current study is the successful manipulation of transportation into a narrative, especially a video-based narrative. Manipulating transportation has been notoriously difficult (Busselle et al., 2009; Green & Brock, 2000).

Two manipulations were pretested in developing a successful manipulation to decrease transportation based on Green and Brock's (2000) successful manipulation for written materials. Both manipulations (instructions only and pauses only) reached marginal significance in pretesting and when combined into a single manipulation significantly reduced transportation in this study. The successful manipulation, which involved initial instructions and then periodic pauses in the video with instruction reminders, should be relatively simple to adapt to other video-based narratives for future research in this area.

Two manipulations to increase transportation were also pretested (instructions and telling participants about the future deeds of the characters [based on Talor, 2008]), but

neither produced significant or even marginal results, so more work is needed to develop an effective manipulation to increase transportation.

The transportation manipulation that did work in this study is an advantage over previous studies, however, because studies that rely on natural transportation cannot rule out the possibility that both story-consistent attitudes and high levels of transportation result from an extraneous variable, such as a prior held belief.

Measuring Counterarguing

Moyer-Guse and Nabi (2010) failed to find the expected relationship between transportation and less counterarguing using a closed-ended measure. In this study counterarguing was assessed by focusing on each of the main characters (e.g., "Sometimes I felt like I wanted to argue back to what Josh was saying") because different characters in the story tended to represent a range of views about teen pregnancy. This study also examined whether a particular character was associated with general counterarguing (e.g., "While watching the program, I sometimes found myself thinking of ways I disagreed with what was being presented"), so it could be determined with which point of view participants were arguing. None of the character items, however, reliably scaled onto the general counterarguing measures.

Future attempts to measure counterarguing might consider a combination of open and closed-ended items. For example, the first general measure might be: "While watching the program, I sometimes found myself thinking of ways I disagreed with what was being presented" and then a dialog box could ask participants to list examples. The examples the participant remembers could be coded by point of view or issue.

Conducting Research with Community College Students

The data collection for this study on 12 campuses in a relatively small region took four months, considerably longer than originally envisioned. Given that community college students are an important group to include in research about unplanned pregnancy and sexual health, it is worth noting some lessons learned about effective recruiting on community college campuses. For example, more participants were interested if fliers were posted and emails were sent at least a week prior to the study session. Having a second person to help on the day of data collection improved recruitment dramatically. For the most part, community colleges did not seem motivated by the $100 facility fee, but provided more recruitment assistance when the benefits to students (e.g., exposure to research, student monetary incentives) were mentioned.

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Practical Implications

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More differences were found between the treatment and control conditions than were found based on transportation level (see Table 4 for a summary of the sexual health effects). These findings among treatment and control, while not necessarily supportive of study hypotheses, do suggest some practical implications about using an entertainment-education program such as *16 and Pregnant* to promote sexual health among older adolescents. In general, watching the treatment narrative resulted in some teen pregnancy/ parenthood prevention effects (mostly for virgins) on perceived invulnerability, sexual norms, attitudes about contraception, and intentions not to have sex. Pro-teen pregnancy/ parenthood effects were found, however, for positive expectations about teen pregnancy/ parenthood, negative expectations about teen pregnancy/ parenthood, attitudes about teen pregnancy/ parenthood, attitudes about abortion, intentions to use contraception, and intentions to have an abortion.

For example, compared to teens who watched the show about stuttering, after watching the "Nikkole" episode teens thought they would be less likely to experience negative outcomes (e.g., not having enough money for the baby, or missing out on social activities) if they were to become a teen parent.

Since this study was based on viewing of only one episode, and viewers probably watch more than one in a season or across seasons, conclusions about the positive or negative sexual health effects of the series would be inappropriate. It is of concern, nonetheless, that the pattern of results after viewing only one episode is tilted toward pro-teen pregnancy/ parenthood rather than prevention outcomes, especially given the popularity of the show (i.e., two-thirds of the older adolescent participants in this study reported having seen the "Nikkole" episode before). Future research into the power of *16 and Pregnant* to prevent teen pregnancy may benefit from an in-depth content analysis of the episodes and then an experimental comparison of the effects of different episodes that vary in their focus on prevention or portrayal of negative outcomes.

The series has been called a "tool for teaching" and for "initiating conversation" (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2010), and the series certainly has sparked a public dialogue about teen pregnancy, but in this study there was no indication that the "Nikkole" episode promoted post-viewing discussion. This study did find limited support, however, that if post-viewing discussion does occur it may neutralize initial unhealthy normative beliefs. Such a pattern is worthy of further exploration and might suggest that encouraging post-viewing discussion is worthwhile.

It is also possible that this study's mixed and marginal findings are a result of the type of behavioral modeling depicted in the show. SCT posits, for example, that modeling of

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healthy behaviors that are rewarded or unhealthy behaviors that are punished are more likely imitated than purely rhetorical messages. Although the episode used in this study showed the negative consequences of Nikkole's past behavior, the bulk of the show focuses on the consequences of her unseen earlier decisions (e.g., to have sex, to not use contraception, to not have an abortion).

The mixed findings for whether the show promoted or harmed sexual health may mean that the "Nikkole" episode should be classified as entertainment, but not entertainment-*education*. To enhance the educational value of such a show, sexual health advocates might consider encouraging the producers to promote post-viewing interpersonal communication, to focus more on the decisions underlying the consequences experienced by the teen parents, and to provide more information about contraception.

Limitations

One key limitation of this study was the failure of the persuasive intent (PI) manipulation within the treatment conditions, which meant three hypotheses (H8, H9, and H10) could not be fully tested. As suggested earlier, participants may have been quite familiar with the episode and/or the series and thus were not affected by the PI manipulation. Familiarity with the episode and/or series may also have affected other aspects of the study. Although having seen the episode did not appear to be a substantial contributor in the partial correlations, the series *16 and Pregnant* has been seen by so many teens, that any effect may have already occurred and this study suffered from a ceiling effect. A solution would be to test versions of the PI manipulation with different, less popular narratives to understand if the issue was that episode/ series or the manipulation itself.

A measurement limitation related to normative beliefs was that all of the norms were in reference to the participant's friends (i.e., "most of my friends will have sex in the next six months"). It is possible that the results may have differed if the norms items asked about societal norms or norms pertaining to teens at large.

The time it took to complete the study (45 minutes to watch the show, 25 minutes to complete the questionnaire) may have been a limitation. While most participants seemed to enjoy themselves during the viewing (e.g., laughing, smiling, talking to the screen), they were eager to complete the study after the show ended. The questionnaire was long, which may have resulted in less attention and, thus, more error especially in the last measures. Questionnaire length may also have been a factor in attrition in the delayed posttest. Differences in attrition by gender and virginity status also may have affected results, even when controlled for in the analysis. To guard against fatigue, future studies might include fewer dependent variables. With that said, attitudes about adoption, adoption intentions, and abortion intentions were measured with fewer than three items. Future studies should include at least three items for every dependent measure.

Possible testing effects from immediate to delayed posttest could be taken into account if a Solomon four-group design were used.

Perhaps the greatest limitation was sample size. Some of the most interesting interaction effects with variables such as virginity status could not be sufficiently tested because the cell sizes (e.g., $n = 2$ or 3) were too small. Especially for a health issue such as pregnancy prevention that is affected by gender and virginity status, more participants per condition would provide enough power to explore important demographic and sexual status differences.

Finally, it is important to keep in mind that this study examined the effects of only one episode from a long series. The results reported here could be based on episode-specific features that would not carry over into evaluations of the other episodes or the series as a whole. It is also possible that community college students in North Carolina systematically differed in their responses to the treatment episode, thus results may not be generalizable beyond that population. This episode and others from the series have been so widely seen by teens that any effects of this episode may have already been distributed throughout the population, and thus showing this episode may not have had a large effect beyond what has already occurred the first time they were exposed to the series, this episode, or subsequent media coverage about the series.

Future Research

As with many studies, this one raises as many questions as it answers. Many of those are worthy of further study. Future research should more fully explore the idea of negative role models in narratives, and the extent to which identification with the characters plays a role. One of the critiques of the *16 and Pregnant* series is that it glamorizes teen pregnancy by making teen parents "stars" in their own television show. The counter to that criticism is often that these teens are not intended to be positive role models that other teens should aspire to be like, but rather should serve as cautionary tales (negative role models). Is that what happens? Can a teen be both a cautionary tale and a star? Would stories with positive role models be more effective at promoting healthy beliefs, attitudes, and intentions? Does narrative persuasion processing work differently for positive versus negative role modeling? We might expect, for example, that resistance to persuasion variables such as reactance will be more important in positive role modeling (if the viewer feels preached at), whereas

perceived invulnerability may be more relevant in negative role modeling (the viewer can see an example of susceptibility).

In the current study, the entire narrative focused on a health issue (teen pregnancy), however, it is often the case in E-E advocacy that a brief educational/ health message is embedded in a longer entertaining narrative (e.g., a scene that mentions the benefits of HPV vaccination in an episode of *Law and Order SVU*). Future research should explore possible differences in these two E-E strategies.

As mentioned earlier, a thorough content analysis of a sample of the episodes in the series *16 and Pregnant* is needed to provide a more accurate portrait of what messages the episodes actually contain (e.g., ratio of positive to negative outcomes, common positive or negative outcomes that are featured). Once a content analysis is done, episodes that differ from each other on key variables (e.g., emphasizes academic/ career consequences versus relationship consequences) can be experimentally compared to get a better idea of overall series effects and what episode features produce which results.

To better understand the narrative persuasion process, future studies should build upon the few studies that have compared narrative and non-narrative messages. Although it is difficult to find narratives and non-narratives that match on enough features to be truly comparable—this work is critical to understanding the mechanisms that underlie narrative persuasion and also under what circumstances narratives are more effective than rhetorical messages. One problem is that researchers are likely not as adept at creating narratives that are transporting. Not all stories will be transporting so it will be important for researchers to collaborate with professionals to create compelling narratives. Another option is to find a good narrative and then create its rhetorical match.

Effective measures of counterarguing in narratives should be developed. Narratives with more controversial issues that are likely to evoke counterarguments would be ideal. The "Nikkole" episode, for instance, had multiple points of view and some inconsistent messages (e.g., taking care of a newborn is tough, but her mother helped a lot). By developing counterarguing measures with a narrative that has a clear point of view, researchers would be better able to discern when a measure is reliable and valid. Researchers may consider including measures that could demonstrate that consciously teens know teen pregnancy is likely to have negative outcomes, but unconsciously may be thinking about the positive aspects (e.g., how cute the baby is).

Similarly, further testing and refinement of the low-transportation manipulation and the persuasive intent manipulation would be helpful in future research on the persuasive power of narratives. One idea for the persuasive intent manipulation would be to ask participants to rate how persuasive the show might be for someone else. A third-person approach to persuasive intent may allow participants to feel less threatened from admitting the episode was trying to persuade them and thus they might provide a more objective response.

