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THE EFFECTIVENESS OF ENTERTAINMENT-EDUCATION AS MEDIA HEALTH CAMPAIGNS: THE EFFECTS OF ENTERTAINMENT NARRATIVE AND IDENTIFICATION ON HIV/AIDS PREVENTIVE BEHAVIOR

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THE EFFECTIVENESS OF ENTERTAINMENT-EDUCATION AS MEDIA HEALTH CAMPAIGNS: THE EFFECTS OF ENTERTAINMENT NARRATIVE AND IDENTIFICATION ON HIV/AIDS PREVENTIVE BEHAVIOR

By

Byoungkwan Lee

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ABSTRACT

THE EFFECTIVENESS OF ENTERTAINMENT-EDUCATION AS MEDIA HEALTH CAMPAIGNS: THE EFFECTS OF ENTERTAINMENT NARRATIVE AND IDENTIFICATION ON HIV/AIDS PREVENTIVE BEHAVIOR

By

Byoungkwan Lee

Entertainment-education (E-E), defined as "the intentional placement of educational content in entertaining messages" to attempt individual and social change, has received attention as a new effective tool of social change by not only communication scholars but also media campaign practitioners. Since many studies have confirmed the effects of E-E on behavioral changes, E-E researchers have turned their attentions into its process; how audiences change their beliefs, attitudes, or behaviors as a result of exposure to E-E programs based on various theoretical explanations such as social \bigcirc learning/social cognitive theory, the extended Elaboration Likelihood Model, audience involvement, and drama theory.

Given that understanding the processing of persuasive content in narrative messages can provide important insights to explain why E-E has effects, examining the roles of narrative and identification in the process of E-E intervention might have a significant implication in the development of E-E research. With this primary interest in the roles of narrative engagement and identification with characters of E-E programs, the current study will provide an explanatory model for specific preventive health behavior, specifically, condom use, including other relevant theoretical variables from social learning/cognitive theory, audience involvement, and the Health Belief Model. A structural equation model proposed in this study represents how the engagement of narrative affects the degree of audience members' identification with character, which is a predictor of perceived susceptibility to and perceived severity of HIV/AIDS, perceived benefits minus perceived barriers of HIV/AIDS preventive behaviors, and self-efficacy toward safer sex behavior. In turn, the model predicts that these four factors positively affect individuals' future safer sex behavior. Finally, five socio-demographic variables (gender, age, education, marital status, and number of sexual partner) will be controlled. This study will use survey data from listeners of a radio serial drama for HIV/AIDS prevention in Ethiopia. A hybrid structural equation model will be estimated using LISREL program, after confirming good-fit measurement model. Findings obtained from this study will substantially contribute not only to the theoretical accumulation of E-E literature but also to the creation of practical design for more effective E-E intervention. Dedicated to my father, Chun-Sik Lee

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CHAPTER 1 INTRODUCTION

As a new effective tool for social change, entertainment-education (E-E), which refers to "the intentional placement of educational content in entertaining messages" to effect individual and social change (Singhal & Rogers, 2002, p. 117), has attracted the attention of not only communication scholars but also media campaign practitioners. In particular, academic and practical interest in the effectiveness of E-E intervention has increased in the area of health communication. Since the mid-1980s, over 200 E-E interventions for health-related educational issues have been implemented (Singhal & Rogers, 2004).

In the case of the U.S., government agencies have been working with the commercial media to insert health messages into existing entertainment programming (Keller & Brown, 2002). A report in an Internet magazine (Forbes, 2000) depicts the government's increasing interest in E-E as an outlet for health media campaigning that substitutes for public service announcements (PSAs). According to the Internet magazine *Salon*, an agency of the Clinton White House, the Office of National Drug Control Policy (ONDCP), secretly worked with all of the commercial television networks to insert the government's anti-drug message into TV scripts as part of the storylines of prime time programs, such as NBC's "ER," Fox's "Beverly Hills 90210," CBS's "Chicago Hope," ABC's "The Drew Carey Show," and WB's "Smart Guy" and "7th Heaven," and paid the networks \$25 million for their cooperation (Forbes, 2000).

In developing countries, the E-E strategy for social change has been conducted

more actively than that in the U.S. Since Miguel Sabido developed the E-E strategy in Mexico based on his analysis of the audience effects of *Simplemente Maria*, a 1969 Peruvian television soap opera, E-E has been considered a popular and effective communication strategy for social change in many developing countries: Brazil (Pastina, Patel, & Schiavo, 2004), Egypt (Abdulla, 2004), India (Sood, 2002) (Singhal & Rogers, 2001), South Africa (Usdin & Singhal, 2004), and Turkey (Yaşer, 2004). For example, about 125 E-E programs for public health interventions were conducted by the support of the Johns Hopkins University's Center for Communication Programs (JHU/CCP) between 1986 and 2002 in over 40 countries (Piotrow & Fossard, 2004).

The growing institutional interest in E-E through popular media might be based on a conviction that the inserting of campaign messages in entertainment programming is as effective as (or more effective than) paid advertising or the PSA. Several advantages of E-E intervention over traditional media campaigns can be indicated. First, the use of entertainment for educational messages can be more effective than traditional media campaigns insofar as the lack of entertainment in many traditional campaigns may have prompted audiences to avoid or to ignore the messages (Greenberg et al., 2004). Fictional dramatic presentation in broadcast media, as Bandura (1997) indicated, is an extraordinarily effective tool to achieve changes, which has widespread social impact because broadcast media can reach huge numbers of people over a prolonged period and C encourage audience members to immerse themselves in the lives of the televised models.^{\$}

Second, there is no reason that media should not teach prosocial behavior if it teaches antisocial behavior (Baran, Chase, & Courtright, 1979). As E-E offers audiences a more balanced perspective regarding antisocial and prosocial content, their attitudinal

and behavioral changes that result from antisocial messages can be decreased (Greenberg et al., 2004). Thus, as Greenberg and his colleagues (2004) argued, a prosocial message disseminated by E-E programs through popular media can play the role of a countermessage that offsets the negative influence of popular media on audiences.

More importantly, the narrative content of an E-E program can be considered an important advantage of E-E over traditional media campaigns. Narrative is an important element of television entertainment programs such as the serial drama, the sitcom, or the mini-series, and therefore, E-E necessarily includes the use of narratives. Greenberg and his colleagues (2004) assert that through its "seamless" integration of information and diversion, E-E can "circumvent" audiences' perceptual defenses against persuasion attempts such as PSA, Web banner ads, or advocacy pamphlets (p. 195). The narrative content of E-E programs is an element for the circumventing (or the suppressing) of audiences' perceptual defenses against persuasive messages. Thus, counterarguments to a persuasive message can be suppressed to the extent that the recipient of the message is absorbed or transported by a narrative (Slater & Rouner, 2002).

The primary goal of the present study is to investigate the persuasive effects of narrative content in the entertainment program of popular media in order to explain why E-E messages have the effects. Many studies have confirmed that E-E affects behavioral changes (Kincaid, Yun, Piotrow, & Yaser, 1993; Piotrow, Kincaid, Rimon II, & Rinehart, 1997; Singhal & Rogers, 1999; Sypher, McKinley, Ventsam, & Valdeavellano, 2002; Valente, Kim, Lettenmaier, Glass, & Dibba, 1994). Whether E-E has an effect, as Singhal and Rogers (1999) noted, is no longer an issue. In fact, based on various theoretical explanations such as social learning/social cognitive theory (Bandura, 2004; Papa,

Singhal, Law, Pant, Sood, Rogers, & Shefner-Rogers, 2000), the Elaboration Likelihood Model (Slater & Rouner, 2002), audience involvement (Bae & Lee, 2004; Sood, 2002), and drama theory (Deighton, Romer, & McQueen, 1989; Kincaid, 2002), E-E researchers have turned their attention to the process underlying E-E and, thus, to how audiences change their beliefs, attitudes, or behaviors as a result of exposure to E-E programs.

Given that an understanding of the processing of persuasive content in narrative messages can provide important insights that will help researchers to explain why E-E has certain effects (Slater & Rouner, 2002), an examination of the roles of narrative and identification in the process of E-E intervention might have a significant implication in the development of E-E research. With this primary interest in the role of narrative in E-E intervention, the current study will provide an explanatory model for specific preventive health behavior, thus, condom use, including other relevant theoretical variables from social learning/cognitive theory, audience involvement, and the Health Belief Model (HBM). Therefore, this study proposes and tests a recursive structural equation model with specific hypotheses in order to examine the roles of narrative engagement and identification with the characters of an E-E program and these roles' relations with other variables that affect condom use for the prevention of the Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS). Survey data drawn from listeners of a radio serial drama for HIV/AIDS prevention in Ethiopia are analyzed for the study. Through this attempt, the current study might substantially contribute not only to the theoretical accumulation of E-E literature but also to the creation of practical design for more effective E-E intervention.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES

The Persuasive Effects of Narrative Content

Narratives refer to stories, accounts, tales, or descriptions. Humans are socially and culturally conditioned into understanding the narrative form (Shankar & Goulding, 2001). Narrative theory views two modes of knowing in the construction of reality, the paradigmatic mode and the narrative mode (Bruner, 1990). While the paradigmatic mode, which is found in the natural sciences, attempts to establish universal truth conditions through propositions and laws, the narrative mode is a product of the literary and interpretive social sciences and emphasizes the recounting and the explaining of events through storytelling (Langley, 1995). Narrative thinking as a process is "the translation of one's own and others' experiences into stories that integrate facts, perceptions, emotions, intentions, actions, and consequences into coherent meaning"(Cole, 1997, p. 331). Cole (1997) noted that "narrative thought makes it possible to interpret events by constructing coherent causal patterns of meaning that blend what is known about a situation (facts) with relevant conjecture (imagination)" (p. 333). Through narratives, we learn about who we are, our history, and our culture (Shankar & Goulding, 2001).

Although narrative impact has long been a focus in some disciplines such as sociology, communications, humanities, and political science, it has been overlooked or even discounted within psychology (Brock, Strange, & Green, 2002). As a result, as Brock and others (2002) argued, the scientific studies of persuasion within psychology have directed considerably more attention to rhetoric rather than to narrative even though

narrative is much more prevalent than rhetoric in our everyday life. Rhetorical persuasion refers to a variety of messages such as editorials, advertisements, public campaigns, and political speeches in which arguments are adduced for an advocated opinion or position (Green & Brock, 2002).

Narrative persuasion can be compared with the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986), a well-known model for rhetorical persuasion, in terms of several theoretical differences. First, these two persuasion approaches have a different role regarding personal relevance in message processing. In the ELM, the personal relevance of a message or issue is an important variable that affects the motivation to process a persuasive message. Thus, personal relevance increases a person's motivation for engaging in a "diligent consideration of the issue-relevant information" (Petty et al., 1983, p. 143). Green and Brock (2002) argued, however, that there is no steady effect of personal relevance for fictional narratives (Green & Brock, 2002). For example, a finding (Prentice, Gerrig, & Bailis, 1997) showed that weakly supported arguments have less impact in more personally relevant conditions (familiar settings), whereas other findings (Weeler, Green, & Brock, 1999) showed that weakly supported arguments strongly affect beliefs regardless of the familiarity (personal relevance) of the narrative setting. Accordingly, in light of these findings, the ELM limits intensive processing to personally relevant communications and allows for narrative persuasion to be differentiated from the ELM (Green & Brock, 2000).

Although a need for cognition plays an important moderating role in rhetoricbased persuasion, need for cognition does not seem to moderate attitude or behavior changes in narrative-based persuasion because it is not helpful to conceive of evoked

images as independently strong or weak (Green & Brock, 2002). Several experiments by Green and Brock (2000) found that the need for cognition was associated with neither beliefs nor character evaluations in response to narratives. Thus, their findings suggested that individual difference in the need for cognition is not a reliable moderator of the impact of a story on beliefs or on character evaluation ratings.

Green and Brock (2002) indicated that the overall character of the persuasion message makes another difference between rhetoric-based and narrative-based persuasion. In rhetoric-based persuasion, messages consist of arguments, whereas stories in narrativebased persuasion feature images. Green and Brock (2002) argued that "arguments can stand alone and can be assessed for their inherent strength or weakness, whereas images derive their strength and power from their evocation of story events" (p. 332).

Slater and Rouner (2002) argued that a clear distinction between central and peripheral processes, which is proposed by a dual-process model such as the ELM proposes, is no longer discernable in narrative-based persuasion because the impact of the persuasive subtext imbedded in the narrative will be a function of the extent to which the audience members engage with the narrative. In this respect, both engagement (transportation or absorption in other literature)¹ with the story line and identification with characters are—instead of the issue involvement suggested by the ELM—important variables underlying the persuasive effects of the narrative.

Therefore, in the next section, the roles of narrative engagement and identification in the narrative contents are discussed based on the psychological mechanism related to

¹ Engagement, absorption, and transportation are used interchangeably in this study. These three terms have been used to describe the same phenomenon by different researchers (Slater & Rouner, 2002).

the concepts of narrative engagement and identification. It is believed that a psychological understanding of narrative impact can provide not only another approach to persuasion strategy but also feasible explanations of why narratives are effective on people's beliefs, attitudes, or behavior.

Narrative Engagement and Identification

Although most E-E programs deal with the affective and emotional aspects of human communication, theoretical investigations of E-E are currently emphasizing the role of emotions (Singhal & Rogers, 2004). Oatley (2002) argued that the impact of fictional narrative primarily stems from the recipient's emotions that are elicited by the vicissitudes that occur to the protagonist-agent. He views emotion as "the engine of narrative impact" (Brock, Green, & Strange, 2002, p. 344). Through the structures of narrative, readers construct their own narratives and then experience their own emotions rather than those associated with the protagonists of the narrative. In other words, as readers (or audiences) assimilate a story, their emotions are their own, rather than those of the characters.