In the current study, transportation was not as strong a predictor as hypothesized. Future studies should explore why transportation is a strong predictor in some cases, but not others. Similar to counterarguing, it may be beneficial to explore narratives that are less ambiguous than *16 and Pregnant* episodes. It is also possible that other concepts, for example, identification, involvement, and contribute strongly to a narrative's persuasive effects. Further research should work on explicating these concepts toward building a model of narrative persuasion that can be reliably applied to real world health issues.

Table 1: Study Design

	Transportation-low (manipulated)	Transportation-natural (no manipulation)	Control episode
Persuasive intent made obvious (manipulated)	Condition 1	Condition 2	Condition 3
No persuasive intent manipulation	Condition 4	Condition 5	Condition 6

Note: Conditions 1 and 4; 2 and 5; and 3 and 6 combined for most analyses.

Table 2: Summary of Means and *T*-test Values for Manipulation Checks

	Mean		*T*	*N*	eta-squared
Transportation	Low	Natural			
	3.63	2.53	-6.648***	81	.36
Treatment	Made obvious	No manipulation	.46	83	>.01
Persuasive Intent	4.14	4.26			
Control	Made obvious	No manipulation	-3.14**	42	.20
Persuasive Intent	4.75	3.74			

Note: ** p < .01, ***p < .001. Higher transportation manipulation check mean indicates greater compliance with manipulation instructions. Higher persuasive intent manipulation check mean indicates belief that the show watched was meant to be more persuasive than entertaining.

Table 3: Correlation Matrix for Key Variables

		Trans-portation	Trans-portation Manipulation Check	Persuasive Intent Manipulation Check	React-ance Logical	React-ance Emotion	Counter-arguing	Counter-arguing (mom & friends)	Invulner-ability	Norms Sex	Norms Contra-ception	Norms Pregnancy/ Parenthood	Positive Outcomes	Negative Outcomes
	Mean	3.95	2.82	4.23	2.06	3.03	2.70	2.09	3.31	4.49	2.45	1.73	3.65	4.2
	SD	.97	.92	1.16	1.12	1.77	1.23	1.22	1.35	1.20	1.11	.95	1.05	1.15
Trans-portation	Corr	1	-.643**	.128	-.215*	-.180*	-.218*	.131	.024	.075	.049	.037	.045	-.043
	N	125	123	125	125	123	125	82	117	120	122	123	123	124
Trans-portation Manipulation Check	Corr		1	-.146	.194*	.283**	.154	-.160	.013	-.074	-.031	.096	-.030	-.010
	N		123	123	123	121	123	80	115	119	120	122	121	122
Persuasive Intent Manipulation Check	Corr			1	.030	.037	-.132	.009	-.077	-.082	-.119	.038	-.059	.060
	N			125	125	123	125	82	117	120	122	123	123	124
Reactance Logical	Corr				1	.132	.380**	.353**	-.015	.200*	.000	.225*	.085	-.012
	N				125	123	125	82	117	120	122	123	123	124
Reactance Emotion	Corr					1	.317**	-.176	-.006	-.156	.076	.028	.111	.061
	N					123	123	80	115	118	120	121	122	122
Counter-arguing	Corr						1	.381**	.041	.091	.069	.151	.122	-.046
	N						125	82	117	120	122	123	123	124
Counter-arguing (teen's mom & friends)	Corr							1	-.069	.033	.006	.157	-.070	.087
	N							82	77	78	80	80	81	82
Invuln-erability	Corr								1	-.221*	.112	.080	-.199*	-.130
	N								117	113	115	115	116	117
Norms Sex	Corr									1	-.015	.176	.070	-.096
	N									120	118	119	119	120
Norms Contra-ception	Corr										1	.265**	-.074	-.103
	N										122	120	121	122
Norms Pregnancy/ Parenthood	Corr											1	-.010	-.268**
	N											123	121	122
Positive Outcomes	Corr												1	-.371**
	N												123	123
Negative Outcomes	Corr													1
	N													124

*Note: * p < .05, ** p < .01*

		Attitudes Sex	Attitudes Contraception	Attitudes Pregnancy/ Parenthood	Attitudes Abortion	Attitudes Adoption	Intentions Sex	Intentions Contraception	Intentions Pregnancy/ Parenthood	Intentions Abortion	Intentions Adoptions
	Mean	3.52	4.89	4.70	2.77	4.00	3.42	4.68	5.50	1.97	3.08
	SD	1.26	1.02	1.20	1.23	1.60	1.96	1.45	.96	1.45	1.88
Transportation	Corr	.074	.025	-.094	-.123	-.067	-.090	.067	-.006	-.099	-.189*
	N	122	121	122	122	123	122	122	121	121	123
Transportation Manipulation Check	Corr	.035	.046	-.024	-.002	.079	.115	.012	.031	-.023	.135
	N	120	119	120	120	121	120	120	119	119	121
Persuasive Intent Manipulation Check	Corr	.224*	.051	-.155	-.196*	.057	.016	-.081	-.087	-.170	-.055
	N	122	121	122	122	123	122	122	121	121	123
Reactance Logical	Corr	.024	-.083	.105	.176	.052	-.021	-.030	-.084	.221*	.200*
	N	122	121	122	122	123	122	122	121	121	123
Reactance Emotion	Corr	.187*	-.100	-.046	-.211*	.172	.003	-.063	-.085	-.219*	-.044
	N	120	119	120	121	121	120	120	119	119	121
Counterarguing	Corr	-.021	-.004	.034	.177	.068	.116	.070	.018	.107	.209*
	N	122	121	122	122	123	122	122	121	121	123
Counterarguing (teen's mom and friends)	Corr	-.057	.111	-.046	.176	-.007	-.056	.124	-.052	.190	.258*
	N	81	80	81	80	82	80	80	78	79	81
Invulnerability	Corr	.125	-.080	-.038	-.111	.030	.166	.065	.105	-.023	-.045
	N	115	115	115	114	115	115	115	114	114	115
Norms Sex	Corr	-.418**	.010	-.017	.091	.030	-.386**	.072	-.130	.142	.088
	N	118	117	118	117	118	118	118	116	116	118
Norms Contraception	Corr	.169	-.628**	-.133	-.011	.046	.034	-.403**	-.170	.001	.110
	N	120	119	120	120	120	121	121	118	118	120
Norms Pregnancy/ Parenthood	Corr	-.099	-.306**	-.490**	.008	-.035	-.106	-.204*	-.354**	.076	-.005
	N	120	119	120	120	121	120	120	119	119	121
Positive Expectancies	Corr	-.004	.027	-.274**	-.113	-.058	-.028	.029	-.177	-.149	-.273**
	N	121	120	121	121	121	121	121	119	119	121
Negative Expectancies	Corr	.034	.173	.427**	.118	.182*	.019	.051	.174	.177	.248**
	N	122	121	122	121	122	122	122	120	120	122
Attitudes Sex	Corr	1	-.019	-.030	-.381**	-.096	.589**	-.110	.089	-.307**	-.043
	N	122	120	121	119	120	121	120	118	119	121

			Attitudes Contraception	Attitudes Pregnancy/Parenthood	Attitudes Abortion	Attitudes Adoption	Intentions Sex	Intentions Contraception	Intentions Pregnancy/Parenthood	Intentions Abortion	Intentions Adoptions
Attitudes Contraception	Corr		1	.232*	.121	-.063	.060	.456**	.178	.014	-.036
	N		121	119	118	119	119	119	117	119	120
Attitudes Pregnancy/ Parenthood	Corr			1	.305**	.055	.101	.204*	.444**	.176	.323**
	N			122	119	120	121	120	118	118	120
Attitudes Abortion	Corr				1	.026	-.061	-.006	.053	.770**	.277**
	N				122	120	120	120	118	118	120
Attitudes Adoption	Corr					1	.012	-.037	-.017	-.143	.392**
	N					123	120	120	119	119	121
Intentions Sex	Corr						1	.025	.246**	-.143	.181*
	N						122	121	118	118	120
Intentions Contraception	Corr							1	.414**	-.026	.057
	N							122	118	118	120
Intentions Pregnancy/ Parenthood	Corr								1	-.116	.137
	N								121	118	120
Intentions Abortion	Corr									1	.291**
	N									121	121
Intentions Adoptions	Corr										1
	N										123

Note: * p < .05, ** p < .01

Table 4: Comparing Sexual Health Effects of Treatment and Control Narrative on Beliefs, Attitudes, and Intentions to Avoid Teen Pregnancy/ Parenthood

Outcome	Posttest[a]	Conditions Being Compared[b]		
		Low-transportation vs. Control	Natural-transportation vs. Control	Natural-transportation vs. low-transportation
Perceived invulnerability	Immediate/ delayed	Prevention (female virgins)	Prevention (male virgins)	Pro-teen pregnancy/ parenthood Natural (female virgins)
Norms, sex	Immediate		Healthy (virgins)	Prevention Natural (virgins)
Positive expectations	Immediate/ delayed		Pro-teen pregnancy/ parenthood	
Negative expectations	Immediate	Pro-teen pregnancy/ parenthood	Pro-teen pregnancy/ parenthood	
Attitudes, teen pregnancy/ parenthood	Immediate	Pro-teen pregnancy/ parenthood		
Attitudes, teen pregnancy/ parenthood	Immediate/ delayed	Pro-teen pregnancy/ parenthood (non-virgins)		
Attitudes, contraception	Immediate/ delayed	Prevention (virgins)		
Attitudes, abortion	Immediate	Pro-teen pregnancy/ parenthood (White)	Pro-teen pregnancy/ parenthood (Black)	
Attitudes, abortion	Delayed	Pro-teen pregnancy/ parenthood (non-virgins)	Pro-teen pregnancy/ parenthood	
Intentions, sex	Immediate	Prevention (Black & non-virgins)	Prevention (Black & non-virgins)	
Intentions, contraception	Immediate		Pro-teen pregnancy/ parenthood (virgins)	
Intentions, abortion	Immediate/ delayed	Pro-teen pregnancy/ parenthood	Pro-teen pregnancy/ parenthood	

Note: [a]This column denotes whether the effect was found in the analysis of immediate, delayed, or the between-subjects average of immediate/ delayed posttests. [b]Terms in parentheses indicate if the effect was qualified by an interaction. "Prevention" applies to beliefs, attitudes, and intentions consistent with not getting pregnant or raising a child as a teen. "Pro-teen pregnancy/ parenthood" indicates beliefs, attitudes, or intentions that are likely precursors to or show support for teen pregnancy/ parenthood.

Figure 1: Predicted Mediation Models
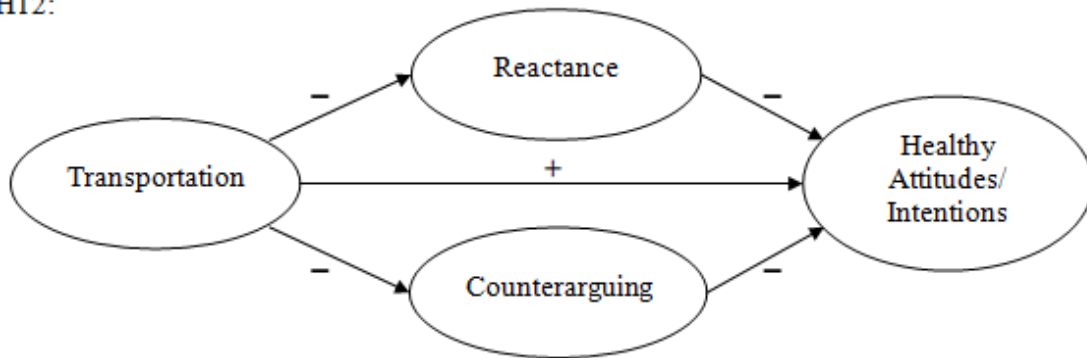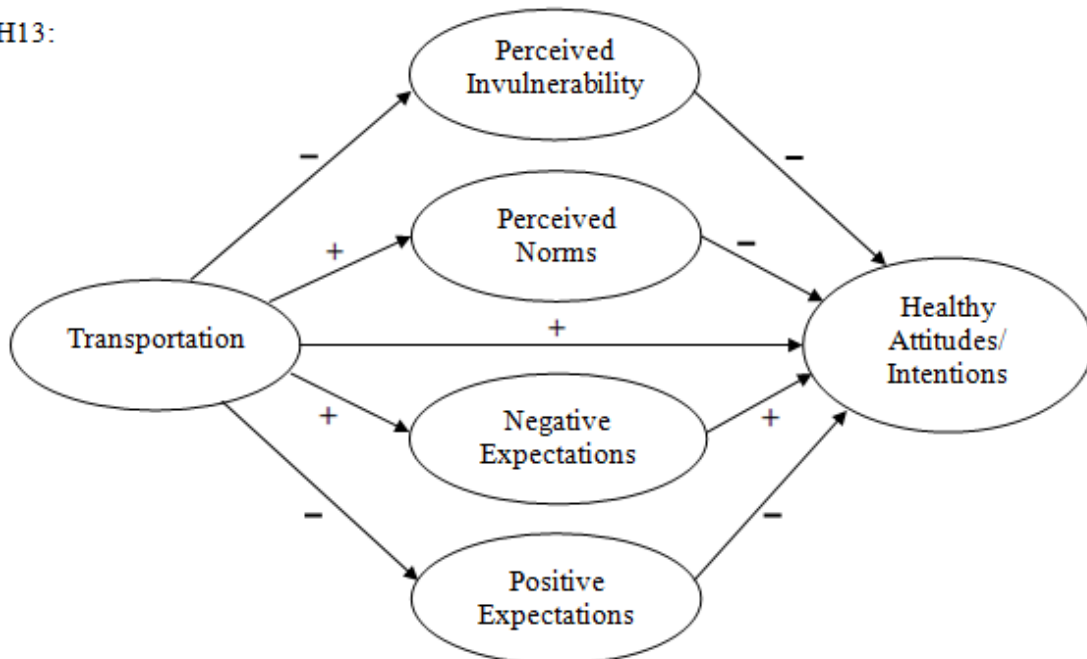
Figure 2: H1b, Perceived Invulnerability Three-Way Interaction Effects Post-Hoc Means
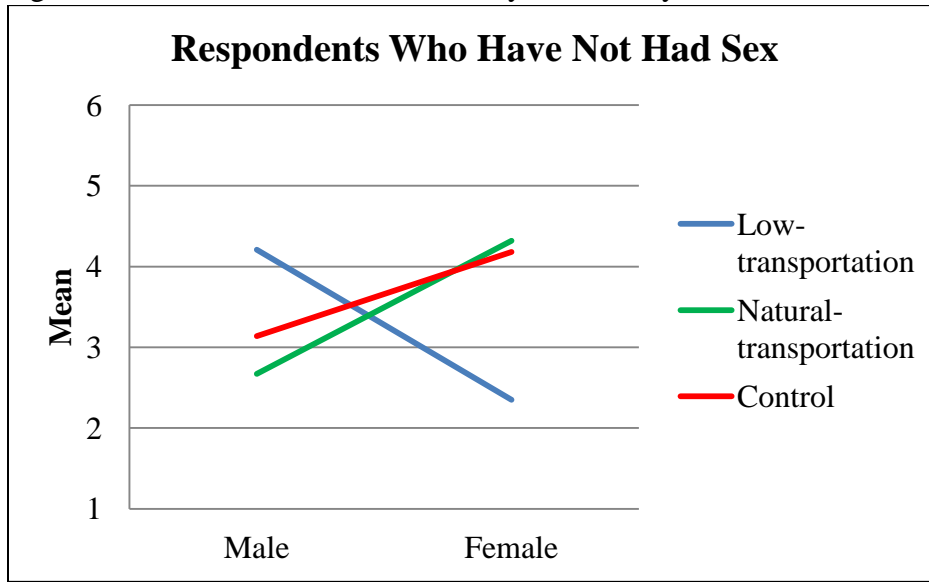
Figure 3: H2a, Perceived Norms about Having Sex Two-Way Interaction Effects Post-Hoc Means at Immediate Posttest

Figure 4: H2b, Perceived Norms about Teen Pregnancy/ Parenthood

Respondents at Delayed Posttest
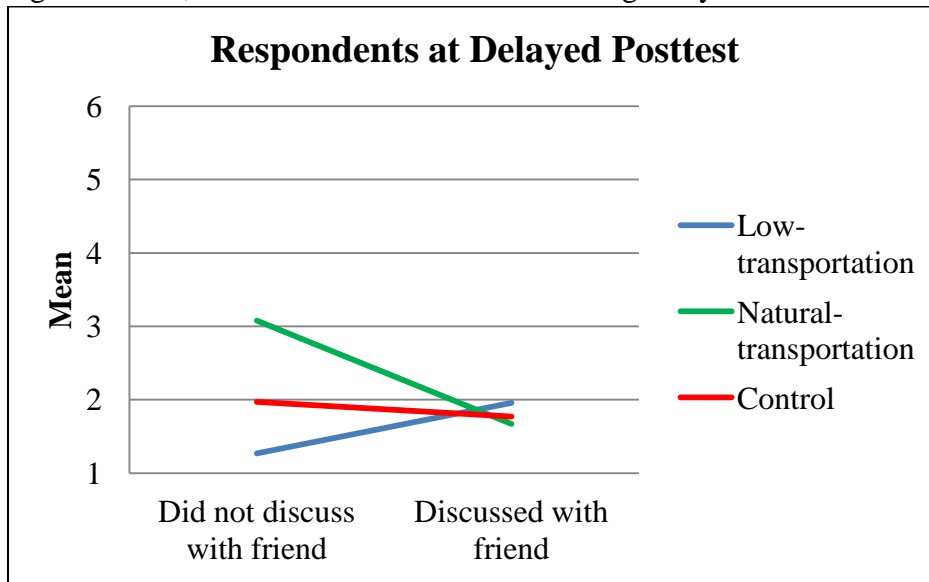
Figure 5: H5a, Attitudes Supportive of Abortion at Immediate Posttest