Oatley (2002) notes that through emotion, fictional narrative transports the readers or audiences to the story world. He emphasizes the concepts of transportation in the psychological processes by which narrative effects occur in audiences (or readers). *Transportation* can be defined as the extent to which "individuals are absorbed into a story or transported into a narrative world" (Green & Brock, 2000, p. 701) or "the degree to which a message recipient is cognitively and affectively invested in a narrative" (Slater & Rouner, 2002, p. 179). Compared to a dual-process model, their emphasis is on the role

of transportation in narrative-based persuasion. First, given that transported readers (or audiences) are less likely to disbelieve or counterargue story claims, transportation might reduce negative cognitive responses to a message embedded in narrative content. Second, transportation might encourage readers to experience the fictional narrative world as a more real world. Given that direct experience significantly affects the formation of people's attitudes and behaviors (Fazio & Zanna, 1981), this claim can be another important aspect of the persuasive effects of E-E. Finally, they argued that as transportation creates strong feelings toward story characters, the experiences or the beliefs of the characters in the narrative content might have an enhanced influence on readers' beliefs.

In fact, previous studies have empirically demonstrated the persuasive effects of narratives (Green & Brock, 2000; Kopfman, Smith, Yun, & Hodges, 1998; Prentice et al., 1997; Slater & Rouner, 1996; Stephenson & Palmgreen, 2001; Strange & Leung, 1999; Weeler et al., 1999). Their findings showed that narrative anecdotal arguments could be more effective than fact-based arguments. For example, examining the cognitive and affective reactions to organ donation messages, Kopfman and her colleagues (1998) found that narratives about organ donation produced a greater influence on the respondents' affective reactions. Additionally, their findings showed that narratives forced individuals to generate more total, positive, and negative emotions than statistical evidence messages, although this effect was not statistically significant. Assessing the influences of both the message sensation value and personal involvement with marijuana on three types of processing (cognitive, narrative, and sensory), Stephenson and Palmgreen (2001) found that when anti-marijuana PSA viewers were engaged in

narrative processing, they tended to be engaged in argument-related cognitive processing. Strange and Leung (1999) examined how anecdotal accounts in news and in fiction can influence judgments about a social problem's urgency, causes, and cures. Their results showed that both news and fictional stories influenced participants' judgments about the causes of and the solutions to the dropout problem of high school students and about the urgency with which policy makers should attend to educational and health care reform. Slater and Rouner (1996) examined the effects of anecdotal evidence on youths' alcoholrisk beliefs. According to their findings, when an alcohol education message included anecdotes, respondents responded to the message presentation more positively. Respondents also tended to rate the messages as being of higher persuasive and writing quality as well as more believable in the presence of anecdotes.

Despite this empirical support, most studies have overlooked the mediating role of identification in narrative content. Owing to this lack of accountability for a form of identification that might mediate the effects of narrative engagement on audiences' beliefs, attitudes, or behaviors, no important reason why narrative modes have a greater impact than nonnarrative modes could be fully explained. Identification with characters plays a crucial role in narrative-based persuasion because the character is the driving force in fiction (Green & Brock, 2000, p. 702). Identification is a fundamental psychological process in which a fictional narrative has persuasive effects on people's attitudes and behaviors. Freudian psychoanalysis theory views identification as "the earliest expression of emotional tie with another person," which results from psychological pressures caused by the Oedipus complex (Freud, 1949, p. 60). In the earliest stage of a male child's life, for example, a little boy exhibits a special interest in

his father; he would like to grow like him and be like him, and take his father everywhere (Freud, 1949). However, it is not necessarily that a child's object of identification is limited to his or her parents. Identification involves imagining being someone else and imagining behaving like someone else (Wollheim, 1974). Thus, the object of identification can be any other person or character in fiction. For example, Oatley (2002) explained the identification as a process of simulation, which provides a principal basis on which to think about what connects the audience (or the reader) to the text. He argued that when encountering narratives, the audiences (or readers) identify with a character and in turn, transfer the character's actions to their own planning processes in order both to make sense of these sequences and to experience the emotions that the actions bring about. In addition, Oatley (2002) claimed that identification is one of the principal psychological processes in which emotional effects occur in readers and audiences of narrative fiction:

The impact of fiction is largely emotional. Emotions occur as readers or watchers construct their own versions of the story. As the simulation runs, emotions occur to readers or watchers that depend on psychological processes such as identification with a protagonist, sympathy for story characters, and activation of emotional autobiographical memories that resonate with story themes. (Oatley, 2002, p. 41)

In the area of media studies (e.g., Basil, 1996; Cohen, 2001; Cohen & Perse, 2003; Fraser & Brown, 2002; Hoffner & Cantor, 1991; Liebes & Katz, 1990; Livingstone, 1991; Zillmann, 1994), the role of identification has been emphasized as a central mechanism underlying media effects. Although identification with media characters has generally been understood to stand for either an audience member's feelings of affinity

for, friendship with, similarity toward, liking of media characters, or imitation of a character, identification has been explained and conceptualized in a variety of ways by different theorists (Cohen, 2001). Liebes and Katz (1990) explained identification as audiences' responses to media characters based on three types of reactions: liking, being liking, and wanting to be like. Hoffner and Cantor (1991) also indicated that audiences' responses to media characters have three components: liking, perceived similarity to characters, and desire to be like characters. Oatley (2002) argued that identification involves two factors such as "likeness to a character" and "wanting to be like that character" (p. 62). Most studies on audience involvement (Basil, 1996; Brown, Basil, & Bocarnea, 2003; Horton & Wohl, 1956; Levy, 1979; Rubin & McHugh, 1987; Sood, 2002) have used parasocial interaction as a concept similar to identification. Parasocial interaction originally meant quasi-relationships that audience members develop with media performers or the characters that they portray, relationships that are similar to those that surface within the audience's peer group (Horton & Wohl, 1956). Levy (1979) found that television news viewers parasocially interact with the media personae both affectively and cognitively. Rubin and Perse (1987) classified parasocial interaction into three sub-dimensions: affective, cognitive, and behavioral parasocial interaction. Affective parasocial interaction is the "degree to which audience members identify with a particular media character," whereas cognitive parasocial interaction is the "degree to which audience members pay careful attention to the characters in a media message and think about its educational content" (Singhal & Rogers, 1999, pp. 172-173).

In contrast, Cohen (2001) conceptualized identification in a specific manner. He defines identification as "an imaginative process invoked as a response to characters

presented within mediated texts" (Cohen, 2001, p. 250). Citing Wollheim's (1974) interpretation of Freud's thought, Cohen (2001) distinguished identification from imitation. He argued that although identification has an internal component, imitation has external and behavioral components. He views imitation as a consequence of identification. He distinguishes identification from concepts such as liking, similarity, and affinity because identification does not foster any attitudes or judgments that audiences based on their perceptions of characters and of themselves—make about these characters. Furthermore, he posits that identification should be distinguished from parasocial interaction because identification with a media characters is based on a psychological attachment between the viewer and a character rather than on the viewer's interaction with a character. Despite Cohen's (2002) arguments, it is true that identification and its related concepts have been used interchangeably. Although further research that would clarify the distinctions between them is required, whether identification can be distinguished from other similar concepts might depend on how identification is broadly conceptualized.

In spite of the arguable conceptualization of identification, a rigorous understanding of the relationship between audiences' engagement with a narrative and audiences' identification with characters might provide researchers with an important insight into the effectiveness of E-E intervention. Slater and Rouner (1997) have identified two factors that drive people's engagement with a narrative: narrative interest and identification. Slater (2002) argued that an audience's engagement with an E-E message should be governed by the extent of the audience's identification with characters and by the level of narrative interest that the plot holds for the audience. Examining the

role of transportation in narratives, Green and Brock (2000) found that transportation had an impact on story-consistent beliefs and on audiences' evaluations of characters in a narrative. Thus, their findings showed that highly transported participants not only reported beliefs that were more consistent with those implied in the story but also felt more positive sentiments toward the characters in a narrative.

The relationship between narrative engagement and identification (parasocial interaction in audience involvement research) has also been explained in the audience involvement literature.² In the interpersonal and mass communication field, audience involvement is defined as "direct personal experience" during message reception (Krugman, 1966, p. 583), or the degree to which audience members perceive a connection between themselves and mass media content and the degree to which the members interact psychologically with a medium or its messages (Levy & Windahl, 1984). Identifying involvement as a mediator of responses towards prosocial behaviors promoted by an E-E media program, Sood (2002) conceptualized parasocial interaction and reflection as two elements that consist of audience involvement. Although the author did not provide a clear distinction between parasocial interaction and identification, it seems that both processes overlap (Brown & Fraser, 2004). Sood (2002) viewed identification as a part of audience involvement that is one way in which to promote the development of identification. Examining possible differences between identification, parasocial interaction, and imitation, Cohen and Perse (2003) found a strong positive correlation (r = .73) between identification and fictional involvement.

² Narrative engagement (or transportation) is considered as similar to the concept of audience involvement (Sood, 2002).

In summary, an audience's consuming of narratives leads to audience's engagement with the narrative content, as the fictional narrative transports the audience to the story world. In turn, as the engagement creates audience members' strong affective and cognitive responses to the characters in the narrative content, the experiences or the beliefs of the characters in the narrative content might have an enhanced influence on

audiences' beliefs. In other words, narrative engagement leads to the audience's

identification with the characters in the narrative content. As such, this study proposes the

first hypothesis, which follows:

Hypothesis 1: Cognitive narrative engagement will be positively related to identification with a character. Thus, the more listeners are cognitively engaged with the narrative of the E-E program, the greater they will show identification with the character of the program.

Hypothesis 2: Affective narrative engagement will be positively related to identification with a character. Thus, the more listeners are affectively engaged with the narrative of the E-E program, the greater they will show identification with the character of the program.

The Effects of Identification on Health Beliefs

Social cognitive theory has emphasized identification (or perceived similarity) with characters as a learning process through modeling. Thus, the social learning perspective defines *identification* as "the process through which an individual takes on a model's behavior and/or personality patterns in some form" (Singhal & Rogers, 1999, p. 65). Bandura (1977) noted that identification affects the effectiveness of a mediated message. He stated that "models presented in televised form are so effective in capturing attention that viewers learn much of what they see without requiring any special incentives to do so" (p. 25).

In the area of media effects research, as mentioned above, identification has been emphasized to explain a process by which the media has an effect on its audience (Basil, 1996; Brown et al., 2003; Bryant & Miron, 2002; Kelman, 1961; Rubin & Step, 2000; Rubin & McHugh, 1987). In their examination of the effects of parasocial interaction on audiences' listening to public affairs talk radio shows, Rubin and Step (2000) measured three elements: perceived similarity, friendship, and empathy with the host of a given talk radio show. They found that parasocial interaction positively predicted not only that a sense of congruence would surface between listeners' attitudes toward societal issues and those expressed by a talk radio host but also that listener's behaviors would be consistent with the suggestions of this host. Brown and others (2003) also supported the mediating role of identification. They found that identification with Princess Diana mediated the effects of the press' coverage of her death on audiences' attitudes toward the news media. Thus, people who identified more with Princess Diana had a more negative attitude toward the news media than those who identified less with her. Basil (1996) viewed identification as a psychological mechanism with which to explain the effectiveness of celebrity endorsers. Examining the effects of identification with Magic Johnson on audiences' sexual behavior, he found that those who identified more strongly with Magic Johnson were more likely to change their AIDS-related attitudes and behaviors, even though the effect of identification on perceived risk was not statistically significant. Basil (1996) also examined the mediating role of identification in determining a viewer's behavior. The results of a path analysis showed that identification mediated the effects of

demographics, sexual habits, and knowledge of celebrities on sexual behavior regarding AIDS.

In the context of E-E, several studies have been interested in the role of identification—also known as parasocial interaction (Bae & Lee, 2004; Papa et al., 2000; Sood, 2002; Sood & Rogers, 2000). Given that celebrity identification leads to changes in issue-related awareness, values, and behavior consistent with those of the celebrity, Brown and Fraser (2004) emphasized the advantages of using celebrities for E-E. Examining the role of audience involvement in the effectiveness of Tinka Tinka Sukh (TTS), a radio E-E program in India, Sood (2002) found that when audiences demonstrated identification with TTS characters, they also related the radio serial to their personal lives. In another study on TTS, Papa and others (2000) found that TTS as an E-E program leads to high levels of parasocial interaction for certain audience members. However, they did not find that an audience's identification with characters who display prosocial behaviors prompts the audience members to directly change their behavior. They asserted that this behavior change, in part, depends on the extent to which these parasocial relationships prompted conversations among listeners. Several studies showed that the perceptual level of parasocial interaction with characters or content in E-E programs can lead to actual behavioral participation (Bae & Lee, 2004; Sood & Rogers, 2000). Analyzing audience letters written to an E-E television soap opera in India, Sood and Rogers (2000) identified three types of parasocial interaction: affective interaction, cognitive interaction, and behavioral interaction. From a content analysis of a Korean television drama's episodes and online bulletin board messages about the episodes, Bae and Lee (2004) also found that these three parasocial interactions with the characters or

the contents of the programs. According to their findings, however, the magnitude of each parasocial interaction can vary depending on the characteristics of the issue. They found that issue controversy within an episode was related with parasocial interaction. In other words, when an issue was controversial, the audiences tended to respond rationally through cognitive parasocial interaction. Conversely, when an issue was noncontroversial, the audiences tended to respond emotionally through affective parasocial interaction.

Based on the discussions above, this study assumes that audience members' identification with characters on E-E programs has an indirect effect—not a direct effect—on these audience members' changes in behavior. The social psychological theories (e.g., learning theory, the health belief model, and the theory of reasoned action) maintain that individual perceptions, beliefs, or values are the driving force of behavior change (Sood, Menard, & Witte, 2004). Identification with characters in E-E programs might prompt a process of behavior change as it influences the perceptions, beliefs, or values of audience members. Slater (2002) argued that, as a necessary condition for effective drama, identification with characters in a story causes audience members to perform a cognitive rehearsal of the beliefs and values expressed or embodied by the character.

Therefore, this study predicts that, by affecting their perceptions of or beliefs about safer sex, audience members' identification with the characters of E-E programs influences the degree to which the audience members change their preventive behavior. Identification, as Schoenmakers (1988) asserted, allows the listeners to enter a fictional world and experience emotions as if the listeners were the agents of the transformations

occurring in that fictional world (Cited in Gholamain, 1998, p. 5). Schoenmakers (1988) suggested that the mechanisms of identification typically involve four processes: introjection (taking on the desirable attributes of an object), projection (disowning the unwanted aspects of self by projecting them onto the fictional characters), assimilation, and accommodation (changes in the structure of cognitive schema as a result of a new experience) (Cited in Gholamain, 1998, p. 5). Thus, as audience members internalize—based on emotional attachment—the important attributes of an object (Meissner, 1972), they might change their perceptions, beliefs, or values about the health behaviors advocated in E-E programs. For instance, as individuals internalize the fate of a tragic character in an E-E drama into their own lives, they might experience the seriousness of a disease portrayed in the drama as though they were the character in the drama, who is tragically afflicted with the disease.