All Respondents
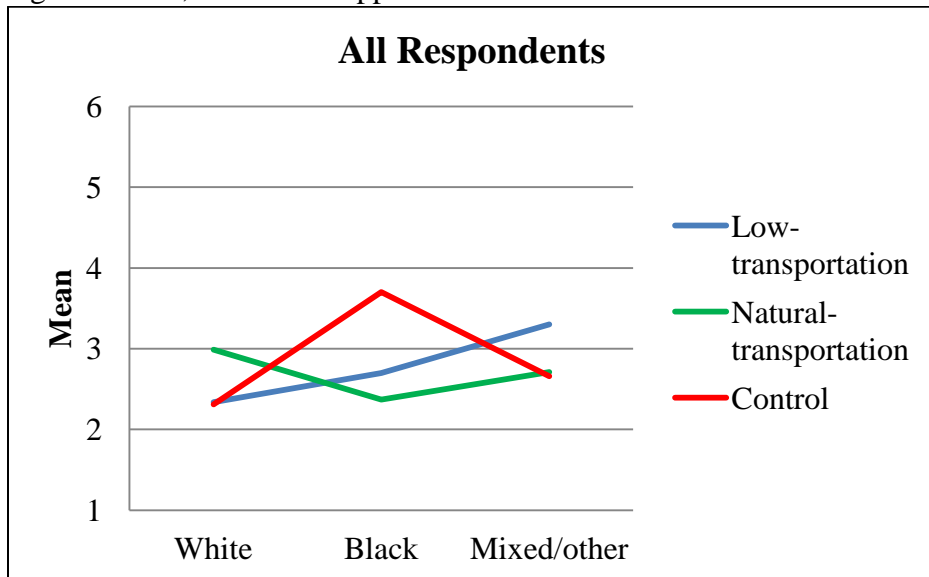
Figure 6: H5b, Attitudes Supportive of Abortion Three-Way Interaction Effects Over Time
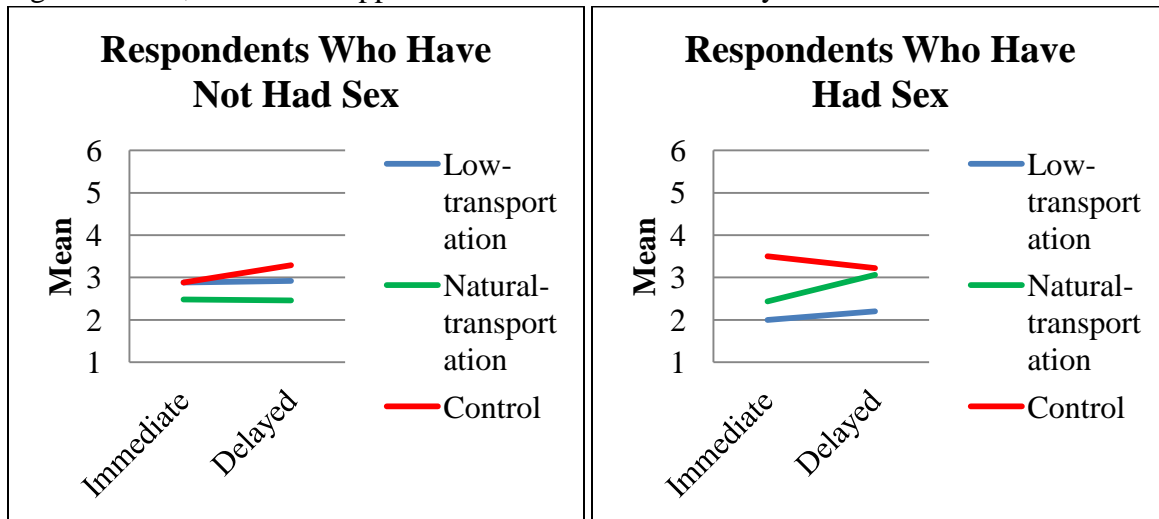
Figure 7: H5b, Attitudes about Using Contraception Two-Way Interaction Effects Post-Hoc Means
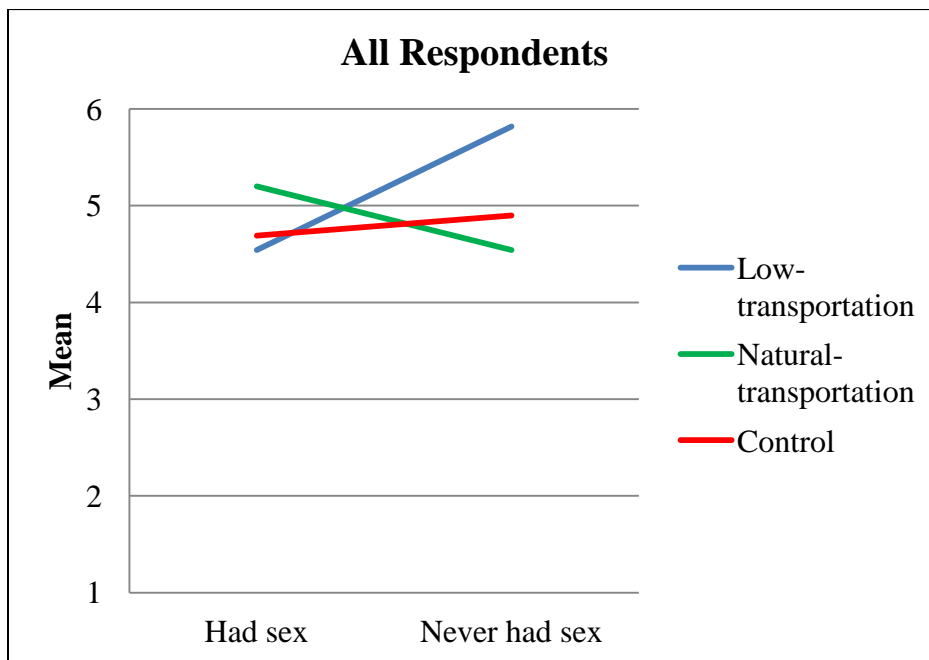
Figure 8: H5b, Attitudes about Avoiding Teen Pregnancy/ Parenthood Two-Way Interaction Effects Post-Hoc Means
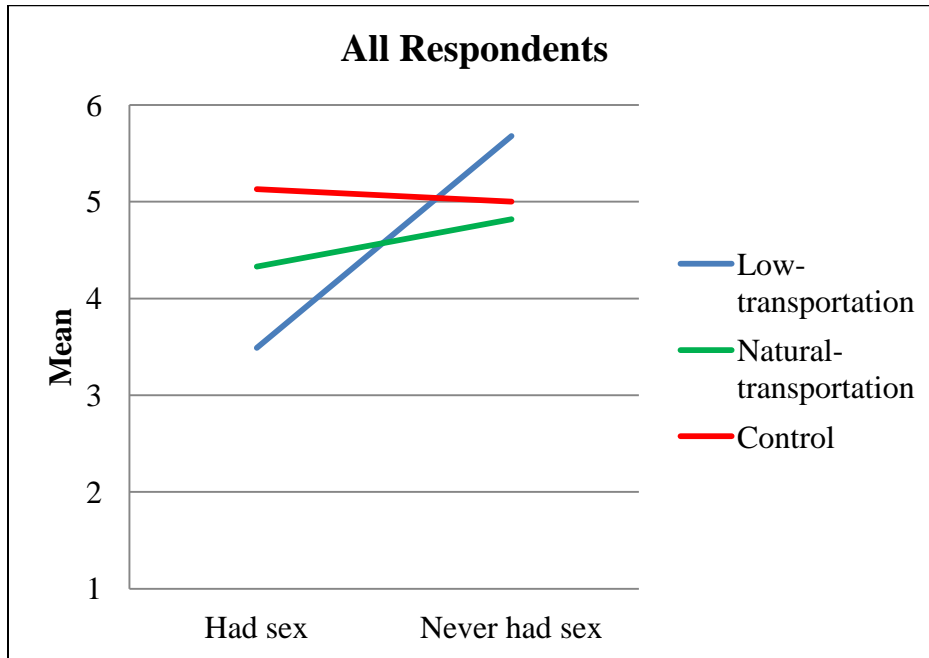
Figure 9: H6a, Intentions to Avoid Sex at Immediate Posttest
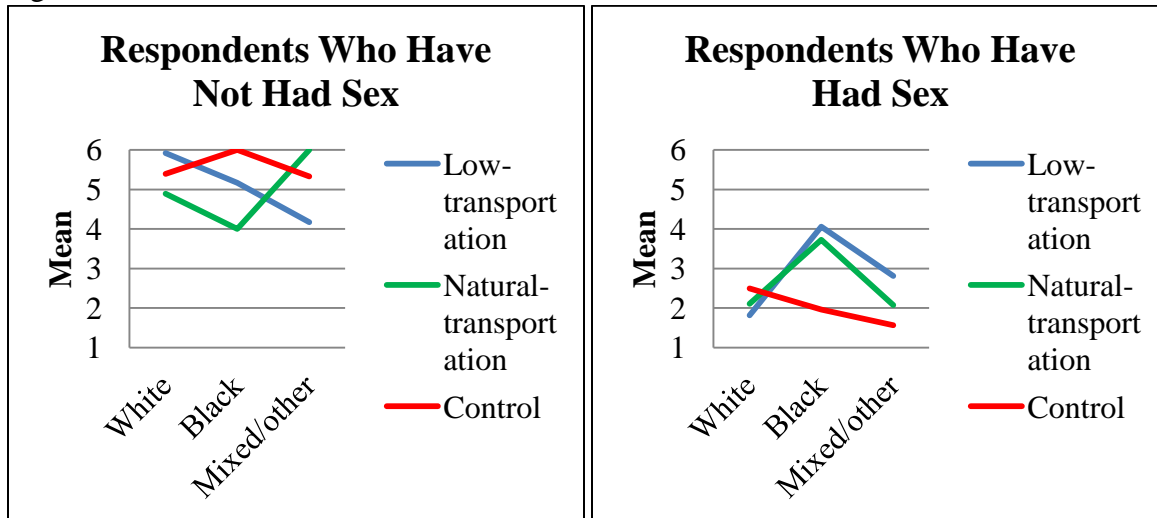
Figure 10: 6a, Intentions to Use Contraception Two-Way Interaction Effects Post-Hoc Means at Immediate Posttest
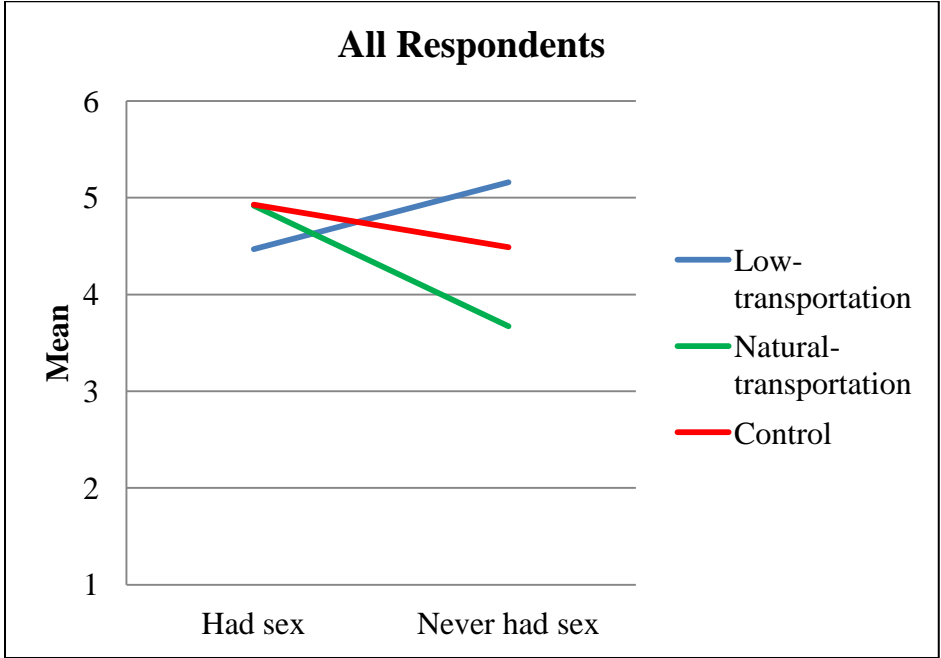
Appendix A: Study Hypotheses and Findings

Hypotheses	Findings
H1a: Viewers of the treatment narrative will have a lower perceived invulnerability to teen pregnancy than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have lower perceived invulnerability than viewers in the low-transportation condition.	Not supported
H1b: The predicted effects of H1a will remain stable at the delayed posttest.	Not supported
H2a: Viewers of the treatment narrative will believe it is more normative for teens to have sex, not use contraception, and become pregnant than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have higher perceived norms than viewers in the low-transportation condition.	**Sex:** Not supported, interaction with "virginity status" produced counter-hypothetical results **Contraception:** Not supported **Teen Pregnancy/ Parenthood:** Not supported
H2b: At delayed posttest, if viewers talked with a friend about the treatment show and/or teen pregnancy then the unhealthy normative effects predicted in H2a will no longer be present.	**Sex:** Not supported **Contraception:** Not supported **Teen Pregnancy/ Parenthood:** Supported
H3a: Viewers of the treatment narrative will have less positive outcome expectations related to teen pregnancy/parenthood than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have less positive outcome expectations than viewers in the low-transportation condition.	Not supported
H3b: The predicted effects of H3a will remain stable at the delayed posttest.	Not supported
H4a: Viewers of the treatment narrative will have more negative outcome expectations related to teen pregnancy/parenthood than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have more negative outcome expectations than viewers in the low-transportation condition.	Not supported, produced counter-hypothetical results
H4b: The predicted effects of H4a will remain stable at the delayed posttest.	Not supported

H5a: Viewers of the treatment narrative will have more positive attitudes about avoiding sex, using contraception, avoiding pregnancy/parenthood, abortion, and adoption than the control group at immediate posttest. Within the treatment conditions, viewers in the natural-transportation condition will have more positive attitudes than viewers in the low-transportation condition.	**Sex:** Not supported **Contraception:** Not supported **Teen Pregnancy/ Parenthood:** Not supported, produced counter-hypothetical results **Abortion:** Not supported, interaction with "race" produced counter-hypothetical results **Adoption:** Not supported
H5b: The predicted effects of H5a will remain stable at the delayed posttest.	**Sex:** Not supported **Contraception:** Not supported **Teen Pregnancy/ Parenthood:** Not supported **Abortion:** Not supported, interaction with "virginity status" produced counter-hypothetical results **Adoption:** Not supported
H6a: Viewers of the treatment narrative will have more positive intentions to avoid sex, use contraception, avoid pregnancy/parenthood, abortion, and adoption than viewers in the control group at immediate posttest. This effect will likely be greatest on intentions to avoid pregnancy/parenthood. Within the treatment conditions, viewers in the natural-transportation condition will have more positive intentions than viewers in the low-transportation condition.	**Sex:** Partially supported, interaction with "race" and "virginity status" **Contraception:** Not supported, interaction with "virginity status" produced counter-hypothetical results **Teen Pregnancy/ Parenthood:** Not supported **Abortion:** Not supported **Adoption:** Not supported
H6b: The predicted effects of H6a will have diminished at the delayed posttest.	Not supported for all