From this reasoning, this study operates according to the assumption that the degree of a listener's identification with the characters of an E-E program might be positively related to perceived susceptibility and perceived severity, which are constructed in the Health Belief Model. The HBM posits that perceptions motivate action, which is a social-psychological model based on value-expectancy theory. According to the HBM, two main beliefs (or perceptions) predict preventive health behavior: perceived threat and expectations (Janz & Becker, 1984; Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1994). The perceived threat of a particular illness or disease is a combination of two factors: perceived susceptibility and perceived severity. Perceived susceptibility refers to an individual's subjective beliefs about how he or she is susceptible to an illness or disease. Perceived severity is an individual's subjective beliefs about how severe the

illness is. Two hypotheses are suggested:

Hypothesis 3-a: Identification with a character will be positively related to perceived susceptibility to a health threat. Thus, the more listeners show identification with the character of the E-E program for preventing HIV/AIDS, the greater they will show perceived susceptibility to HIV/AIDS.

Hypothesis 3-b: Identification with a character will be positively related to perceived severity of a health threat. Thus, the more listeners show identification with the character of the E-E program for preventing HIV/AIDS, the greater they will show perceived severity of HIV/AIDS.

Social learning theory provides strong evidence that learning by identification is more likely to increase both outcome expectancies and self-efficacy. Once individuals identify themselves with media characters, they adopt the beliefs, values, and motives of those media characters, often viewing him or her as a counselor, comforter, and role model (Papa et al., 2000). Identification can prompt role modeling as audiences carefully consider the behavioral choices made by media characters (Horton & Wohl, 1956). In an E-E program, soap opera characters "teach" audience members, via modeling, that they can make a recommended response, thereby enhancing self-efficacy perceptions, and that the recommended response works in averting a wanted outcome, thereby enhancing outcome expectancies (Sood et al., 2004, p. 125). For example, in analyzing an E-E radio soap opera in India, Sood (2002) found a strong correlation (.75) between self-efficacy and parasocial interaction with character. Her findings suggest that the more listeners show parasocial interaction with the character, the greater they show self-efficacy toward abstaining from taking and giving a dowry. The HBM indicates that any particular health action that will be taken depends upon beliefs regarding two expectancies: the expected

benefits of taking the action and the potential barriers to the particular action. *Perceived barriers* refers to the potential negative aspects of a particular health action, which act as impediments to a person's undertaking of recommended behavior (Rosenstock, 1974). In contrast, *perceived benefits* refers to perceptions that the perceived threat would be substantially reduced by taking a specific action (Rosenstock, Strecher, & Becker, 1988). The combined levels of susceptibility and severity provide the energy and force to act, whereas the perception of benefits (less barriers) provides the preferred path of action (Rosenstock, 1974). Based on the discussions above, this study predicts a positive association between audience members' identification with characters in the E-E program and perceived benefit, a negative association between the audience members' identification between the audience members' identification with a character and perceived barriers, and a positive association between the audience members' identification with a character and perceived self-efficacy:

Hypothesis 3-c: Identification with a character will be positively related to perceived benefits of preventive health behaviors. Thus, the more listeners show identification with the character of the E-E program for preventing HIV/AIDS, the greater they will show perceived benefits of safer sex behaviors.

Hypothesis 3-d: Identification with a character will be negatively related to perceived barriers to preventive health behaviors. Thus, the more listeners show identification with the character of the E-E program for preventing HIV/AIDS, the less they will show perceived barriers to safer sex behaviors.

Hypothesis 3-e: Identification with a character will be positively related to perceived self-efficacy of preventive health behaviors. Thus, the more listeners show identification with the character of the E-E program for preventing HIV/AIDS, the greater they will show perceived self-efficacy of safer sex behaviors.

Perceived Susceptibility and Perceived Severity

In the context of HIV/AIDS prevention behaviors, a few studies have examined the associations of perceived susceptibility and perceived severity with safer sex behaviors. The studies have hypothesized that perceived susceptibility and perceived severity are positively related to safer sex behaviors. For instance, as individuals perceive a threat of HIV/AIDS to be more serious and their contracting of the disease to be more likely, they have a greater motivation (a desired reduction in anxiety levels) to do something about this health threat (Smith, Witte, & Downs, 2003). As such, the actions that individuals take to reduce a health threat are determined by those individuals' perceptions of the recommended action.

However, most of the findings on the associations of perceived susceptibility and perceived severity with safer sex behaviors have been inconsistent. While some studies have found that perceived susceptibility is a significant positive predictor of HIV/AIDS preventive behaviors (Basen-Engquist, 1992; Rotheram-Borus, Reid, Rosario, & Kasen, 1995; Steers, Elliott, Nemiro, Ditman, & Oskamp, 1996), others have not found any significant association (Volk & Koopman, 2001; Wiggers, de Wit, Gras, Coutinho, & van den Hoek, 2003; Winfield & Whaley, 2002) or have provided only partial support for the association (Mattson, 1999; Polacsek, Celentano, O'Campo, & Santelli, 1999). The association of perceived severity with safer sex behaviors has also shown mixed results. Several studies found that perceived severity has a significant positive association with safer sex behaviors (e.g., Allard, 1989; Montgomery, Joseph, Becker, Ostrow, Kessler, & Kirscht, 1989; Yep, 1993), whereas, in other studies, it has no association with the behaviors (e.g., Volk & Koopman, 2001; Winfield & Whaley, 2002). The inconsistency in

the literature might be due to unsophisticated measures (Rosenstock et al., 1994) or to the lack of a comprehensive model (Winfield & Whaley, 2002). As such, the next hypotheses are intended to replicate previous findings on the associations of perceived susceptibility and perceived severity with safer sex behaviors. This study makes the following predictions:

Hypothesis 4-a: Perceived susceptibility to a health threat will be positively related to intention to engage in preventive health behaviors. Thus, the more listeners show perceived susceptibility to HIV/AIDS, the greater they will show an intention to use condoms in the future.

Hypothesis 4-b: Perceived severity of a health threat will be positively related to intention to engage in preventive health behaviors. Thus, the more listeners show perceived severity of HIV/AIDS, the greater they will show an intention to use condoms in the future.

Perceived Benefits, Perceived Barriers, and Perceived Self-Efficacy

While there have been inconsistent findings on the relationship between perceived benefits (or *response efficacy* in other literature) and HIV/AIDS prevention behavior (Allard, 1989; DiClemente, Durbin, Siegel, Krasnovsky, Lazarus, & Comacho, 1992; Volk & Koopman, 2001; Winfield & Whaley, 2002), perceived barriers have received relatively consistent support as a significant negative predictor of preventive behaviors (Volk & Koopman, 2001; Winfield & Whaley, 2002; Zimmerman & Olson, 1994). The HBM hypothesizes that at any level of perceived threat of AIDS beyond a threshold, HIV/AIDS prevention behavior decisions become largely a function of perceptions of both the benefits of and the barriers to behavior change (Rosenstock et al., 1994, p.17). For instance, Rosenstock and his associates (1994) noted that even though the perceived
threat is not high, strong perceived benefits of HIV/AIDS preventive behavior might still influence behavior change. However, if the perceived threat and benefits of HIV/AIDS prevention behavior are not high, it is not likely that low perceived barriers would necessarily affect the preventive behavior. As such, this study predicts the influence of both perceived benefits and perceived barriers on HIV/AIDS preventive behaviors:

Hypothesis 4-c: Perceived benefits of preventive health behaviors will be positively related to intention to engage in preventive health behaviors. Thus, the more listeners show perceived benefits of AIDS/HIV preventive behaviors, the greater they will show intention use condoms in the future

Hypothesis 4-d: Perceived barriers to preventive health behaviors will be negatively related to intention to engage in preventive health behaviors. Thus, the more listeners show perceived barriers to AIDS/HIV preventive behaviors, the less they will show intention to use condoms in the future.

Individuals' beliefs that they can motivate themselves and regulate their own behavior might play a crucial role in the process of behavior change in whether these individuals will consider changing habits that are detrimental to their health (Bandura, 1994). The conceptualization of perceived self-efficacy in the social learning theory (Bandura, 1977, 1997) is another important construct predicting preventive health behavior.³ In the context of health communication, perceived self-efficacy can be defined as "people's beliefs that they can exert control over their own motivation, thought processes, emotional states, and patterns of behavior" (Bandura, 1994, p. 26). Because behavior change depends on one's perceived capability to cope with stress and boredom

³ Rosenstock and others (1988) extended the HBM to include the concept of self-efficacy in order to strengthen its utility and explanatory power for health preventive behaviors.

and to mobilize one's resources and courses of action required to meet situational demands, efficacy beliefs affect the intention to change risk behavior, the amount of effort expended to attain this goal, and persistence in continuing to strive in spite of barriers and setbacks that may undermine motivation (Schwarzer & Fuchs, 1995, p. 262).

Many studies have examined and supported a hypothesis that individuals' perceived self-efficacy is positively related to HIV/AIDS preventive behaviors (e.g., Mattson, 1999; Polacsek et al., 1999; Rotheram-Borus et al., 1995; Steers et al., 1996; Wong & Tang, 2001; Wulfert & Wan, 1993). The findings of the studies showed that when individuals' self-efficacy toward safer sex increases, they are more likely to adopt safer sex behaviors. As such, the next hypothesis represents an attempt to replicate previous findings on the associations of perceived self-efficacy with safer sex behaviors:

Hypothesis 4-e: Perceived self-efficacy will be positively related to intention to engage in preventive health behaviors. Thus, the more listeners show perceived self-efficacy of AIDS/HIV preventive behaviors, the greater they will show an intention to use condoms in the future.

The Effects of Socio-Demographic Variables

The effects of several socio-demographic variables on each construct in this study have been well documented in the previous studies. Gender might be a significant predictor of narrative engagement. One of Green and Brock's (2000) experiments showed that women subjects showed significantly greater transportation than men subjects. In the research on identification, the effects of gender differences were examined (Basil, 1996; Brown et al., 2003). However, the studies' findings regarding the effects of gender on identification were inconsistent. For example, Basil (1996) found that men, more than women, identified strongly with Magic Johnson. Brown and his colleagues (2003) found that women showed a level of identification with Princess Diana that was higher than the level showed by men. This inconsistency might be due to the fact that people are more likely to model the behavior of others of the same gender (Bandura, 1986). The HBM studies have also examined gender differences in health beliefs and safer sex behaviors. Some studies found that gender was a significant predictor of safer sex behaviors, specifically, condom use (Dinoff & Kowalski, 1999; Wilson, Manual, & Lavelle, 1991; Winfield & Whaley, 2002). Thus, the findings showed that women respondents were less likely than men respondents to report condom use for preventing HIV/AIDS. In contrast, other studies have indicated no gender differences in safer sex behaviors (DiClemente et al., 1992; Hingson, Strunin, Berlin, & Heeren, 1990; Volk & Koopman, 2001; Wong & Tang, 2001).

Previous studies also found that age has a significant positive association with identification (Brown et al., 2003; Levy, 1979). In contrast, several studies have shown that education level is negatively associated with identification (Brown et al., 2003; Levy, 1979). Thus, respondents with lower education levels showed stronger identification with media characters than did respondents with higher education levels. In the HBM research, although most studies have found no effect of age on safer sex behaviors (DiClemente et al., 1992; Winfield & Whaley, 2002), Hingson and others (1990) found that age significantly predicted condom use, with younger persons more likely than older persons to use condoms, but they did not find the effect of education on respondents' condom use.

Finally, some studies examined whether or not a respondent's marital status and

number of sexual partners affect safer sex behaviors. Individuals' marital status (Volk & Koopman, 2001) and number of sexual partners (DiClemente et al., 1992) were significantly related to condom use. Thus, whereas single respondents were more likely to use condoms during sexual intercourse, respondents who reported more sexual partners were less likely to use condoms. On the contrary, Hingson and others (1990) did not find a significant effect of the number of sexual partners on safer sex behavior.

Proposed Model for the Effects of E-E Intervention on Safer Sex Behavior

The main purpose of the present study is to provide an integrated model with which to explain the process by which E-E intervention has effects on behavior change. More specifically, in the context of health campaigns for the prevention of HIV/AIDS in Ethiopia, this study proposes a conceptual model explaining the roles of narrative engagement and identification in the process of E-E and intervention and their relationships with other relevant theoretical variables from social learning/cognitive theory, audience involvement, and the HBM. Figure 1 shows a hypothetical model based on the relationships hypothesized above. The proposed model represents how the engagement of narrative affects the degree of respondents' identification with a character, which is a predictor of perceived barriers of HIV/AIDS preventive behaviors, and self-efficacy toward safer sex behavior. In turn, the model predicts that these four factors positively affect individuals' future safer sex behavior. Finally, to properly assess the proposed model and achieve model parsimony, five socio-demographic variables discussed

earlier (gender, age, education, marital status, and number of sexual partners) are controlled in the model.





CHAPTER 3

METHOD

An Overview of "Journey of Life," the Entertainment-Education Program

The E-E stimulus used in this study is a serial radio drama in Ethiopia, called *Journey of Life*. This radio program was designed as one component of the Ethiopian Reproductive Health Communication Project's four-year Information, Education and Communication (IEC) initiative in Family Planning and HIV/AIDS Services by Ethiopia's National Office of Population and the Ministry of Health, along with the Consortium of Family Planning NGOs and Johns Hopkins University Population Communication Services (Belete, Girgre, & Witte, 2003). The overall purpose of this radio drama was to provide education and modeling for modern family planning methods and for the dangers of HIV/AIDS and, thus, how to avoid these dangers. According to formative research (Witte, Girma, & Girgre, 2001), the HIV epidemic in Ethiopia is very serious. Adult prevalence is estimated at 7.3% (urban 13.4%, rural 5%); 250,000 children under age 5 are estimated to be infected with HIV.

Because literacy rates in Ethiopia are low (almost 20% of Ethiopians reported difficulty reading, and 25% reported not reading newspapers or magazines at all), only 6% reported not listening to the radio at all, with 64% reporting daily listening (Witte et al., 2001). This combination of low literacy rates and the popularity of radio listening were important reasons underlying the campaign designers' decision to select radio as the optimal medium through which to transmit *Journey of Life*. In addition, radio is inexpensive, reaches illiterate audience members, is portable, and is available at work

(Belete et al., 2003). In reality, Ethiopians cited radio as one of their most frequent sources of information about HIV/AIDS (Belete et al., 2003).

Journey of Life, a 26-episode weekly radio drama, targeted young Ethiopians, aged 15-30, within the five major regions of Ethiopia: Tigray (Mekele and Adigrat); Amhara (Gondar and Bahir Dar); Oromia (Jimma and Nazareth); Southern Nations, Nationalities, and Peoples Region (Awassa and Arba-Minch); and the Addis Ababa Administration (Akaki and Gedam-Sefer). Each radio episode lasted 20 minutes and was broadcast on Sunday mornings at 10:00 a.m. for six months. The main message in Journey of Life was "YICHALAL" ("It is possible"). This message means that it is possible for the people in Ethiopia to improve the quality of their own life by planning their families and that it is possible to control the epidemic of HIV/AIDS by taking appropriate measures to control the spread of the disease (Belete et al., 2003). This series represented an attempt to generate feelings of "hope" and "confidence" in the belief that to determine one's own family size and to protect oneself from HIV/AIDS are beneficial practices that can be achieved by all (Belete et al., 2003). In this serial drama, a female police investigator, Askale, and her husband, Bahiru, were created as protagonists or positive role models who try to educate others about health topics including HIV/AIDS (See Appendices 1 and 2). Throughout each episode, listeners took note of this couple's attempts to change (with more or less success) other characters' attitudes toward HIV/AIDS and to take precautionary steps to protect themselves from the virus, such as condom use and testing for HIV (Smith et al., 2003).

Survey Data

The data used in this study were collected for a final summative evaluation of the Ethiopian Reproductive Health Communication Project's four-year IEC initiative in Family Planning and HIV/AIDS Services. This final summative evaluation was conducted nationwide in 2002 after the end of the transmission of the *Journey of Life*. This summative survey was to evaluate the impact of *Journey of Life* on respondents' sexual behavior, beliefs and practices toward family planning and HIV prevention and on their perceptions about various services and barriers to reproductive health (Belete et al., 2003). There were two sets of samples in the summative evaluation, panel survey and cross-sectional survey, and the current study used the cross-sectional survey data. This survey data included the measures that were grounded in various theories or models, for example, perceived susceptibility, perceived severity, perceived self-efficacy, perceived barriers, collective efficacy, sensation seeking, gender norms, and social capital (see Appendix F).

A cross-sectional sample of 200 respondents was selected from *Woredas* (districts) 21 and 14 of zones two and five of Addis Ababa. The total sample size of 200 was equally divided between the two *Woredas* (100 each) and each *Kebele* (local village) within each *Woreda* (17 each for 8 *Kebeles* and 16 for 4 *Kebeles*). All of the households in the selected *Kebeles* were listed, and the households having resident members within the age group of 15-30 years old were identified. By using these households as a sample frame and the predetermined sample size of 16 and 17 (for the specific *Kebeles*) households, sampling interval for each *Kebele* was determined, and the sample households were selected and identified by using systematic random sampling. Only one

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person, within the target age, was interviewed within each household. For the purpose of this study, of the 200 participants, the data from 124 respondents who reported listening to the radio serial drama and completed the questionnaires were used. For more methodological details concerning sampling procedures, see Belete and others (2003).

Measures

Narrative Engagement. Respondents' answers to 12 questions served as the basis for measurements of respondents' engagement with narrative. Each item was measured on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). Based on previous studies (Green & Brock, 2000; Sood, 2002), this study expects two dimensions of narrative engagement: the affective dimension and the cognitive dimension. Affective engagement is conceptually defined as the degree to which audience members emotionally respond to a media program. For example, questions such as "Journey of Life had a strong emotional impact on me" or "Journey of Life kept me in suspense from episode to episode" are instances of affective engagement. In contrast, cognitive engagement is conceptually defined as the degree to which audience members respond to the educational influences that a media program has on their beliefs or behaviors. "Journey of Life influenced me to protect myself against HIV/AIDS" or "Journey of Life made me believe there were effective ways to avoid HIV/AIDS infection" can be considered instances of cognitive engagement. Table 1 illustrates narrative engagement items.

Items	М	SD
Journey of Life influenced me to protect myself	4.39	.69
against HIV/AIDS.		
Journey of Life made me feel hopeless about fighting	1.52	.74
against AIDS.		
Journey of Life made me feel scared about AIDS.	2.89	1.53
Journey of Life made me feel emotional.	2.97	1.44
Journey of Life had a strong emotional impact on me.	3.26	1.45
Journey of Life was an emotional program.	3.55	1.36
Journey of Life made me feel hopeful about avoiding	4.34	.78
HIV/AIDS infection.		
Journey of Life made me believe there were effective	4.39	.71
ways to avoid HIV/AIDS infection.		
Journey of Life kept me in suspense from episode to	4.44	.76
episode.		
I learned a lot about HIV/AIDS from Journey of Life.	4.59	.68
Journey of Life provided a lot of good information	4.53	.77
about HIV/AIDS.		
After listening to Journey of Life, I wanted to change	4.24	.79
my life for the better.		

Table 1. Narrative Engagement Items

Scale range: 1-strongly disagree to 5-strongly agree.

To ascertain whether these two measures have a two-factor structure, both an Exploratory Factor Analysis (EFA) and a Confirmatory Factor Analysis (CFA) were performed. First, a principal component analysis with varimax rotation on the 12 items was run. A minimum factor loading of .40 was employed as a criterion for including an item to be part of a factor. Two items with low factor loading (less than .40) or multi loaded-factor ("*Journey of Life* kept me in suspense from episode to episode") were dropped. After dropping these two items, the results of the EFA suggested a two-factor solution with eigenvalues greater than 1, which is consistent with the hypothesized factor

structure. The two-factor solution accounted for 53.85% of the variance. Factor loadings ranged from .42 to .91.

To verify this factor structure obtained from the EFA, a CFA was conducted through use of the LISREL 8.30 SEM program (Jöreskog & Sörbom, 1999) using a maximum likelihood estimation. Listwise deletion was used for missing data. After dropping three items with correlated errors, the total of seven items yielded a two-factor structure with good fit indices (GFI = .95, SRMR = .06, CFI = .97, and RMSEA = .07)⁴, which is consistent with the result of the EFA. Cronbach's α s of .68 and .85 were obtained for factor 1 (cognitive dimension) and factor 2 (affective dimension), respectively. The CFA factor loadings ranged from .39 to .78 for cognitive dimension and from .70 to .92 for affective dimension. Table 2 presents the indices of model fit, factor loadings, and standard errors. The items of each factor were summed to create an overall cognitive engagement score (M = 17.56, SD = 2.11, max = 20.00, min = 10.00) and affective engagement score (M = 9.79, SD = 3.71, max = 15.00, min = 3.00). The Pearson product-moment correlation between these two factors was .14 (*n.s.*, two-tailed, *n* = 119).

⁴ In general, a value higher than .90 on the CFI was considered representative of a well-fitting model; a cutoff point value close to .95 has recently been recommended as a good model fit (Hu & Bentler, 1999). A favorable value of the SRMR is less than .10 (Kline, 1998) or close to .09 (Hu & Bentler, 1999). In contrast, values of .8 or above on the GFI, closer to 1.0 on the CFI, and less than or equal to .08 on the RMSEA are considered a good fit (Kelloway, 1998; Kline, 1998).

Table 2. Two-factor Model of Narrative Engagement Scales: Standardized

		Cognitive Engagement		Affective Engagement	
		Factor Loading	SE	Factor Loading	SE
Journey of Life m hopeful about ave infection. ^b	ade me feel oiding HIV/AIDS	.39			
Journey of Life made me believe there were effective ways to avoid HIV/AIDS infection		.78	.55		
I learned a lot about HIV/AIDS from <i>Journey of Life</i> .		.65	.44		
After listening to <i>Journey of Life</i> , I wanted to change my life for the		.55	.45		
Journey of Life made me feel emotional. ^b				.70	
Journey of Life had a strong emotional impact on me.				.92	.18
Journey of Life w program.			.76	.14	
Goodness-of-Fit					
χ^2 (df)	GFI	RMSEA	SI	RMR	CFI
19.04 (13)	.95	.07		.06	.97

Factor Loadings, Standard Errors, and Goodness-of-Fit Summary^a

^a All factor loadings are significant under p < 0.001.

^b Indicator item.

^c GFI, goodness-of-fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean squared residual; CFI, comparative fit index.

Identification with Characters. To measure the construct of identification with a main character, two items were adopted from previous studies (e.g., Basil, 1996; Basil & Brown, 1997; Brown et al., 2003): (1) "I identify with *Askale*"; (2) "I want to be like *Askale*." Respondents were asked to indicate on a 5-point scale (1 = strongly disagree and 5 = strongly agree) how much they agree with each of these two statements as they regard the character (inter-item correlation = .47, p < .001). *Askale*, the female police investigator mentioned above, was selected as a protagonist or positive role model. As described in Appendices 1 and 2, she tries to educate others about health topics including HIV/AIDS. The sum of the scores for the two items was taken so that a single identification score could be created.

Perceived Susceptibility to AIDS/HIV. Perceived susceptibility to HIV/AIDS was measured by a single item. Respondents were asked to indicate on a 5-point scale (1 = strongly disagree and 5 = strongly agree) how much they agree with the following statement: "I am at risk for getting HIV/AIDS." The mean of perceived susceptibility was 1.58 (SD = .83).

Perceived Severity to AIDS/HIV. Perceived severity to HIV/AIDS was measured by respondents' ratings on their agreement with two statements: "Getting AIDS is the worst thing that could happen to me" and "Getting AIDS is a sure death sentence." These two items were measured on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The inter-item correlation of the measure was .50 (p < .001, two-tailed, n = 124). The two items were summed to create an overall perceived severity score (M = 7.69, SD = 2.33, max = 10.00, min = 2.00).

Perceived Benefit. A single item was used to measure perceived benefits of condom use. Respondents were asked to rate their agreement with the statement, "Condoms are effective in preventing HIV/AIDS infection." This item was measured on a 5-point Likert-type scale, to one end of which was affixed "strongly disagree" and to the other end "strongly agree." The mean of perceived benefit was 2.66 (SD = 1.34).

Perceived Barriers. Perceived barriers were measured using three items. The respondents rated on their agreement with three statements: "HIV/AIDS prevention methods cost too much" and "HIV/AIDS prevention methods are inconvenient" and "It is better not to talk about HIV or AIDS in my community." These three items were measured on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). These three items showed low Cronbach's α s of .49 and were summed to create an overall perceived barriers score (M = 5.14, SD = 2.01, max = 11.00, min = 3.00).

Perceived Self-Efficacy. Perceived self-efficacy was measured by asking respondents to characterize their beliefs about their ability to take specific actions (condom use) to avoid HIV transmission. Respondents indicated how strongly they agreed or disagreed with three statements, using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree): (1) "I am (would be) able to use condoms to prevent HIV/AIDS infection," (2) "I am able to talk to my partner about HIV/AIDS prevention methods to prevent infection," and (3) "Using condoms to prevent HIV/AIDS is (would be) easy for me" (Cronbach's $\alpha = .66$). The three items were summed into a single index for perceived self-efficacy (M = 11.12, SD = 2.77, max = 15.00, min = 5.00).

Future Safer Sex Behavior. Future safer sex behavior was measured by a single item. Respondents were asked to rate their agreement with the following statement: "I intend to use condoms to prevent HIV/AIDS infection during the next 12 months." This item was measured on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The mean of safer sex behavior was 2.86 (SD = 1.40). Table 3 shows the items used for measuring respondents' health beliefs and behavioral intention related to safer sex.

Socio-demographics. Five socio-demographic variables serve as control variables: sex, age, education, marital status, and number of sexual partners. Respondents had a mean age of 22.04 (SD = 4.32) with a higher proportion of females (77.4%) to males (22.6%). Surveyed on a five-point ordinal scale ranging from "Illiterate, No schooling" to "Over 12 years or Diploma," most respondents (about 84%) showed an education level of 5-12 years. 25% of respondents were "married" or "living with partner," whereas 68.5% of them were single. The number of sexual partners was measured by responds their response to the following question: "About how many sexual partners have you had during the last 12 months (the last year)." Most respondents had "no partners" (53.2%) or "just one partner" (45.2%). To achieve both control and model parsimony simultaneously, these five socio-demographic variables were residualized in the model by using multiple regressions. Appendix C shows the

socio-demographic characteristics of this study's respondents.

<u>e</u>	Items	М	SD
Susceptibility	I am at risk of getting HIV/AIDS.	1.58	.84
Severity	Getting AIDS is the worst thing that could happen to me.	4.15	1.16
	Getting AIDS is sure death sentence	3.54	1.52
Perceived Benefit	Condoms are effective in preventing HIV/AIDS infection.	2.66	1.34
Perceived Barriers	It is better not to talk about HIV or AIDS in my community.	1.77	1.12
Damoro	HIV/AIDS prevention methods cost too much.	1.51	.67
	HIV/AIDS prevention methods are inconvenient.	1.85	1.00
Self-Efficacy	I am (would be) able to use condoms to prevent HIV/AIDS infection.	3.51	1.29
	I am able to talk to my partner about HIV/AIDS prevention methods to prevent infection.	4.11	.95
	Using condoms to prevent HIV/AIDS is (would be) easy for me.	3.48	1.32
Behavioral Intention	I intend to use condoms to prevent HIV/AIDS infection during the next 12 months.	2.86	1.41

Table 3. Health Beliefs and Behavioral Intention Items

Scale range: 1-strongly disagree to 5-strongly agree.

CHAPTER 4

RESULTS

The analysis consisted of a two-part analysis. First, to test the hypotheses of this study, zero-order relationships among exogenous and endogenous variables were initially observed. Although bivariate correlation statistics commonly provide researchers with useful information about the relationship between two variables, it should be indicated that there is a clear distinction between a simple correlational relationship and a causal relationship. Therefore, in order to test the hypothesized model based on the causal links among variables, path analyses were conducted.