H7: Viewers of the treatment narrative will engage in more interpersonal discussions about the show and teen pregnancy/parenthood in the two-weeks post-exposure than the control group. Within the treatment conditions, viewers in the natural-transportation condition will engage in more interpersonal discussions than viewers in the low-transportation condition.	Not supported
H8: When persuasive intent is made obvious, viewers of treatment and control narratives will be less transported than viewers for whom persuasive intent is not made obvious.	Not supported, only tested with control
H9: When persuasive intent is made obvious, viewers of treatment and control narratives will report more reactance to the narrative than viewers for whom persuasive intent is not made obvious.	Not supported, only tested with control
H10: When persuasive intent is made obvious, viewers of the treatment narrative in the natural-transportation condition will report less reactance than when persuasive intent is made obvious for viewers in the low-transportation condition.	Not able to be tested
H11: Viewers in the low-transportation condition should engage in more counterarguing with the treatment narrative than viewers in the natural-transportation condition.	Not supported
H12: Resistance to persuasion in the form of reacting to the narrative (reactance, counterarguing) will mediate the relationship between transportation and a narrative E-E's persuasive effects (attitudes and intentions). In this meditational model, transportation will be negatively related to reactance and counterarguing; in turn these resistance variables will be negatively related to attitudes and intentions about avoiding teen pregnancy/parenthood.	Not supported for all
H13: Resistance to persuasion in the form of beliefs about the health issue (perceived invulnerability, perceived norms, positive and negative outcome expectations) will mediate the relationship between transportation and a narrative E-E's persuasive effects (attitudes and intentions). In this meditational model, transportation will be negatively related to invulnerability and positive expectations and positively related to norms and negative expectations. Invulnerability, positive expectations, and norms will be negatively related to healthy attitudes and intentions, whereas negative expectations will be positively related to attitudes and intentions.	Not supported for all
H14: Viewers who are more transported into the treatment narrative will engage in more relevant post-viewing discussions than viewers who are less transported. Relevant discussion will in turn lead to more positive attitudes and intentions about avoiding teen pregnancy/parenthood.	Not supported

Appendix B: Study Measures

All items were measured on a Likert-type six-point scale and asked on both the immediate and delayed posttest, unless otherwise noted.

[a]Items were asked on the immediate posttest only.
[b]Items were asked on the delayed posttest only.

Transportation[a]

While I was watching the show, activity going on in the room around me was on my mind.
I was mentally involved in the show while watching it.
After finishing the show, I found it easy to put it out of my mind.
I wanted to learn how the show ended.
The show affected me emotionally.
I found my mind wandering while watching the show.
The events in the show have changed my life.

Counterarguing[a]

While watching the program, I sometimes found myself thinking of ways I disagreed with what was being presented.
While watching the program, I couldn't help thinking about ways that the information being presented was inaccurate or misleading.
I found myself looking for flaws in the way information was presented in the program.
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole was saying.
While watching the program, I sometimes felt like I wanted to "argue-back" to what Josh was saying.
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole's mom was saying.
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole's friends were saying.

Reactance[a]
Logical
The show tried to make a decision for me.
The show tried to manipulate me.
The show tried to pressure me to think a certain way.
The show tried to force its opinions on me.
The show tried to tell me how to live my life.
Emotional
While watching the show, how much did you feel each of the following? (angry, irritated, annoyed, aggravated) (Likert-type six-point scale from Not at All to Very Much).

Manipulation Checks[a]

Transportation

    I tried to pay close attention to the show.

    I set out not to pay close attention to the show.

    I made an effort not to notice what was happening in the room around me.

    I intentionally made an effort to notice what was happening in the room around me.

    I purposefully let myself get emotionally involved in what was happening in the lives of the teens on the show.

    I tried not to get emotionally involved in what was happening in the lives of the teens on the show.

Obviousness of Persuasive Intent

    Do you think the program you just watched was created more to entertain or more to persuade? (six-point semantic differential: Entertain to Persuade)

    The point of the show was to be entertaining.

    The real purpose of the show was to persuade me to avoid teen pregnancy.

    It was obvious that the show was supposed to be more entertaining than persuasive.

    The show creators want teens to abstain from sex, use condoms, or take hormonal birth control.

Identification[a]

I think I have a good understanding of (name of teen mom/name of teen dad/name of teen mom's mother).

I tend to understand the reasons why (name of teen mom/name of teen dad/name of teen mom's mother) did what s/he did.

While viewing the show, I could feel the emotions (name of teen mom/name of teen dad/name of teen mom's mother) portrayed.

At key moments in the show, I felt I knew exactly what (name of teen mom/name of teen dad/name of teen mom's mother) was going through.

When I watched (name of teen mom/name of teen dad/name of teen mom's mother) on the program, I felt I understood the way s/he felt.

When I watched (name of teen mom/name of teen dad/name of teen mom's mother) on the program, I imagined myself doing the same thing s/he doing.

When I watched (name of teen mom/name of teen dad/name of teen mom's mother) on the program, I really felt as if I were one of the people taking part in the drama.

Parasocial interaction[a]

(Name of teen mom/name of teen dad/name of teen mom's mother) makes me feel comfortable, like I'm with a friend.

If (name of teen mom/name of teen dad/name of teen mom's mother) appeared on another show, I would want to watch it.

I see (name of teen mom/name of teen dad/name of teen mom's mother) as a natural, down-to-earth person.

(Name of teen mom/name of teen dad/name of teen mom's mother) seems to understand the kinds of things I want to know.

If I saw a story about (name of teen mom/name of teen dad/name of teen mom's mother) in a newspaper or magazine, I would want to read it.

I miss seeing (name of teen mom/name of teen dad/name of teen mom's mother) when this show isn't on for some reason.

If I could, I would like to meet (name of teen mom/name of teen dad/name of teen mom's mother) in person.

When (name of teen mom/name of teen dad/name of teen mom's mother) shows me how s/he feels about an issue, it helps me make up my own mind about the issue.

Norms

Sex

Most of my friends will have sex in the next six months.

Most of my friends will not have sex in the next six months.

Most of my friends think people my age should wait until they are older before they have sex.

Most of my friends believe it's okay for people my age to have sex.

Most of my friends think it is okay to have sex with a steady boyfriend or girlfriend.

Using contraception

Most of my friends use condoms when they have sex.

Most of my friends believe condoms should always be used if a person my age has sex.

Most of my friends believe condoms should always be used if a person my age has sex, even if the two people know each other very well.

Most of my friends believe a girl my age should be on some form of prescription birth control (for example, the pill or the Depo-Provera shot), if she is having sex.

Pregnancy/ parenthood

Most of my friends want to be a parent before they graduate college.

Most of my friends do not want to be a parent before they graduate college.

Most of my friends would think it was a good thing if I got pregnant or got someone else pregnant before I graduated college.

Perceived Invulnerability

(Likert-type six-point scale from No Chance to Definitely Would Happen)

What are the chances that you would get pregnant (or get someone else pregnant) if:

You had sex once without using a condom.

You had sex once without using prescription hormonal birth control (the pill, Depo-Provera, or an IUD).

You had sex once and during sex the male "pulls out" before ejaculation.

You had sex regularly (once a week for a year) without using any form of birth control.

You had sex regularly (once a week for a year) and used a condom most of the time.

You had sex regularly (once a week for a year) and you (or your female partner) used some form of prescription hormonal birth control.

Outcome Expectations

Negative Expectations
If I get pregnant (or get someone pregnant) in college, I will feel socially isolated.
If I get pregnant (or get someone pregnant) in college, my relationship with my parents will be worse.
If I became a parent in college, I will not be able to achieve my future career goals.
If I became a parent in college, I will not have enough money to take care of the baby.
If I became a parent in college, I won't have time for the activities that I like to do (including hanging out with friends).

Positive expectations
If I became a parent in college, then people would think that I'm mature.
If I became a parent in college, then I will have someone who loves me no matter what.
If I became a parent in college, I will be able to get my own apartment and take care of myself and the baby.
If I became a parent in college, the baby's father (or mother) will help me raise the baby.
If I became a parent in college, the baby's father (or mother) and I will be together forever.

Attitudes

Sex
Abstaining from sex until marriage is important to me.
Once you are an adult, it is okay to have sex, even if you aren't in a committed relationship.
It is okay for people in committed relationships to have sex.

Using contraception
I believe condoms should always be used if a person my age is sexually active.
I believe condoms should always be used if a person my age has sex, even if the two people are in a long-term relationship.
It's okay not to use condoms when you have sex, if you know the person really well.
Girls my age should always be on hormonal birth control, if they are sexually active.
It's a good idea for the girl to be on hormonal birth control, even if she and her partner use a condom.

Avoiding pregnancy/ parenthood
Getting pregnant in the next six months wouldn't be that bad.
Getting pregnant (or getting someone pregnant) in the near future would really mess up my life.
I really don't want to get pregnant (or get someone pregnant) in the near future.
I am really not ready to be a parent.
In the near future, I'd like to be a mother (or father).

Abortion
Abortion is a good way of solving an unwanted pregnancy.
Abortion is wrong no matter what the circumstances are.
A pregnant female not wanting to have a child should be encouraged to have an abortion.
People should not look down on those who choose to have abortions.
If an unmarried teen got pregnant (or got someone else pregnant) they should consider abortion as an option.

Adoption

    If an unmarried teen got pregnant (or got someone else pregnant) they should consider adoption as an option.

    Adoption is a good option for pregnant teens.

Intentions

Sex

    I intend to abstain from sex for the next six months.

    I will probably have sex in the next six months.

    I intend to have sex in the next six months.

Using contraception

    I intend to use a condom the next time I have sex.

    I (or my partner) will be on some form of prescription birth control (for example, the pill or the shot) within the next six months, if I have sex.

    I intend to use condoms and another form of birth control then next time I have sex.

    I intend to use condoms or some other form of birth control every single time I have sex in the next six months.

    I will talk with my partner about using effective birth control methods before I we have sex (again or for the first time).

Avoiding pregnancy/ parenthood

    I will do whatever it takes to avoid getting pregnant (or get someone pregnant) while I'm in college.

    I will do whatever it takes to avoid getting pregnant (or get someone pregnant) in the next six months.

    I intend to get pregnant while I'm in college.

    I don't plan to get pregnant while I'm in college.

Abortion

    If I got pregnant (or got someone else pregnant) tomorrow, I would consider abortion.

    I plan to have an abortion (or ask my partner to have one) if I got pregnant during college.

Adoption

    If I got pregnant (or got someone else pregnant) tomorrow, I would consider adoption.

Demographics and Control Measures[a]

Can you recall ever seeing this episode before today? (Yes/No)

Have you ever watched any episode of MTV's *16 and Pregnant* before today? (Yes/No)

Sexually Active

    Have you ever had sex? (Yes/No)

    Have you ever had sex without any form of birth control? (Yes/No)

    When you have sex, how often do you use some form of birth control? (1 out of 10 times...10 out of 10 times)

Have you ever been pregnant or gotten someone else pregnant? (Yes/No)

Has one of your closest friends been pregnant or gotten someone else pregnant? (Yes/No)

Are you sexually attracted to males? (Yes/No)

Are you sexually attracted to females? (Yes/No)
What is your gender? (Male/Female)
How old are you? (enter age in years)
What is your race/ethnicity? (check all that apply)
    White/Caucasian
    Black/African American
    Hispanic/Latino
    Asian
    American Indian
    Pacific Islander
    Other _____
What is your highest level of education that you have completed?
    First year of college
    Second year of college
    Associate's degree
    Bachelor's degree
    Graduate degree
    Other _____
What is your highest level of education completed by either of your parents?
    Middle school/Junior high
    High school
    First year of college
    Second year of college
    Associate's degree
    Bachelor's degree
    Graduate degree
    Other _____
How important or unimportant is religious faith in shaping how you live your daily life? (Not at all important...Extremely Important)
Do you attend religious services more than 1-2 times a year, not counting weddings, baptisms, and funerals? (Yes/No)
What is your household income (this year)?
    Less than $25,000
    Between $25,000-$50,000
    Between $50,000-$75,000
    More than $75,000

Post-viewing discussion[b]

Since this study, who have you talked to about the show you watched? (choose all that apply)
    did not discuss with anyone
    parent
    sibling
    other family member
    friend
    girlfriend/boyfriend

teacher/counselor
religious leader
health professional
other (please list) _____

Since this study, who have you talked with about preventing pregnancy? (choose all that apply)

did not discuss with anyone
parent
sibling
other family member
friend
girlfriend/boyfriend
teacher/counselor
religious leader
health professional
other (please list) _____

(administered on Qualtrics)

University of North Carolina-Chapel Hill
Consent to Participate in a Research Study
Adult Participants
Social Behavioral Form

IRB Study # 11-0132
Consent Form Version Date: Feb. 1, 2011

Title of Study: Entertaining Television

Principal Investigator: Autumn Shafer
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Study Contact telephone number: 919-923-7833
Study Contact email: shafer@unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary.
You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty. Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. A copy of this consent form is available. You should ask the researchers named above any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to better understand how people view and react to entertaining television.
For the purposes of this study, you will be watching one episode of a popular entertainment program. You will be asked to view the episode and then you will be asked to answer a set of

questions related your reactions. Then in two weeks a second survey will be emailed to you that can be completed online.

How many people will take part in this study?
If you decide to be in this study, you will be one of approximately 160 people in this research study.

How long will your part in this study last?
The study will take approximately 1.5 hours of your time.

What will happen if you take part in the study?
First, you will view a television episode and then you will be asked to fill out a questionnaire to report your reactions to the episode. Please be assured that there are no "right" or "wrong" answers. Also, please be assured that you are free to not answer any questions or to end the study at any time.

What are the possible benefits from being in this study?
Research is designed to benefit society by gaining new knowledge.

What are the possible risks or discomforts involved from being in this study?
You will be asked some questions (e.g., sexual activity) that you may not want to answer. Sharing opinions may be uncomfortable for some people. You are free to not answer any question or to end the study at any time. There may be uncommon or previously unknown risks. You should report any problems to the researcher.

How will your privacy be protected?
We will make every effort to protect your privacy. Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety.

Will you receive anything for being in this study?
You will receive $10 today for participating in this study and will be offered the opportunity to be one of five people randomly selected to receive a $20 Amazon.com gift card by entering your email during the second survey.

Will it cost you anything to be in this study?
There will be no costs for being in this study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researcher listed on the first page of this form.

What if you have questions about your rights as a research participant?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.
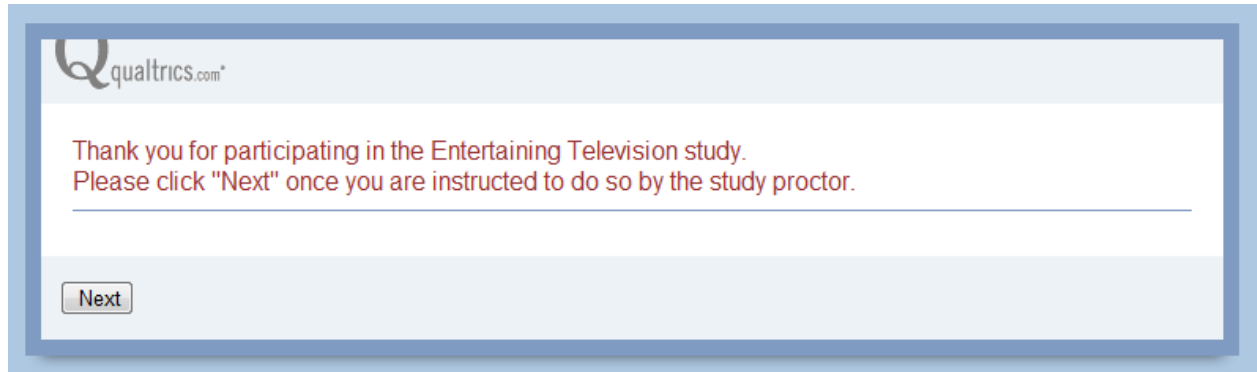
By completing and submitting this survey, you agree to be a participant in this study.

Appendix D: Immediate Posttest Study Questionnaire

(administered on Qualtrics)
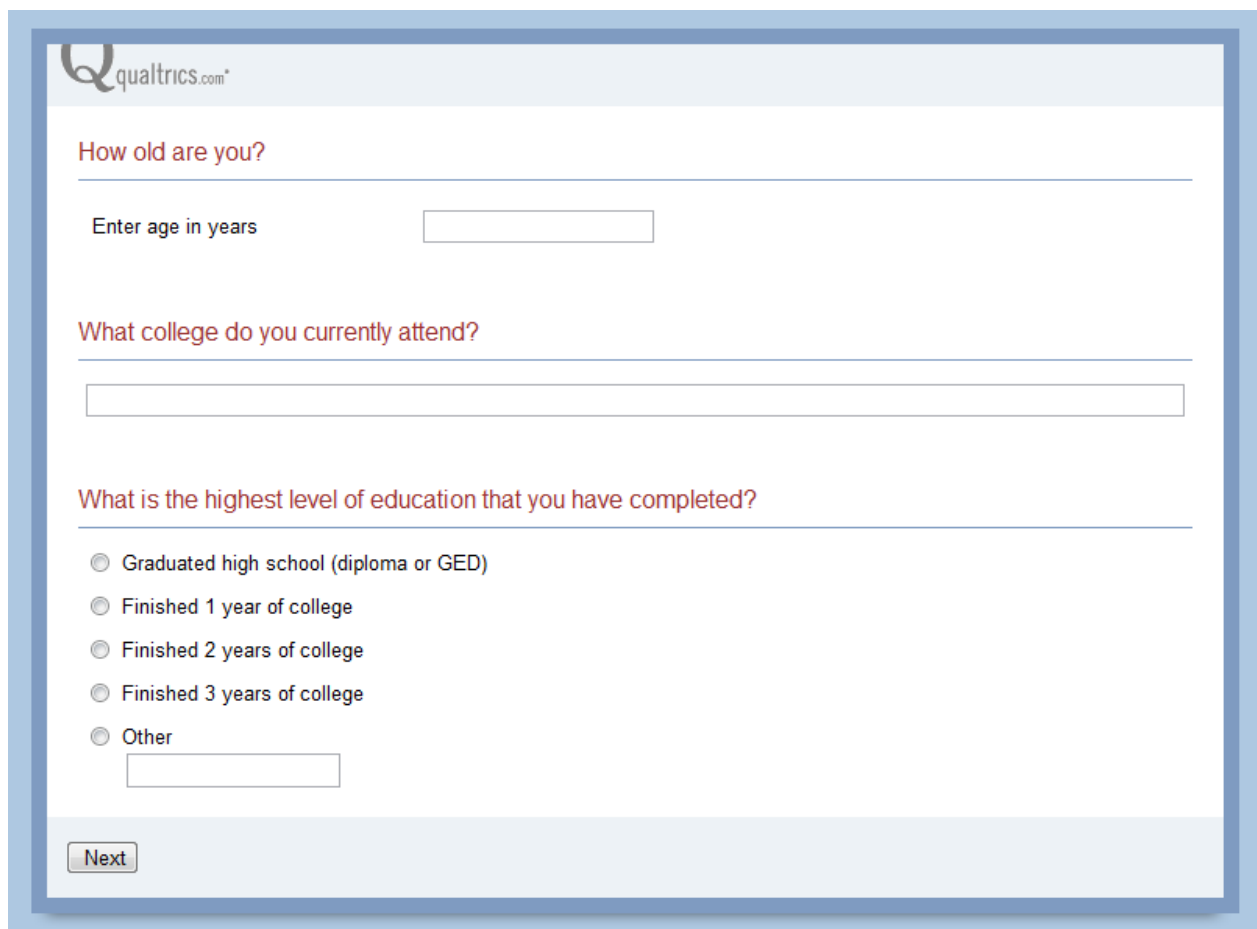
Note: Delayed posttest format was identical. See Appendix B for list of measures present on immediate and delayed posttests.

Place your headphones on and wait for the study proctor to start your video. *Do not hit the next button.*

When you see the credits roll after your show, please return to this survey.

Next

What is the name of the main character in the show you just watched?

○ Enter name here (don't worry about spelling)

○ I can't remember

Next

Please rate how much the follow statements apply to you.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
While I was watching the show, I could easily picture the events in it taking place.	○	○	○	○	○	○
While I was watching the show, activity going on in the room around me was on my mind.	○	○	○	○	○	○
I could picture myself in the scene of the events described in the show.	○	○	○	○	○	○
I was mentally involved in the show while watching it.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
After finishing the show, I found it easy to put it out of my mind.	○	○	○	○	○	○
I wanted to learn how the show ended.	○	○	○	○	○	○
The show affected me emotionally.	○	○	○	○	○	○
I found myself thinking of ways the show could have turned out differently.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
I found my mind wandering while watching the show.	○	○	○	○	○	○
The events in the show are relevant to my everyday life.	○	○	○	○	○	○
The events in the show have changed my life.	○	○	○	○	○	○

Next

144

Please rate how much the follow statements apply to you.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
At points, I had a hard time making sense of what was going on in the show.	○	○	○	○	○	○
My understanding of the characters is unclear.	○	○	○	○	○	○
I had a hard time recognizing the thread of the story.	○	○	○	○	○	○
While the show was on, I found myself thinking about other things.	○	○	○	○	○	○
I had a hard time keeping my mind on the program.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
During the show, my body was in the room, but my mind was inside the world created by the story.	○	○	○	○	○	○
The show created a new world, and then that world suddenly disappeared when the program ended.	○	○	○	○	○	○
At times during the show, the story world was closer to me than the real world.	○	○	○	○	○	○
During the show, when a main character succeeded, I felt happy, and when they suffered in some way, I felt sad.	○	○	○	○	○	○
I felt sorry for some of the characters in the program.	○	○	○	○	○	○

Next

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We are interested in everything that went through your mind as you watched the show.

For approximately 2-5 minutes, please list those thoughts (positive thoughts, negative thoughts, and neutral thoughts) regarding the show, the characters, and the storyline. You may use single words or full sentences. Ignore spelling, grammar and punctuation.