Correlational Analyses

Hypothesis 1 was to test the relationship between cognitive engagement with the narrative of the radio program and identification with a character. As shown in Table 4, a significant positive association between cognitive engagement and identification with a protagonist (*Askale*) was found (r = .25, p < .01, two-tailed, n = 119). Thus, the result suggests that the more listeners are cognitively engaged with the narrative of the E-E program, the more likely they are to show identification with the character of the program. Hypothesis 1 was supported.

Hypothesis 2 was to test whether affective narrative engagement would be positively related to identification with a character. The results show that there was no significant relationship between affective engagement and identification with a character (r = -.04, n.s. two-tailed, n = 119). Hypothesis 2 was not supported.

Hypotheses 3-a through 3-d predicted the significant relationships between identification with a character and five health belief variables. According to Table 4, identification with a character was significantly related to both perceived severity (r = .28, p < .01, two-tailed, n = 119) and perceived barriers (r = ..19, p < .05, two-tailed, n = 119). Thus, the results suggest that the more listeners show identification with the character of the E-E program that concerns HIV/AIDS prevention, the more likely they were to show greater perceived severity of HIV/AIDS and less perceived barriers to safer sex behaviors. Hypotheses 3-b and 3-d were supported. A relationship between identification with character and perceived self-efficacy approached significance (r = .16, p < .10, two-tailed, n = 118).⁵ Hypothesis 3-e -- that the more listeners show identification with the character of the E-E program that concerns HIV/AIDS prevention, the more they would show perceived self-efficacy of safer sex behaviors -- was supported at the significance level of .10. In contrast, no significant relationships between identification with character and perceived susceptibility and between identification and perceived benefit were found. Hypotheses 3-a and 3-c were not supported.

Hypotheses 4-a through 4-e were to replicate the previous studies on the relationships between health belief variables and behavioral intention related to future safer sex. A relationship between perceived susceptibility and behavioral intention to adopt condom use approached significance (r = .17, p < .10, two-tailed, n = 124). Thus, this suggests that the more listeners show perceived susceptibility to HIV/AIDS, the more they show an intention to use condoms to prevent HIV/AIDS infection in the future.

⁵ Significance level in this study was determined as less than p-value of .10. When considering that statistical power is sensitive to sample size and the sample size in this study is relatively small, it is reasonable that the criterion of the significance level is p-value of .10.

Hypothesis 4-a was supported at the significance level of .10. Hypothesis 4-b predicted a positive relationship between perceived severity and behavioral intention. The results, however, did not support this relationship. For perceived benefit and barriers, perceived benefit of condom use for safer sex was positively related to behavioral intention at the significance level of .10 (r = .16, p < .10 two-tailed, n = 124), whereas perceived barriers to safer sex behavior was not found to be significantly related to behavioral intention. Hypothesis 4-c was supported at the significance level of .10, but hypothesis 4-d was not. It was also hypothesized that perceived self-efficacy would be positively related to behavioral intentional intention to use condoms. The results strongly support this hypothesis (r = .54, p < .001, two-tailed, n = 123). Consistent with previous studies (e.g., Mattson, 1999; Polacsek et al., 1999; Steers et al., 1996; Wong & Tang, 2001; Wulfert & Wan, 1993), hypothesis 4-e was supported.

	1	2	3	4	5
1. Cognitive Engagement					
2. Affective Engagement	.14				
3. Identification with Askale	.25**	04			
4. Perceived Susceptibility	08	.05	14		
5. Perceived Severity	.24**	.22*	.28**	25**	
6. Perceived Benefit	.02	.43***	.12	.00	.11
7. Perceived Barriers	42***	06	19*	.23*	13
8. Perceived Self-Efficacy	.18*	.26**	.16 [#]	.11	.01
9. Behavioral Intention	08	.16*	.12	.17 [#]	04

Table 4. Zero-Order Correlations among Exogenous and Endogenous

Variables in the Proposed Model

[#] p < .10, * p < .05, ** p < .01, and *** p < .001, two-tailed.

	6	7	8
1 Cognitive Engagement	v		
2 Affective Engagement			
3 Identification with Askale			
A Derectived Succeptibility			
5 Derecived Susceptibility			
5. Ferceived Severity			
6. Perceived Benefit	40		
7. Perceived Barriers	13	o (++	
8. Perceived Self-Efficacy	.34***	24**	
9. Behavioral Intention	.26**	.00	.54***

* p < .10, * p < .05, ** p < .01, and *** p < .001, two-tailed.

Path Analyses: Testing the Hypothesized Model

A path analysis, a statistical method of structural equation modeling (SEM), was used to test the hypothesized model. The LISREL 8.30 SEM program was employed to obtain maximum-likelihood (ML) estimates of the model's parameters (Jöreskog & Sörbom, 1999b).

Model Specification and Parameter Estimates. This study employed a classical approach to path analysis, which consists of solving structural equations for the dependent variables in terms of the independent and the random error terms $\zeta_1, \zeta_2, ..., \zeta_p$ (Jöreskog & Sörbom, 1996a). According to Jöreskog and Sörbom (1996a), estimating a path analysis model for directly observed variables with LISREL rests on the understanding that the model is a system of equations and estimates because it estimates all equations rather than each equation separately.

Table 4 shows the correlation matrix employed for estimating the recursive model hypothesized in this study. Cognitive engagement and affective engagement were treated as exogenous variables, and the other seven variables were endogenous variables:

- χ_1 = Cognitive Engagement
- $\chi_2 = Affective Engagement$
- y_1 = Identification with Askale
- $y_2 =$ Perceived Susceptibility
- $y_3 =$ Perceived Severity
- y_4 = Perceived Benefit
- $y_5 =$ Perceived Barriers
- $y_6 =$ Perceived Self-Efficacy
- y_7 = Behavioral Intention

Figure 2 represents a path diagram for the recursive model of this study. This diagram illustrates that both cognitive engagement and affective engagement directly affect identification that is a predictor of the five health belief variables (perceived susceptibility to and perceived severity of HIV/AIDS, perceived benefit and perceived barriers of HIV/AIDS, preventive behaviors, and self-efficacy toward safer sex behavior). In the final block of the model, the five health belief variables directly affect individuals' intention to use condoms in the future.

Figure 2. Path Diagram for the Recursive Model of the Effects of Entertainment-

Education Intervention on Safer Sex Behaviors



Two exogenous variables (cognitive engagement and affective engagement) were allowed to freely covary with one another by definition. Normally, it is reasonable to allow covariances among the exogenous variables, and forcing orthogonality (zero correlation) between two exogenous variables should be undertaken only with strong theoretical justification (Baer, 2002). The variance-covariance matrix of the exogenous variables (Φ matrix) is as follows: -

$$\Phi = \begin{bmatrix} \phi_{11} & & \\ & & \\ \phi_{21} & \phi_{22} \end{bmatrix}$$

Two paths from each exogenous variable to y_1 (identification) were allowed in the model, but all of the paths from the exogenous variables to the other six endogenous variables (y_2 through y_7) were constrained to equal zero. The matrix of the coefficients linking exogenous variables with endogenous variables (Γ matrix) is:

$$\Gamma = \begin{bmatrix} \gamma_{11} & \gamma_{12} \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$$

It is the case with any recursive model that the matrix of coefficients linking endogenous variables with other endogenous variables (B matrix) is sub-diagonal (Baer, 2002). Parameters from y_1 (identification) to all five endogenous variables (y_2 through y_6), except for y_7 (behavioral intention), were freely estimated. In turn, parameters from the five endogenous variables (y_2 through y_6) to y_7 (behavioral intention) were estimated. The beta matrix is:

	_						
	0	0	0	0	0	0	0
	β_{21}	0	0	0	0	0	0
	β_{31}	0	0	0	0	0	0
B =	β_{41}	0	0	0	0	0	0
	β_{51}	0	0	0	0	0	0
	β_{61}	0	0	0	0	0	0
	0	eta_{72}	eta 73	eta 74	eta 75	eta 76	0

Covariances among ζ_2 through ζ_6 (the random error terms of health belief variables) were allowed to freely covary with one another by definition. Like the phi matrix (Φ matrix), it is reasonable to allow covariances among the random error terms of endogenous variables. The rest of the covariances (between ζ_1 and ζ_2 through ζ_6 , between ζ_1 and ζ_7 , and between ζ_2 through ζ_6 and ζ_7) were constrained to equal zero because the connections between the second block (y_1), the third block (y_2 through y_6), and the fourth block (y_7) are unidirectional. As such, the variance-covariance matrix of the error terms of endogenous variables (Ψ matrix) is as follows:

$$\Psi = \begin{bmatrix} \Psi_{11} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & \Psi_{22} & 0 & 0 & 0 & 0 & 0 \\ 0 & \Psi_{32} & \Psi_{33} & 0 & 0 & 0 & 0 \\ 0 & \Psi_{42} & \Psi_{43} & \Psi_{44} & 0 & 0 & 0 \\ 0 & \Psi_{52} & \Psi_{53} & \Psi_{54} & \Psi_{55} & 0 & 0 \\ 0 & \Psi_{62} & \Psi_{63} & \Psi_{64} & \Psi_{65} & \Psi_{66} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & \Psi_{77} \end{bmatrix}$$

As such, the structural equations in this model are as follow:

$$y_{1} = \gamma_{11} \chi_{1} + \gamma_{12} \chi_{2} + \zeta_{1}$$

$$y_{2} = \beta_{21} y_{1} + \zeta_{2}$$

$$y_{3} = \beta_{31} y_{1} + \zeta_{3}$$

$$y_{4} = \beta_{41} y_{1} + \zeta_{4}$$

$$y_{5} = \beta_{51} y_{1} + \zeta_{5}$$

$$y_{6} = \beta_{61} y_{1} + \zeta_{6}$$

$$y_{7} = \beta_{72} y_{2} + \beta_{73} y_{3} + \beta_{74} y_{4} + \beta_{75} y_{5} + \beta_{76} y_{6} + \zeta_{7}$$

Multiple fit indices were used to test the model. Although the χ^2 goodness-of-fit statistics and fit indexes are two of the most popular ways in which to evaluate model fit (Hu & Bentler, 1999), there are problems with the χ^2 statistic as a fit index because it is very sensitive to sample size (Kline, 1998). As a supplement to the χ^2 statistic, several fit indexes have been employed, such as Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), Gamma Hat, the Normed Fit Index (NFI), the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), SRMR, Root Mean Square Error of Approximation (RMSEA), and so on. However, because a single index reflects only a particular aspect of fit, a favorable value of that index does not by itself indicate good fit (Kline, 1998). Although there is no solid consensus for good fit, SEM scholars have recommended that researchers should use multiple indexes for assessing model fit. For example, Hu and Bentler (1999) recommended that researchers employ a 2-index presentation strategy, which includes use of the maximum likelihood (ML)-based SRMR and its being supplementing with TLI, Bollen's Fit Index (BL89), the Relative Noncentrality Index (RNI), CFI, Gamma Hat, McDonald's Centrality Index (Mc), or RMSEA. When sample sizes are less than 250, the recommended combinational rules based on CFI, BL98, RNI, or Gamma Hat in combination with SRMR are more preferable (Hu & Bentler, 1999).

This study considered SRMR and CFI as fit indices for the model. In general, for the ML method, a value higher than .90 on the CFI was considered representative of a well-fitting model, but a cutoff point value close to .95 has been recently recommended as a good model fit (Hu & Bentler, 1999). A favorable value of the SRMR is close to .08 (Hu & Bentler, 1999), and an RMSEA value close to .06 or less (Browne & Cudeck, 1993). Unfortunately, the fit indices did not show a good model fit. (χ^2 (13) = 57.58; SRMR = .11; CFI = .63). As such, this study attempted to respecify the original model based on both theoretical and empirical considerations.

Model Respecification

To respecify a recursive or nonrecursive model, two ways in which to test a model can often be used: model trimming and model building (Kline, 1998). Model trimming refers to a strategy wherein the researcher begins a path analysis with a justidentified model and simplifies it by eliminating paths. As paths are trimmed, the chisquare increases, which means that the model fit becomes worse. In contrast, model building is the opposite strategy to model trimming. The researcher adds paths to a null model. As paths are added to the model, the chi-square decreases, which means that the model fit becomes improved. In either strategy, the eliminating (or the adding) of paths should be determined based only on theoretical considerations or face validity although it

is guided by empirical information obtained from a statistic program (i.e., a modification index or the chi-square difference test).

In the early stages of model or theory development, it is useful to eliminate the nonsignificant path coefficients and with another sample population, examine the resulting respecified model against the full model (Kerlinger & Pedhazur, 1973). As such, the model trimming strategy was employed to respecify the original model, and the respecified models contain only the significant paths.⁶

Modified Model 1. Using a model trimming strategy, this study proposed a respecified model. First, paths from the two exogenous variables to the five health belief variables were allowed to be free. Conceptually, this means that individuals' engagement with narratives has a direct effect on their beliefs regarding HIV/AIDS as well as an indirect effect on the beliefs. The findings of several experiments by Green and Brock (2000) support this relationship. Green and Brock (2000) found that transportation in persuasive narratives positively affects individuals' story-consistent beliefs on both the specific and the general items implied by the narrative. Thus, their findings showed that highly transported participants reported beliefs more consistent with those implied in the story. Sood (2002) also supports the association between audience involvement and beliefs. Sood (2002) found that both the cognitive and the affective dimensions of audience involvement significantly affect self-efficacy. In particular, the findings showed

⁶ A criterion for eliminating the nonsignificant path coefficients was a p-value higher than .10. In other words, if the *t*-value of a path coefficient was less than 1.645, the path was eliminated from the model. When considering that statistical power is sensitive to sample size and the sample size in this study is relatively small, it is reasonable that the criterion of the significance level for determining model trimming is p-value of .10.

that the affective dimension of audience involvement had a higher impact than the cognitive dimension on self-efficacy.

Second, as noted above, all of the nonsignificant paths were eliminated from the just-identified model. For the Γ matrix, paths from cognitive engagement to both perceived benefit and perceived self-efficacy and paths from affective engagement to both identification and perceived barriers were constrained to equal zero. Two paths from two engagement variables to behavioral intention and two paths from two engagement variables to behavioral intention and two paths from two engagement variables to perceived susceptibility were also constrained to equal zero. As such, the Γ matrix was changed into the following:

$$\Gamma = \begin{bmatrix} \gamma_{11} & 0 \\ 0 & 0 \\ \gamma_{31} & \gamma_{32} \\ 0 & \gamma_{42} \\ \gamma_{51} & 0 \\ 0 & \gamma_{62} \\ 0 & 0 \end{bmatrix}$$

For the Beta matrix, all paths were eliminated from the model, except for the four paths (identification \rightarrow perceived severity, identification \rightarrow perceived benefit, identification \rightarrow perceived self-efficacy, and perceived self-efficacy \rightarrow behavioral intention). As such, the Beta matrix was changed into the following:

SEM was used to test the respecified model. Maximum-likelihood (ML) estimates of the model's parameters were obtained by using the LISREL 8.30 SEM program (Jöreskog & Sörbom, 1999). As shown in Table 5, the indices for the model indicate a good model fit ($\chi^2_{(15)} = 18.97$, SRMR = .05, and CFI = .97). The fitted model accounted for 24% of the variance in behavioral intention to use condoms. Figure 3 presents a proposed respecified model including the standardized path coefficients with p-values.

The standardized path coefficients indicate that cognitive engagement positively affects identification with character ($\gamma = .21, p < .05$), even when controlling for affective engagement and socio-demographic variables. Thus, the more listeners are cognitively engaged with the narrative of the E-E program, the more likely they are to show identification with the character of the program, supporting the finding of zero order correlation analyses. In turn, identification positively affects perceived self-efficacy ($\beta = .21, p < .05$) that is a substantial positive predictor of behavioral intention to use condoms ($\beta = .50, p < .001$). These results suggest that cognitive engagement -- through identification and perceived self-efficacy -- indirectly affects behavioral intention to use condoms.

Although no significant effect of affective engagement on identification with character was found, perceived self-efficacy was a significant mediator of the effect of affective engagement on behavioral intention to use condom. Consistent with the findings of Sood (2002), affective engagement with the E-E program positively affects perceived self-efficacy of HIV/AIDS preventive behaviors ($\gamma = .21, p < .05$). It suggests that affective engagement has an indirect effect on future safer sex behavior through its effect on perceived self-efficacy (perceived self-efficacy \rightarrow future safer sex behavior: $\beta = .50, p$

<.001).

In the respecified model, it was also predicted that both cognitive and affective engagement are significant predictors of health belief variables. As shown in Figure 3, affective engagement positively affects perceived severity (y = .18, p < .05). Cognitive engagement has a direct effect on perceived severity (y = .16, p < .10) as well as an indirect effect, therein, through its effect on identification (identification \rightarrow perceived severity $\beta = .24$, p < .01). These results suggest that the more listeners were cognitively and affectively engaged with the narrative of the E-E program, the more they tended to perceive HIV/AIDS as a serious threat to them. Interestingly, cognitive engagement was a strong negative predictor of perceived barriers (y = -.40, p < .001), whereas affective engagement was a strong positive predictor of perceived benefit (y = .39, p < .001). An indirect effect of cognitive engagement on perceived benefit through its effect on identification was also found (identification \rightarrow perceived benefit: $\beta = .15$, p < .10). Figure 3 shows that neither perceived severity nor perceived benefit nor yet again perceived barriers was a significant predictor of future safer sex behavior, when controlling for other variables used in this model and socio-demographic variables.

Figure 3. Modified Recursive Path Model of the Effects of Entertainment-Education



Intervention on Safer Sex Behavior

* p < .10, * p < .05, ** p < .01, and *** p < .001, two-tailed.

Modified Model 2. This study proposed another modified model in terms of the relationships between perceived self-efficacy and health belief variables. As noted earlier, to strengthen the explanatory power for preventive health behaviors, the HBM was extended by including perceived self-efficacy in the model. Although most of the HBM studies have considered self-efficacy as another predictor of preventive health behaviors, like the other four health beliefs factors, several studies have suggested the causal relationships between self-efficacy, perceived benefits, and perceived barriers (e.g., Basen-Engquist, 1992; Mattson, 1999; Winfield & Whaley, 2002). These studies have found that self-efficacy is positively related to perceived benefits and negatively related to perceived barriers. Underlying this study, as well, is the assumption that perceived selfefficacy would be a mediator between the effects of perceived benefit and the effects of perceived barriers on future safer sex behavior. Modification indexes obtained from the original model support this assumption that there will be causal relationships between these three variables. As shown in the Modification Indices for Beta (see Appendix D), a very high value was found in a path from perceived self-efficacy to perceived benefit (15.71). In addition, the modification index value for a path from perceived self-efficacy to perceived barriers is relatively high (3.38). These observations imply that if we release the equality constraint of the perceived self-efficacy effect both on perceived benefit and on perceived barriers, then it is to be expected that the chi-square of the model will decrease, and, after all, the model fit will improve.

Therefore, this study proposed another modified model that included the causal paths from perceived self-efficacy to perceived benefit and perceived barriers. By employing the same procedures used to respecify Modified Model 1, Modified Model 2

was respecified. First, the parameters from cognitive engagement to perceived benefit and to perceived self-efficacy and the parameters from affective engagement to identification, to perceived self-efficacy, and to perceived barriers were constrained to equal zero. All of the parameters from both the cognitive and the affective engagement to both perceived susceptibility and behavioral intention were also constrained to equal zero. As such, the Γ matrix was changed into the following:

$$\Gamma = \begin{bmatrix} \gamma_{11} & 0 \\ 0 & 0 \\ \gamma_{31} & \gamma_{32} \\ 0 & \gamma_{42} \\ \gamma_{51} & 0 \\ 0 & 0 \\ 0 & 0 \end{bmatrix}$$

For the Beta matrix, two parameters from identification with character to perceived susceptibility and to perceived barriers were constrained to equal zero. In addition, parameters from health belief variables to behavioral intention were eliminated from the model, except for a path from perceived self-efficacy to behavioral intention. Parameters from both perceived severity and perceived susceptibility to perceived self-efficacy were also constrained to be zero. As such, the Beta matrix was changed into the following:
Since two parameters (perceived benefit \rightarrow perceived self-efficacy, perceived barriers \rightarrow perceived self-efficacy) were released, the Ψ matrix slightly changed. The covariances between the error terms of perceived benefit, perceived barriers, and perceived self-efficacy were constrained to equal zero. As such, the Ψ matrix is as follows:

$$\Psi = \begin{bmatrix} \Psi_{11} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & \Psi_{22} & 0 & 0 & 0 & 0 & 0 \\ 0 & \Psi_{32} & \Psi_{33} & 0 & 0 & 0 & 0 \\ 0 & \Psi_{42} & \Psi_{43} & \Psi_{44} & 0 & 0 & 0 \\ 0 & \Psi_{52} & \Psi_{53} & 0 & \Psi_{55} & 0 & 0 \\ 0 & \Psi_{62} & \Psi_{63} & \Psi_{64} & 0 & \Psi_{66} & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & \Psi_{77} \end{bmatrix}$$

SEM with ML estimates was used to test the respecified Model 2, as well. Table 5 indicates that this model also shows a good model fit ($\chi^2_{(18)} = 22.60$, SRMR = .06, and CFI = .97). In order to compare this model with Model 1, a chi-square difference test was conducted. As indicated in Table 5, a chi-square difference test shows that although the fit of Model 2 was significantly improved compared to the original model ($\Delta \chi^2_{(5)} = 36.77, p < .001$), there was no significant difference in model fit between Model 1 and Model 2 ($\Delta \chi^2_{(3)} = 1.42, p = .70$). The fitted model accounted for 25% of the variance in behavioral intention to use condoms, which means that the total variance explained behavioral intention slightly increased compared to Model 1. Thus, to put it another way, the overall fit of Model 2 was not worse than that of Model 1 although two degrees of freedom increased.

Figure 4 presents a path diagram for Modified Model 2, including the standardized path coefficients with *p*-values. Cognitive engagement was a significant positive predictor of identification with character ($\gamma = .21, p < .05$). A path from identification to perceived benefit was significant at the significance level of .10 ($\beta = .15, p < .10$). Thus, these suggest that cognitive engagement, through its effect on identification, indirectly affects perceived benefit. Only the direct effects of cognitive engagement on both perceived severity and perceived barriers were found. While a path from cognitive engagement to perceived severity was significant at the significance level of .10 ($\gamma = .14, p < .10$), cognitive engagement appeared to have a strong negative effect on perceived barriers ($\gamma = .43, p < .001$). Affective engagement was a positive predictor of both perceived severity ($\gamma = .20, p < .05$) and perceived benefit ($\gamma = .39, p < .001$).

In the respecified Model 2, the mediating role of perceived self-efficacy in the effects of both perceived benefit and perceived barriers on behavioral intention to use condoms was examined. As predicted, both of the effects of both perceived benefit and perceived barriers on behavioral intention were mediated by perceived self-efficacy. Perceived benefit positively and substantially affects perceived self-efficacy ($\beta = .28, p < .001$), and perceived barriers negatively influences perceived self-efficacy ($\beta = .28, p < .001$) that was a strong positive predictor of behavioral intention ($\beta = .50, p < .001$). These results support the reconceptualization of the HBM suggested by Mattson (1999), which suggests that perceived benefits and barriers are the predictors of self-efficacy.

Figure 4. Alternative Modified Recursive Path Model of the Effects of



Entertainment-Education Intervention on Safer Sex Behavior



* p < .10, * p < .05, ** p < .01, and *** p < .001, two-tailed.

	χ ²	Cont hypo df n	Contrast hypothes mode	with sized	GFI	SRMR	CFI
			$\Delta \chi^2$	⊿ df			
Hypothesized Model	57.58***	13			.91	.11	.63
Proposed Modified Model 1	19.39	15	38.19***	1	.97	.05	.97
Proposed Modified Model 2	20.81	18	36.77***	5	.96	.06	.97

Table 5. Goodness-of-Fits Summary among Models

Note: Chi-Square difference between Model 1 and Model 2 was not significant

 $(\Delta \chi^2_{(3)} = 1.42, p = .70).$

*** *p* < .001.

CHAPTER 5

DISCUSSION

This study examined the persuasive effects of narrative content in an E-E program on HIV/AIDS preventive behavior in Ethiopia. Utilizing causal modeling, this study explored theoretical mechanism how E-E messages influence individuals' beliefs and behavior. In fact, in spite of the abundant findings regarding the effects of E-E on behavioral changes, there have been very few studies on the process that underlies the workings of E-E. In terms of providing an explanatory model that sheds light on the process of E-E in the context of health-related media campaigns, this study might have several implications for theoretical developments in E-E research.

The Roles of Narrative Engagement and Identification in E-E Intervention

As noted above, this study focused on the roles that both narrative engagement and audience members' identification with a character featured in an Ethiopian radio serial drama, *Journey of Life*, played in the efficacy with which E-E gave rise to behavioral change in adopting condom use for safer sex. A recursive model that includes causal paths from the engagement of narrative content to behavioral intention to condom use was hypothesized. This recursive model represents how the engagement of narrative affects respondents' identification with character, which is a predictor of individuals' beliefs about HIV/AIDS and safer sex behavior (perceived susceptibility to and perceived severity of HIV/AIDS, perceived benefits and perceived barriers of HIV/AIDS preventive behaviors, and self-efficacy toward safer sex behavior). In turn, it was hypothesized that these beliefs mediate the effects of narrative engagement and identification on the behavioral intention to engage in safer sex.

Because the results of a path analysis showed, however, that the hypothesized model did not fit the data, the model was respecified. Therefore, the current study proposed two alternative models based on the results of the respecification of the original model. In both of the alternative models, this study found that an audience member's identification with a character played a mediating role in the relationships between narrative engagement and individuals' beliefs about HIV/AIDS although this mediating role was partially supported. The results of path analyses indicated that cognitive engagement was significantly related to identification with the character. Thus, the listeners who are cognitively engaged with the narrative of the radio program were more likely to identify with the character of the program, supporting Slater and Rouner (2002)'s argument that identification is conceived to be a mediator of the effect of engagement with the narrative both on health beliefs and on behavioral intention to use condom. The more the listeners cognitively engaged with the story world, which tells how the characters of the program suffer from HIV/AIDS and how a protagonist fights against ignorance of the disease and educates and persuades people to protect themselves from the virus, the more they tended to identify with the protagonist, Askale. These findings support the hypothesis that as engagement with the narrative content creates strong cognitive responses to the characters in the narrative content, it promotes audience members to identify with characters. The following notion of Oatley and Gholamain (1997) explains the relationship between cognitive engagement with narrative content and identification with a character. Since the audience takes on the goals and plans of a

character, an understanding of narrative involves "a specific mode of thinking with its own characteristics related to actions and outcomes of actions to the goals and plans" (Oatley and Gholamain, 1997, p. 269). Oatley and Gholamain (1997) illustrate an example:

From the age of four or five, when they keen on playing games involving roles – doctors and patients, cops and robbers, husbands and wives – children listening to a story, or watching a movie, say spontaneously, "I will be that one." They are very clear about the role with which they want to identify. (p. 269)

A disappointing result of this study, however, is that the significant relationship between affective engagement and identification was not found although previous studies (e.g., Oatley, 2002; Slater & Rouner, 2002) have argued that affective engagement is closely related to identification. A possible alternative explanation is that affective engagement indirectly influences identification through its effect on cognitive engagement. It suggested that "to feel" precedes and impacts "to think." Oatley and Gholamain (1997) argued that identification was governed by secondary processes such as conscious, meaning-based thoughts. Several experiments of Murphy and Zajonc (1993) have provided strong evidence that affect is processed early in the informationprocessing chain. Thus, emotional reactions can precede subsequent cognitions (Murphy & Zajonc, 1993). To explore the relationship among the three variables of affective engagement, cognitive engagement, and identification, a simple recursive path model in which affective engagement influences cognitive engagement that leads to identification with character —was tested. The results of the analysis indicated that the data were consistent with the model (error = .005, z = 0.04, p = .97). Therefore, a future study should explicate the causal relationships among these three variables.