We have deliberately included more space than we think people will need to ensure that everyone would have plenty of room.

Please be completely honest. Your responses will be anonymous.

The form below is for you to record your thoughts and ideas. Simply write down the first thought you had in the first box, the second thought in the second box, etc.

Please put only one idea or thought in a box.

After 5 minutes, you will be automatically directed to the next question. If you finish early, click "next" to proceed.

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Next

Thinking about the show you just watched, please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
While watching the program, I sometimes felt like I wanted to "argue-back" to what Josh was saying.	○	○	○	○	○	○
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole was saying.	○	○	○	○	○	○
While watching the program, I sometimes found myself thinking of ways I disagreed with what was being presented.	○	○	○	○	○	○
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole's friends were saying.	○	○	○	○	○	○

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
While watching the program, I couldn't help thinking about ways that the information being presented was inaccurate or misleading.	○	○	○	○	○	○
There were a lot of inconsistencies in the story.	○	○	○	○	○	○
I found myself looking for flaws in the way information was presented in the program.	○	○	○	○	○	○
While watching the program, I sometimes felt like I wanted to "argue-back" to what Nikkole's mom was saying.	○	○	○	○	○	○

Next

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While watching the show how much did you feel each of the following?

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
Surprised	○	○	○	○	○	○
Bored	○	○	○	○	○	○
Joyful	○	○	○	○	○	○
Irritated	○	○	○	○	○	○
Aggravated	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
Angry	○	○	○	○	○	○
Annoyed	○	○	○	○	○	○
Interested	○	○	○	○	○	○
Amused	○	○	○	○	○	○

Next

Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
The show tried to make a decision for me.	○	○	○	○	○	○
The show tried to manipulate me.	○	○	○	○	○	○
The show tried to pressure me to think a certain way.	○	○	○	○	○	○
The show tried to force its opinions on me.	○	○	○	○	○	○
The show tried to tell me how to live my life.	○	○	○	○	○	○

Next

Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I tried to pay close attention to the show.	○	○	○	○	○	○
I set out not to pay close attention to the show.	○	○	○	○	○	○
I made an effort not to notice what was happening in the room around me.	○	○	○	○	○	○
I intentionally made an effort to notice what was happening in the room around me.	○	○	○	○	○	○
I purposefully let myself get emotionally involved in what was happening in the lives of the teens on the show.	○	○	○	○	○	○
I tried to be emotionally detached from what was happening in the lives of the teens on the show.	○	○	○	○	○	○

Next

Do you think the program you just watched was created more to entertain or more to persuade?

Persuade ○ ○ ○ ○ ○ ○ Entertain

Next

Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
At key moments in the show, I felt I knew exactly what Nikkole was going through.	○	○	○	○	○	○
While viewing the show, I could feel the emotions Nikkole portrayed.	○	○	○	○	○	○
When I watched Nikkole on the show, I imagined myself doing the same things she was doing.	○	○	○	○	○	○
When I watched Nikkole on the program, I felt I understood the way she felt.	○	○	○	○	○	○
I tend to understand the reasons why Nikkole did what she did.	○	○	○	○	○	○
I think I have a good understanding of Nikkole.	○	○	○	○	○	○

Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
At key moments in the show, I felt I knew exactly what Josh was going through.	○	○	○	○	○	○
When I watched Josh on the program, I felt I understood the way he felt.	○	○	○	○	○	○
When I watched Josh on the show, I imagined myself doing the same things he was doing.	○	○	○	○	○	○
I think I have a good understanding of Josh.	○	○	○	○	○	○
While viewing the show, I could feel the emotions Josh portrayed.	○	○	○	○	○	○
I tend to understand the reasons why Josh did what he did.	○	○	○	○	○	○

Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
While viewing the show, I could feel the emotions Nikkole's mom portrayed.	○	○	○	○	○	○
I tend to understand the reasons why Nikkole's mom did what she did.	○	○	○	○	○	○
When I watched Nikkole's mom on the show, I imagined myself doing the same things she was doing.	○	○	○	○	○	○
I think I have a good understanding of Nikkole's mom.	○	○	○	○	○	○
When I watched Nikkole's mom on the program, I felt I understood the way she felt.	○	○	○	○	○	○
At key moments in the show, I felt I knew exactly what Nikkole's mom was going through.	○	○	○	○	○	○

When I watched the program, I really felt as if I were one of the people taking part in the drama.

Not at all ○ ○ ○ ○ ○ ○ Very much so

Next
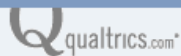
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Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
If I saw a story about Nikkole in a newspaper or magazine, I would want to read it.	○	○	○	○	○	○
Nikkole seems to understand the kinds of things I want to know.	○	○	○	○	○	○
Nikkole makes me feel comfortable, like I'm with a friend.	○	○	○	○	○	○
If I could, I would like to meet Nikkole in person.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
I see Nikkole as a natural, down-to-earth person.	○	○	○	○	○	○
When Nikkole shows me how she feels about an issue, it helps me make up my own mind about the issue.	○	○	○	○	○	○
If Nikkole appeared on another show, I would want to watch it.	○	○	○	○	○	○
I miss seeing Nikkole when this show isn't on for some reason.	○	○	○	○	○	○

Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
When Josh shows me how he feels about an issue, it helps me make up my own mind about the issue.	○	○	○	○	○	○
I miss seeing Josh when this show isn't on for some reason.	○	○	○	○	○	○
If I could, I would like to meet Josh in person.	○	○	○	○	○	○
If Josh appeared on another show, I would want to watch it.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
I see Josh as a natural, down-to-earth person.	○	○	○	○	○	○
If I saw a story about Josh in a newspaper or magazine, I would want to read it.	○	○	○	○	○	○
Josh makes me feel comfortable, like I'm with a friend.	○	○	○	○	○	○
Josh seems to understand the kinds of things I want to know.	○	○	○	○	○	○

Please indicate if the following statements accurately describe your viewing experience and reactions.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
If I could, I would like to meet Nikkole's mom in person.	○	○	○	○	○	○
Nikkole 's mom seems to understand the kinds of things I want to know.	○	○	○	○	○	○
I miss seeing Nikkole's mom when this show isn't on for some reason.	○	○	○	○	○	○
If Nikkole's mom appeared on another show, I would want to watch it.	○	○	○	○	○	○
	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very Much
If I saw a story about Nikkole's mom in a newspaper or magazine, I would want to read it.	○	○	○	○	○	○
Nikkole's mom makes me feel comfortable, like I'm with a friend.	○	○	○	○	○	○
I see Nikkole's mom as a natural, down-to-earth person.	○	○	○	○	○	○
When Nikkole's mom shows me how she feels about an issue, it helps me make up my own mind about the issue.	○	○	○	○	○	○

Next

Qqualtrics.com

Great job, you are more than half way finished with the survey. Please click next.

[Next]

Qqualtrics.com

Please indicate how much your agree or disagree with the follow statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
If I got pregnant (or got someone pregnant) tomorrow, I would try to be on a documentary-style reality show like the one I just watched.	⊚	⊚	⊚	⊚	⊚	⊚
A couple of times while I was watching I remember thinking about how much I want children someday.	⊚	⊚	⊚	⊚	⊚	⊚
The teen parents on this show should be embarrassed because their story is on TV.	⊚	⊚	⊚	⊚	⊚	⊚
It would be fun to star in a documentary-style reality show.	⊚	⊚	⊚	⊚	⊚	⊚
The teen mom on this show would have been better off if she had never gotten pregnant, even if that means she would never get to star in her own show.	⊚	⊚	⊚	⊚	⊚	⊚

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
The struggles the teen mom on this show went through were worth it because she got to be on TV.	⊚	⊚	⊚	⊚	⊚	⊚
While I was watching, I was thinking that teen pregnancy isn't as bad as I thought.	⊚	⊚	⊚	⊚	⊚	⊚
The teen dad on this show would have been better off if he had never gotten his girlfriend pregnant, even if that meant he would never get to be on TV.	⊚	⊚	⊚	⊚	⊚	⊚
If my best friend was pregnant, I think it would be cool if she was on a show like the one I just watched.	⊚	⊚	⊚	⊚	⊚	⊚
Some parts of this show made teen pregnancy look appealing.	⊚	⊚	⊚	⊚	⊚	⊚

[Next]

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What are the chances that you would get pregnant (or get someone else pregnant) if:

	No Chance (1)	(2)	(3)	(4)	(5)	Definitely Would Happen (6)
You had sex once without using a condom.	○	○	○	○	○	○
You had sex once without the female using prescription hormonal birth control (the pill, Depo-Provera, or an IUD).	○	○	○	○	○	○
You had sex once and during sex the male "pulls out" before ejaculation.	○	○	○	○	○	○
You had sex regularly (once a week for a year) without ever using any form of birth control.	○	○	○	○	○	○
You had sex regularly (once a week for a year) and used a condom most of the time.	○	○	○	○	○	○
You had sex regularly (once a week for a year) and the female used some form of prescription hormonal birth control.	○	○	○	○	○	○

Next

Read the following statements and indicate how much you agree or disagree with them.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Most of my friends think it is okay to have sex with a steady boyfriend or girlfriend.	○	○	○	○	○	○
Most of my friends will have sex in the next six months.	○	○	○	○	○	○
Most of my friends think people my age should wait until they are older before they have sex.	○	○	○	○	○	○
Most of my friends will not have sex in the next six months.	○	○	○	○	○	○
Most of my friends believe it's okay for people my age to have sex.	○	○	○	○	○	○

Next

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Read the following statements and indicate how much you agree or disagree with them.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Most of my friends have sex without using any form of birth control (for example, condoms, the pill, the "pull out" method) at least some of the time.	○	○	○	○	○	○
Most of my friends believe a girl my age should be on some form of prescription birth control (for example, the pill or the Depo-Provera shot), if she is having sex.	○	○	○	○	○	○
Very few people my age think that a girl should be on prescription birth control (for example, the pill), if her partner always uses a condom.	○	○	○	○	○	○
Most of my friends use condoms when they have sex.	○	○	○	○	○	○
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Most of my friends believe condoms should always be used if a person my age has sex.	○	○	○	○	○	○
Most of my friends use the "pull out" method to avoid pregnancy, when they have sex.	○	○	○	○	○	○
Very few of my friends use condoms every single time they have sex.	○	○	○	○	○	○
Most of my friends believe condoms should always be used if a person my age has sex, even if the two people know each other very well.	○	○	○	○	○	○

Next

157

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Read the following statements and indicate how much you agree or disagree with them.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Most people my age believe that pregnancy should be avoiding during college.	○	○	○	○	○	○
Most of my friends do not want to be a parent before they graduate college.	○	○	○	○	○	○
Most of my friends would think it was a good thing if I got pregnant or got someone else pregnant before I graduated college.	○	○	○	○	○	○
Most of my friends want to be a parent before they graduate college.	○	○	○	○	○	○

[Next]

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Please indicate how likely the following outcomes are for YOU if you get pregnant (or get someone else pregnant) *while you are in college*:

	Very Unlikely	Unlikely	Somewhat Unlikely	Somewhat Likely	Likely	Very Likely
I will get a lot of positive attention.	○	○	○	○	○	○
My relationship with my parents will be worse.	○	○	○	○	○	○
My relationship with other relatives (like grandparents) will be better.	○	○	○	○	○	○
I will be more popular (or have more friends).	○	○	○	○	○	○
I will feel socially isolated.	○	○	○	○	○	○

[Next]

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Please indicate how likely the following outcomes are for YOU if you become a parent *while you are in college*:

	Very Unlikely	Unlikely	Somewhat Unlikely	Somewhat Likely	Likely	Very Likely
My parents will help me raise the baby.	○	○	○	○	○	○
It will be hard for me to finish college.	○	○	○	○	○	○
I will have someone who loves me no matter what.	○	○	○	○	○	○
The baby's father (or mother) and I will be together forever.	○	○	○	○	○	○
	Very Unlikely	**Unlikely**	**Somewhat Unlikely**	**Somewhat Likely**	**Likely**	**Very Likely**
People would think that I'm mature.	○	○	○	○	○	○
I will not have enough money to take care of the baby.	○	○	○	○	○	○
I will not be able to achieve my future career goals.	○	○	○	○	○	○
I will be able to get my own apartment and take care of myself and the baby.	○	○	○	○	○	○
	Very Unlikely	**Unlikely**	**Somewhat Unlikely**	**Somewhat Likely**	**Likely**	**Very Likely**
It will help me get my life on track.	○	○	○	○	○	○
I won't have time for the activities that I like to do (including hanging out with friends).	○	○	○	○	○	○
The baby's father (or mother) will help me raise the baby.	○	○	○	○	○	○
My life would be complete.	○	○	○	○	○	○

Next

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Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Abstaining from sex until marriage is important to me.	○	○	○	○	○	○
I believe condoms should always be used if a person my age has sex, even if the two people are in a long-term relationship.	○	○	○	○	○	○
Girls my age should always be on hormonal birth control (for example, the pill or Depo Provera), if they are sexually active.	○	○	○	○	○	○
It is okay for people in committed relationships to have sex.	○	○	○	○	○	○
It's okay not to use condoms when you have sex, if you know the person really well.	○	○	○	○	○	○
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I believe that it is okay to have sex without the girl being on hormonal birth control (for example, the pill).	○	○	○	○	○	○
It's a good idea for the girl to be on hormonal birth control (for example, the pill or the patch), even if she and her partner use a condom.	○	○	○	○	○	○
I believe condoms should always be used if a person my age is sexually active.	○	○	○	○	○	○
Once you are an adult, it is okay to have sex, even if you aren't in a committed relationship.	○	○	○	○	○	○

[Next]

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Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Getting pregnant (or getting someone pregnant) in the near future would really mess up my life.	○	○	○	○	○	○
If I get pregnant (or get someone pregnant) tomorrow, it would not be a big deal.	○	○	○	○	○	○
Getting pregnant (or getting someone pregnant) in the next six months wouldn't be that bad.	○	○	○	○	○	○
I really don't want to get pregnant (or get someone else pregnant) in the near future.	○	○	○	○	○	○

Next

Almost done! Thank you for taking the time to participate in the study. Please click next.

Next

Enter the age (in years), in response to the following questions?

What do you think is the best age, if any for you to have your first child? _____

What is the youngest age you can imagine having your first child? _____

Next

Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
If an unmarried teen got pregnant (or got someone else pregnant) they should consider abortion as an option.	○	○	○	○	○	○
The father should be able to have a say in whether the pregnant woman gets an abortion.	○	○	○	○	○	○
The decision to have an abortion should be the pregnant woman's.	○	○	○	○	○	○
Abortion is wrong no matter what the circumstances are.	○	○	○	○	○	○

|	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Abortion is a good way of solving an unwanted pregnancy.	○	○	○	○	○	○
A girl my age should feel obligated to bear a child she has conceived.	○	○	○	○	○	○
People should not look down on those who choose to have abortions.	○	○	○	○	○	○
A pregnant female not wanting to have a child should be encouraged to have an abortion.	○	○	○	○	○	○

Next

Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Adoption is a good option for pregnant teens.	○	○	○	○	○	○
In the near future, I'd like to be a mother (or father).	○	○	○	○	○	○
I am really not ready to be a parent.	○	○	○	○	○	○
Adoption is not a realistic option for most people I know.	○	○	○	○	○	○
If an unmarried teen got pregnant (or got someone else pregnant) they should consider adoption as an option.	○	○	○	○	○	○

Next

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Please indicate how much the following statements apply to you.

	Not at all (1)	(2)	(3)	(4)	(5)	Very much (6)
I intend to practice the "pull out" method and no other form of birth control, if I have sex in the next six months.	○	○	○	○	○	○
I will talk with my partner about using effective birth control methods before we have sex (again or for the first time).	○	○	○	○	○	○
I intend to use condoms or some other form of birth control every single time I have sex in the next six months.	○	○	○	○	○	○
I intend to use condoms and another form of birth control then next time I have sex.	○	○	○	○	○	○
I will probably have sex in the next six months.	○	○	○	○	○	○
	Not at all (1)	(2)	(3)	(4)	(5)	Very much (6)
I intend to abstain from sex for the next six months.	○	○	○	○	○	○
I intend to have sex in the next six months.	○	○	○	○	○	○
I (or my partner) will be on some form of prescription birth control (for example, the pill or the shot) within the next six months, if I have sex.	○	○	○	○	○	○
I intend to use a condom the next time I have sex.	○	○	○	○	○	○

Next

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Please indicate how much the following statements apply to you.

	Not at all (1)	(2)	(3)	(4)	(5)	Very much (6)
I will do whatever it takes to avoid getting pregnant (or get someone pregnant) while I'm in college.	○	○	○	○	○	○
I will do whatever it takes to avoid getting pregnant (or get someone pregnant) in the next six months.	○	○	○	○	○	○
I intend to get pregnant while I'm in college.	○	○	○	○	○	○
I don't plan to get pregnant while I'm in college.	○	○	○	○	○	○

Next

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Please indicate how much the following statements apply to you.

	(1) Not at all	(2)	(3)	(4)	(5)	(6) Very much
If I got pregnant (or got someone else pregnant) tomorrow, I would consider abortion.	○	○	○	○	○	○
I plan to have an abortion (or ask my partner to have one) if I got pregnant during college.	○	○	○	○	○	○
If I got pregnant (or got someone else pregnant) tomorrow, I would consider adoption.	○	○	○	○	○	○
If I (or my partner) was pregnant, I will talk with them about options to either adopt or abort the pregnancy.	○	○	○	○	○	○
I intend to raise the baby, if I (or my partner) got pregnant in the next six months.	○	○	○	○	○	○
I intend to have the baby, if I (or my partner) got pregnant in the next six months.	○	○	○	○	○	○

Next

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Before this study, have you ever talked to anyone about the show 16 and Pregnant? (choose all that apply)

☐ Did not discuss with anyone

☐ Parent

☐ Sibling

☐ Other family member

☐ Friend

☐ Girlfriend/boyfriend

☐ Teacher/counselor

☐ Religious leader

☐ Health professional

☐ Other (please list)

Next

In the past two weeks, have you talked with anyone about preventing pregnancy? (choose all that apply)

- ☐ Did not discuss with anyone
- ☐ Parent
- ☐ Sibling
- ☐ Other family member
- ☐ Friend
- ☐ Girlfriend/boyfriend
- ☐ Teacher/counselor
- ☐ Religious leader
- ☐ Health professional
- ☐ Other (please list)
  _____

Next

Thank you, you are almost at the end of the survey. Just some final demographic questions. Please click next.

Next

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Can you ever recall seeing the show you watched before today?

○ Yes

○ No

Have you ever watched any episode of MTV's *16 and Pregnant* before today?

○ Yes

○ No

Next

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Have you ever had sex?

○ Yes

○ No

Have you ever had sex within the last year?

○ Yes

○ No

Have you ever had sex within the last month?

○ Yes

○ No

Next

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Have you ever been pregnant or gotten someone else pregnant?

○ Yes

○ No

Has one of your closest friends been pregnant or gotten someone else pregnant?

○ Yes

○ No

Next

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Are you sexually attracted to males?

○ Yes

○ No

Next

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Are you sexually attracted to females?

○ Yes

○ No

Next

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What is your gender?

○ Male

○ Female

What is your race/ethnicity? (choose all that apply)

☐ White/Caucasian

☐ Black/African American

☐ Hispanic/Latino

☐ Asian

☐ American Indian

☐ Pacific Islander

☐ Other (please list)

[   ]

What is the highest level of education completed by either of your parents?

○ Middle school/Junior high

○ High school

○ Some college

○ Associates degree

○ Bachelor's degree

○ Graduate degree

○ Other

[   ]

How important or unimportant is religious faith in shaping how you live your daily life?

Not at all important ⊙ ⊙ ⊙ ⊙ ⊙ ⊙ Extremely important

Do you attend religious services more than 1-2 times a year, not counting weddings, baptisms, and funerals?

⊙ Yes

⊙ No

What is your yearly household income?

⊙ Less than $25,000

⊙ Between $25,000 and $50,000

⊙ Between $50,000 and $75,000

⊙ More than $75,000

[Next]

Appendix E: Debriefing From

Note: Customized by community college and provided after completion of the delayed posttest.

Thank you for participating in this research study. We'd like to share some information about the research design and questions we were seeking to answer.

- Research begins with a compelling question. In this study, we want to learn:
  o What effect does an entertainment-education episode have on participants' attitudes, beliefs, and intentions related to issues in the episode? Specifically, effects related to teen pregnancy.
  o First, a research design is created to tackle the research question.
  o Next, we showed you a television program that was designed to be entertaining and educational. Some people saw an episode of 16 and Pregnant and others saw an episode about stuttering, in order to compare the effects of the episodes. Some people were asked to be highly engaged in the show they were watching and others were encouraged not to engage, in order to explore differences in effects based on the idea that greater engagement may lead to greater effects.
  o Then, we asked you questions about your opinions of the program and related beliefs.
  o Later, we'll review your responses along with the other persons in this study. We'll try to determine what, if any, effect these types of programs had on people's health beliefs.

In order to make sure everyone's responses are not biased by outside influences, **please do not speak with anyone about the study for at least two weeks.** It is very important that others who may participate do *not* know the purpose of this study beforehand.

If you would like to learn more about this topic, you may be interested in reading the following:

- The National Campaign to Prevent Teen and Unplanned Pregnancy, (Feb., 2011). Retrieved from: http://www.thenationalcampaign.org/.
- Moyer-Gusé, E., & Nabi, R. (2010). Explaining the Effects of Narrative in an Entertainment Television Program: Overcoming Resistance to Persuasion. *Human Communication Research, 36*(1), 26-52.

If you would like to speak to a counselor about any of the issues in the show or on the questionnaire: you can call your campus counseling services at (336) 599-1181.

If you have any questions or concerns about this study, please contact Autumn Shafer at shafer@unc.edu.

Thank you for your participation! We appreciate your help!
IRB Study # 11-0132
University of North Carolina at Chapel Hill

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