Several hypotheses were to test the relationships between identification with character and individuals' beliefs related to HIV/AIDS. The results of a bivariate correlation analysis indicted that identification was significantly related to three beliefs: perceived severity, perceived barriers, and perceived self-efficacy. However, the relationship between identification and perceived barriers was not significant in both of the two modified models. According to the results of the path analyses, identification with character significantly affects perceived severity and perceived benefit in both of the models, whereas its effect on perceived self-efficacy was significant only in Modified Model 1. In other words, in Modified Model 2 predicting a meditating role of self-efficacy in the effects of perceived benefit and perceived barriers on future safer sex behavior, identification was not a significant predictor of self-efficacy. As such, the hypotheses on the relationships between identification with character and individuals' beliefs related to HIV/AIDS were partially supported. These findings suggest that the more the individuals identified with the protagonist, the more likely they were to perceive HIV/AIDS as serious disease. In addition, it seems that through their identification with the protagonist, listeners grew more aware that condom use is an effective method by which to prevent HIV/AIDS infection.

In spite of the crucial role of identification in the E-E process, the "Archie Bunker Effect" was also found in this study. The Archie Bunker Effect refers to "the degree to which certain audience individuals identify with negative role models in the media" (Singhal & Rogers, 1999, p. 158). To determine whether the Archie Bunker Effect appears

in this study, identifications with three types of characters—positive, transitional, and negative role models—were compared. In so doing, three main characters of the program were selected based on the story line of the drama (see Appendices A and B). Saba was chosen as a transitional character. In general, transitional characters often develop in the show as they make mistakes, yet they are neither a protagonist nor a villain (Smith et al., 2003). Saba, who is Askale's sister, enjoys drinking and socializing with many men. She did not listen to her sister's warnings to either abstain from sex or use protective methods. Finally, she was suffering from discovering that she was HIV positive and had infected others. The architect of this program created her as a transitional model that could convey to the audience the foolishness of her ways and encourage the audience to learn from them. Zeleke was selected as a negative role model or villain. Although Zeleke and his wife agreed to take in Azeb's son and find him a family to live with, they decided to raise him themselves and to give the child to Alemu, who cripples children and forces them to beg on the streets. Askale was the favorite Journey of Life character to whom subjects best responded (65.5%), whereas Zeleke was the least favorite Journey of Life character (50.4%). Respondents indicated that Saba was the second least favorite Journey of Life character (36.5%) and the third most favorite character (9.2%). Not surprisingly, no one indicated that Askale was his or her least favorite character or that Zeleke was his or her most favorite character.

To see whether there are mean differences between audience members' identification with the three characters, this study looked at the within-subject mean differences between individuals' identification with Askale, identification with *Saba*, and identification with *Zeleke* via the General Linear Model (GLM) procedure. As shown in

Appendix E, significant mean differences in identifications across the three characters were found ($\Lambda = .26$, F(2, 117) = 165.59, p < .001, $\eta^2 = .74$). Thus, respondents showed significantly greater identification with *Askale* than with *Saba* or *Zeleke*. Pairwise comparisons tested with the least significant difference (LSD) method shows that there were also significant mean differences between each pair of identification (mean difference between identification with Askale and identification with Saba = 4.06, SE = .29, p < .001; mean difference between identification with Askale and identification with Zeleke = 4.70, SE = .26, p < .001; mean difference between identification with Saba and identification with Zeleke = .64, SE = .22, p < .01). It is suggested that individuals are more likely to identify with a protagonist than with a transitional character or a villain. It should be noted, however, that 6.8% to 7.6% of the listeners identified with a negative role model (Zeleke). Thus, the Archie Bunker Effect was found in this study although its size was small, as is usually observed in many E-E programs. Given that the Archie Bunker Effect is an audience-centered resistance that diminishes the effectiveness of E-E interventions (Singhal & Rogers, 2004), it should be suggested that further research should investigate the factors that produce the Archie Bunker Effect in order to reduce the effect.

Influences of Engagement with Narrative on Individuals' Beliefs

Two modified models hypothesized the direct effects of both affective engagement and cognitive engagement on individuals' health beliefs. In Modified Model 1, affective engagement was a significant predictor of perceived severity, perceived benefit, and self-efficacy. These findings suggest that the more individuals affectively engaged with the narrative of the program, the more they tended to perceive HIV/AIDS as a serious disease, to have a perception that the threat from HIV/AIDS can be substantially reduced through condom use, and to enhance self-efficacy perceptions of condom use for preventing HIV/AIDS. On the contrary, cognitive engagement was directly influenced perceived severity and perceived barriers. In particular, cognitive engagement substantially diminished individuals' perceived barriers to HIV/AIDS preventive behavior. Thus, through their cognitive engagement with the program, listeners might decrease their perception of the potential negative aspects of condom use for the prevention of HIV/AIDS. These findings support an important assumption of the E-E study, which is that the vicarious experiences that stem from exposure to the E-E program can change the values and beliefs of audience members and, thus, influence audience members' behaviors.

It should be noted that perceived self-efficacy was a strong mediator in both of the models. In Model 1, self-efficacy was a significant mediator of the relationships between affective engagement and behavioral intention to use condoms and between identification with character and behavioral intention to use condoms. In Model 2, the effects of the perceived benefit of and the perceived barriers on behavioral intention were mediated by perceived self-efficacy. These findings support an important point—regarding the role of self-efficacy in E-E interventions—that Bandura makes in his social cognitive theory. According to Bandura (1995), vicarious experience is one of the sources that influence people's beliefs concerning their efficacy. Bandura (1995) made the following remark:

[An] influential way of creating and strengthening efficacy beliefs is through the *vicarious experiences* provided by social models. Seeing people similar to themselves succeed by perseverant effort raises observers' beliefs that they, too, possess the capabilities to master comparable activities. By the same token, observing others fail despite high effort lowers observers' judgments of their own

efficacy and undermines their level of motivation. (p. 3)

Given that self-efficacy is a strong predictor of behavioral change, an implementation model, as Bandura (2004) suggested, that involve creative translation of social cognitive theory – specifically, self-efficacy - into practice is strongly recommended for the successful E-E interventions.

Limitations of the Present Study

There are several potential limitations of the present study. First, it should be indicated that, owing to the small sample size (n = 124) and large-sample technique (SEM) in the present study, any interpretation of the results must be met with some caution. Kline (1998) suggested two criteria by which to determine how much larger a sample is required in path analysis in order for the results to be reasonably stable. First, sample sizes less than 100 is considered small, between 100 and 200 is a medium sample size, and more than 200 can be considered a large sample size. An additional consideration is the complexity of the path model. In other words, the sample size can be considered the ratio of the number of cases to the number of parameters in the model to be tested. Suggesting 20:1 or 10:1 as a realistic ratio, Kline (1998) indicated that if the ratio is less than 5:1, the statistical stability of the results might be doubtful although there are no absolute standards in SEM literature. To achieve model parsimony, as noted above, sociodemographic variables were residualized in the model. In spite of the residualization, because the ratio of the number of cases to the number of parameters is still less than 5:1, one should be cautious in interpreting the results of these analyses. Therefore, future

replication using more substantial sample sizes should be required.

A second limitation centers on the measurement issues. Owing to the limitations arise from the use of secondary data, most variables in this study employed a single-item measure or a two-item measure. When considering the fact that the multi-item measure is more reliable and valid than a single-item or a two-item measure (Snijders & Bosker, 1999), the weaknesses of the measure's reliability and validity should be indicated as one of the limitations of this study. Therefore, it can be suspected that the use of a single-item for measuring perceived susceptibility might be a reason why the current study failed to find its effect in the model. In addition, a considerable measurement issue concerns the measurement of identification, which is one of the key variables in this study. As mentioned above, this study employed only two items by which to measure identification. The main reason for this was to distinguish identification from other types of reactions such as liking, similarity, and parasocial interaction—that audience members might have to media characters. Given that identification with characters is a central mechanism by which to explain the effectiveness of E-E, future research on this particular topic should include replication that benefits from a theoretically elaborated measure of identification that, itself, enables researchers to examine with greater rigor, specificity, and validity the role of identification in E-E interventions.

A third limitation concerns the fact that the current study did not consider a hierarchy of effects (or stages of change) in E-E intervention. According to Slater (2002), the cross-theoretical approach is useful because it provides researchers with an integrated model that explains the persuasive influences of E-E. For example, the transtheoretical model or the stages-of-change model (Prochaska & DiClemente, 1983; Prochaska,

DiClemente, & Norcross, 1992) provides a useful theoretical framework in which to examine the hierarchy of effects in E-E interventions. The main concept underlying this model is that different kinds of interventions based on different theoretical models are appropriate, depending on the readiness with which individuals change their behavior (Slater, 2002). According to Prochaska and others (1992), changes in behavior go through five distinct stages: precontemplation, contemplation, preparation, action, and maintenance.

Precontemplation is the stage at which there is no intention to change behavior in the foreseeable future. Many individuals in this stage are unaware or underaware of their problems... Contemplation is the stage in which people are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action... Preparation is a stage that combines intention and behavioral criteria. Individuals in this stage are intending to take action in the next month and have unsuccessfully taken action in the past year... Action is the stage in which individuals modify their behavior, experiences, or environment in order to overcome their problems... Maintenance is the stage in which people work to prevent relapse and consolidate the gains attained during action. (Prochaska et al., 1992, pp. 1103 - 1104)

For instance, exposure to E-E messages, including the processes of engagement and identification, might influence the stages of precontemplation and contemplation, whereas self-efficacy will affect the stage of action. Given that the stages models play an important role for E-E practitioners in both defining where intended audiences are in the process of change and designing messages to fit specific audience and cultural needs (Sood et al., 2004), further research should investigate the effects of E-E across the stages of change.

Suggestions for Future Directions of E-E: Issue Placement as an Alternative Strategy of E-E

The final section features a discussion of "issue placement" in terms of future directions of E-E strategy. In fact, although most E-E research has been conducted in developing countries of Latin America, Africa, and Asia, such as India, Turkey, Peru, Mexico, Tanzania, and Nigeria, there has been little evidence that E-E can be effective in an industrialized nation like the United States. In highly saturated media environments such as those common to the U.S., the effectiveness of E-E can be attenuated by various other media contents (Sherry, 2002; Singhal & Rogers, 2002). For example, in highly saturated media environments, because audiences receive "a barrage of competing messages on many health issues" (i.e., anti-obesity health message vs. junk food advertising), the effectiveness of campaign messages may be decreased (Greenberg, Salmon, Patel, Beck, & Cole, 2004, p.199). Furthermore, in a country like the U.S., which has a commercial media system, it is not easy to produce and disseminate whole programs or shows that feature prosocial messages scripted by government or nonprofit organizations. In this regard, as Greenberg and his colleagues (2004) indicated, the scope, function, and form of E-E in the U.S. should be quite different from its counterpart in developing countries. As a result, government and nonprofit organizations have made an effort to embed educational messages in entertainment programming. For example, U.S. sexual health agencies have been working with the commercial media to insert health messages into existing entertainment programming (Keller & Brown, 2002). The definition of the term *issue placement* can be derived from this activity. Thus, I define issue placement as "the paid and intentional inclusion of a message or an issue in

entertainment programming by an individual or an organization that attempts to affect individual and social change."

In the area of advertising research, product placement has been considered a popular advertising strategy that inserts branded products or brand identifiers into a movie scene or television show. Therefore, it is believed that a thoughtful discussion of the major similarities and differences that characterize product placement in relation to issue placement will provide a proper framework for developing and testing propositions about issue placement.

Product placement, often called *brand placement*, is a growing marketing practice (Balasubramanian, 1994; Gupta & Lord, 1998; Karrh, 1998; Snyder, 1992). *Product placement* is defined as "the paid inclusion of branded products or brand identifiers, through audio and/or visual means, within mass media programming" (Karrh, 1998). According to Balasubramanian (1994), product placement is one of many hybrid message forms, a growing genre of marketing communication that combines advertising and publicity messages. Currently, it mostly occurs in movies and TV shows, but the usage has been expanded to other media such as video games, Broadway shows, music videos, novels, and so on (Balasubramanian, 1994; Gupta & Gould, 1997; Gupta & Lord, 1998; Snyder, 1992).

Several empirical findings regarding the effectiveness of product placement suggest that product placement in movies can increase the awareness of the placed brand among audiences (Babin & Carder, 1996). Examining viewers' recognition of brands placed within a film, Babin and Carder (1996) found that viewers could recognize brands placed in the film that they watched and could distinguish them from brands not placed in

the same film. Another contribution of their study is the fact that audiences will recognize more placed brands than they will actually recall, suggesting that recognition is easier to achieve than recall. Karrh (1998) found, for example, that identification of product placements in a movie could enhance viewers' recall and recognition, making the represented brand more memorable in consumers' minds. Furthermore, the findings of product placement research has showed that product placement can increase short-term purchase intention for the represented brands in movies (Karrh, 1998).

These findings from product placement literature can also be applied to explanations of issue-placement effectiveness. For example, one can examine the hypothesis that an issue placed in TV programs will increase the audience's awareness of the placed issue. Given that the awareness of the placed issue is a starting point from which to change audiences' attitudes toward the issue and their behaviors related to the issue, then audience awareness of a specific issue is important for determining the effectiveness of the E-E intervention. In particular, this is the case in a competitive media environment in which a variety of media messages compete because the message strategy might be attenuated by competing messages from other sources. Types of exposure can affect the effectiveness of placement: visual only, audio only, or a visual-audio combination. Gupta and Lord (1998) found that a prominent placement generates greater effectiveness than a subtle placement. With regard to the types of exposure, their findings showed that a verbal only exposure results in better recall than a subtle visual only exposure. Another study (Law & Braun, 2000) found that while the visual-audio combination is best remembered, recognition is highest when using audio only placement. The visual only type results in the least recall, but is the best choice. Prominence of

placement, which means a highly visible exposure by virtue of size and/or position on the screen or its centrality to the action in the scene, also affects audiences' responses in terms of the effectiveness of product placement (Gupta & Lord, 1998). When products are placed more prominently, viewers will find it easier to recognize the brands (Babin & Carder, 1996). Prominent placement can also enhance the placed brand's recognition, recall, and memorability compared to subtle placement (Brennan, Dubas, & Babin, 1999; Gupta & Lord, 1998; Law & Braun, 2000).

These findings from product placement research provide us with some empirically grounded ideas that go far in explaining the issues raised above: namely, the effectiveness of E-E intervention. Touching on this concern, Greenberg and his colleagues (2004) have suggested the importance of several research agenda related to message components: the diet issue (e.g., what portion of each E is necessary and beneficial?)⁷, the amount issue (e.g., the size or the length of the issue placed in a program), the order of presentation issue (e.g., locating the strongest position of the entertainment component), the repetition issue (e.g., how often the message can be repeated before tedium or even revulsion sets in), the spread issue (e.g., is placement in a single scene or across scenes in a given episode preferable?), genre comparison (e.g., sitcom vs. adventure), mode comparison (e.g., audio vs. written), format comparison (e.g., text vs. graphics), and source comparison (e.g., relative credibility and attractiveness).

⁷ The first "E" refers to entertainment, and second "E" refers to educational message.

Appendix A. Synopsis of Journey of Life

Askale, a female police investigator, and Bahiru, her husband, are an affectionate married couple who actively educated and taught others about health topics including HIV/AIDS and family planning. They are constantly trying, and eventually succeed, in persuading their mother, the interfering and vocal Amelwork, that child -spacing is the best way to raise a healthy and economically stable family. Saba is Askale's carefree sister who goes out drinking and socializing with many men. She does not heed her sister's warnings to either abstain from sex or use protection and Saba winds up discovering that she is HIV positive and that she has infected others. Tedjie, their servant, frequently asks questions on health related issues, adopts the use of condoms for himself, and develops healthy beliefs regarding the benefits of child spacing and the birth control pill.

Elias, who is a judge, and his wife, Azeb, live next door to Askale and Bahiru. Elias and Azeb are initially very happy in their marriage, but Azeb causes conflict, eventually destroying the marriage. Azeb had a son that she had to give up for adoption because she had been raped by an employer and needed to be childless to get a new job. She shares her concern with Askale and they plot to investigate the crime, leaving Elias in the dark.

Meanwhile, another couple, Zeleke and Fikirte, agree to take in Azeb's son and find him a family to live with. But they soon decide to raise him themselves. Zeleke plans to give Azeb's son to the shady character, Alemu, who cripples children and forces them to beg on the streets, extracting some of their money for profit. Fikirte catches wind of the plan and keeps the boy from his life .In order to do so, she eventually turns her husband into Askale, and Alemu and he are sent to jail. Unfortunately, the marriage of Azeb and Elias suffers, since he is suspicious and she will not reveal what has been going on. Elias succumbs to Saba's advances, contracts HIV, and infects his wife (Azeb). They both die. Saba decides to better her life and teach others to avoid her path. Intermingled in these various plots are discussions of different health-related topics like the problems of overpopulation, unwanted pregnancy, different family planning methods, ways of HIV transmission, prevention of HIV/AIDS, crimes committed against children, and so on, where the character Doctor Hailu is frequently consulted for an expert opinion.

Source: Belete, Girgre, & Witte (2003)

Appendix B. Description of the Main Characters of Journey of Life

Character	Description
Alemu	The villain of the program who cripples children so they work as street beggars for his profit.
Amelwork	She represents the "doubter"—the person who is not immediately willing to accept the new ideas about family planning. She gradually learns that family planning is good and
	helps herself and the country. She represents the large number of older listeners who similarly react with doubt to advocates of family planning.
Askale	The role model with regard to family planning and the person who is trying to be most helpful in Azeb's trouble.
Azeb	The heroin who suffers the most and from whom the audience will learn the most.
Bahiru	The male role model and husband of Askale. These two (Askale and Bahiru) represent the family who decided, early on, to do the right thing in terms of family size, among other things.
Elias	He is a good man who makes one foolish mistake. He was created to be representative of people who (in anger or out of hurt) fall into unsafe behaviors. The designers created him to generate both sympathy and a realization of how easily one can make a fatal mistake.
Fikirte	Zeleke's wife who suffers from Zeleke's mistakes, despite her innocence.
Saba	She is the young woman who is too easily "led astray" for the wrong reasons. The designers created her as a model from which the audience can grasp the foolishness of her ways and learn from them.
Zeleke	The villain who at first has "hoodwinked" his wife, Fikirte, into thinking he is a perfectly good man. He stands as a "warning" that people are not always what they seem.

Source: Belete, Girgre, & Witte (2003)

Variable	% or Mean (SD)
Sex	
Male	22.6
Female	77.4
Age	22.04 (4.32)
Education	
Literate, no schooling	1.6
1-4 years	1.6
5-8 years	21.0
9-12 years	62.9
Over 12 years or Diploma	11.3
Marital Status	
Single	68.5
Living with partner	6.5
Married	18.5
Widowed	.8
Separated	.8
Divorced	4.8
Number of Sexual Partners during 12 months	
0	53.2
1	45.2
2	.8
3	.8

Appendix C. Respondents' Demographic Characteristics (N = 124)

Appendix D. Modification Indices for BETA

Modification Indices for BETA

	ASKALE	EFFICACY	SEVERE	SUSCEPT	BARRIER	BENEFIT
ASKALE		0.70	1.12	0.35	15.71	3.38
EFFICACY						
SEVERE						
SUSCEPT						
BARRIER						
BENEFIT						
INTENTION	3.32					

INTENTION

ASKALE	4.87
EFFICACY	3.32
SEVERE	3.32
SUSCEPT	3.32
BARRIER	3.32
BENEFIT	3.32
INTENTION	

Appendix E. Mean Differences among Identifications with Three Main Characters

ASK	ALE	SA	BA	ZEL	EKE
М	SD	М	SD	М	SD
7.80	2.00	3.74	2.35	3.10	1.92 □

Wilks' Lambda = .26, F(2, 117) = 165.59, p < .001, $\eta^2 = .74$.

Appendix F. Family Planning & HIV/AIDS Communication Survey, 2002

Johns Hopkins University/PCS and Development Studies Associates

Study Subjects: Males and Females – age 17 to 32 years at 2^{nd} panel (15-30 at original panel)

IDENTIFICATION #			
Region	Zone		Region
Woreda	Town		
Kebele			House Number
Respondent's Name as you finish interviewing)	(fill this	
Ν	lale Female		
Name of Household Hea	d	_	
Μ	ale Female		

	1	2	3	FINAL VISIT	
2002				Day	
Date				Mont	
Interviewer's Name Result*				Year	
*Result Codes: 1= Completed 2= Not at home 3= Postponed	4= Refused 5= Partly completed 6= Incapacitated	7= Dwelling not found 8 = Dewelling closed 9 = Others (specify)		Interviewer Result	

LANGUAGE				<u></u>
Questionnaire	Interview	Respondent's Language	Native	Translator Used During Interview
Amharic = 01 Others = 02	Amharigna = 01 Oromigna = 02 Tigrigna = 03 Sidamigna = 04 Wolaitigna = 05 Guragigna = 06 Others = 07 (specify)	Amharigna = 01 Oromigna = 02 Tigrigna = 03 Sidamigna = 04 Wolaitigna = 05 Guragigna = 06 Others = 07 (specify)		Yes = 01 No = 02

Supervisor	Field Editor	Keyed By
Name	Name	Name
Date	Date	Date

SECTION 1: DEMOGRAPHIC/RESPONDENT'S BACKGROUND

No.	Questions and Filters	Coding Categories	Skip
	How old were you at your last	Age in completed year	
101	birthday?		
	In what month and year were you	Month	
102	horn?	Year	
IUL		Don't Know DK	
	Have you ever been married before?		
103		1= YES	→
		2 = NO	109
	If yes, age at which first married:	Years	
104			
	What is your marital status now?		
		1= Single	
		2= Living with partner	
105		3= Married	
		4= Widowed	
		5= Separated	
		6= Divorced	
106	In your opinion, what is the right age		
а	of marriage of boys & girls?	BOYS	
106		GIRLS	
b			
	What is your daily work, if anything?		
		2= Work on own farm/cattle	
		3= Salaried job	
107		4= Service job (maid, taxi)	
		5= Self-employed (tailor, etc.)	
		6= Household work	
		7= Student	
		8= Others	
	In the house that you live (household		
108	level),	1= yes 2= no	
a	Do you own a radio?	1= yes 2= no	
~	Do you own a television?	1= yes 2= no	
108	Do you own a car?		
0 400	Do you have a cook?	i=yes z= no	
108	Do you nave a gardener?		
e			I

109	Educational Level Can you read a letter or newspaper easily?	1= Illiterate 2= Literate, no schooling 3= 1 - 4 4= 5 - 8 5= 9 - 12 6= 12 + & Diploma 7= Degree 1= No at all 2= With Difficulty 3= Average ability
		4= Easily 5= Very Fluently
111	To which religion do you belong?	1= Orthodox 2= Muslim 3= Traditional 4= Protestant 5= Catholic 6= Seventh Day Adventist 7= Other:
112	How much influence would you say that your religion has on the things you do?	1= No influence at all 2= Little influence 3= Average influence 4= Great influence 5= Guides everything I do (total influence)
113	What is your ethnicity? RECORD THE MAJOR ETHNIC GROUP	01= Amhara 02= Oromo 03= Tigre 04= Gurage 05= Sidama 06= Wolaita 07= Other (specify)
The ne mean t -your a	xt few questions are about alcohol and oth beer, wine, tej, wine coolers, or liquor-anyth Inswers are confidential.	er drugs. When we mention alcohol , we ning with alcohol in it. Please be honest-
113 a	Have you ever had any alcohol to drink, other than for religious reasons?	1= YesIf2= Nono,skip to113j

113	Over your entire life, about how many	01= ()				
Ь	different days have you had alcohol to	02= 1	-2 times				
	drink?	03= 3	03= 3-5 times				
		04= 6					
		05= 1	[
		06= 2	21-40 time	es			
		07= N	Nore than	40 time	5	-	
113	Over the past three months, about						
c	how many different days have you		day	s			
	had alcohol to drink (TOTAL)?						
113	The last time that you drank alcohol,	 					
d	how many drinks did you have?						
113	How old were you when you had your						
e	first alcoholic drink?		yea	rs old			
	1	No	Yes	Yes	Yes,		
	Have you ever:		Ι.	, a	а		
			Onc	Fe	Lot		
			е	w			
				Tim	Î		
			•	es			
113f	Gotten into a fight during or shortly	1	2	3	4		
	after drinking?				Į		
113g	Done things when drinking that you	1	2	3	4		
_	normally would not do, and you later						
	regretted doing?						
113h	Afterwards, been unable to	1	2	3	4		
	remember things that happened						
	while you were drinking?						
113i	Been hassled by your friends or	1	2	3	4		
	family because of your drinking?	1					
113 j	Now let's talk about Chat.	1= Ye	s	If no	skip to		
	Over your entire life have you ever	2= No	כ	201			
	used chat?						
113k	If yes. How frequently?	01= [Daily				
		02= E	Every othe	er day			
		03= 0	Once a we	eek			
		04= Every two weeks					
		05= E	Every mol	nth			
		06= 0	Others (sp	pecify)		ļ	
113	After I use chat my sexual desire is	1= Ye	es				
	aroused	2= No	0				
113	After I use chat my sexual desire is	1= Ye	es				
m	reduced	2= No	<u> </u>	,			
113	Chat has no influence on my sex life	1= Ye	es				
n		2= No	כ				

SECTION II. RADIO LISTENERSHIP

Do you have the habit of listening to radio?1= Don't have a working radio 2= Don't listen to the radio 3= Listen at least once a month 4= Listen at least once a week 5= Listen several times a	'
201 radio? 2= Don't listen to the radio (If yes ask how often they listen) 3= Listen at least once a month 4= Listen at least once a week 5= Listen several times a	
(If yes ask how often they listen) 3= Listen at least once a month 4= Listen at least once a week 5= Listen several times a	
month 4= Listen at least once a week 5= Listen several times a	
4= Listen at least once a week 5= Listen several times a	-
week 5= Listen several times a	
5= Listen several times a	
week	
6= Listen daily	
202 What types of radio programs do you 1= News	
a-h listen to? 2= Personal paid	
(DO NOT READ LIST, CIRCLE ALL announcements	
MENTIONED) 3= Commercials	
4= Sports	
5= Drama/soap opera	
6= Religious Programs	
7= Health Programs	
8= Other, specify	
203 What are the names of specific radio 1= Journey of Life	
programs you listen to?	
(DU NUT READ LIST, CIRCLE ALL 2= Ask Your Doctor (DKT MENTIONED	
program)	
	·
LIFE. Have you ever heard of a radio	
serial called " lourney of Life"? Listened	
to it? 2= Yes, listened to it	
to it? 2= Yes, listened to it 3= No	
to it? 2= Yes, listened to it 205 If yes listened to it, about how many of	
to it? 2= Yes, listened to it 205 If yes listened to it, about how many of the 26 episodes did you listen to?	
205 If yes listened to it, about how many of the 26 episodes did you listen to?	
205 If yes listened to it, about how many of the 26 episodes did you listen to?	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio 1= Yes, heard of it but not listen	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? 1= Yes, heard of it but not listen	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? 1= Yes, heard of it but not listen 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? 1= Yes, listened to it	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the 26 episodes did you listen to? 1= Yes, heard of it but not listen 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? 1= Yes, heard of it but not listen 2= Yes, listened to it? 2= Yes, listened to it 3= No	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in 2= Yes, listened to it	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in the last 6 months (out of 26 possible)?	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in the last 6 months (out of 26 possible)?	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in the last 6 months (out of 26 possible)? 1= Yes, heard of it but not 208 Have you ever heard of a radio serial colled "Berbane?" 1= Yes, heard of it but not	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in the last 6 months (out of 26 possible)? 1= Yes, heard of it but not listen 208 Have you ever heard of a radio serial called "Berhane?" 1= Yes, heard of it but not listen	
205 If yes listened to it, about how many of the 26 episodes did you listen to? 2= Yes, listened to it 3= No 206 IF DON'T MENTION Ask Your Doctor, Have you ever heard of a radio program called "Ask Your Doctor"? Listened to it? 1= Yes, heard of it but not listen 207 If yes listened to it, about how many of the episodes have you listened to in the last 6 months (out of 26 possible)? 1= Yes, heard of it but not listen 208 Have you ever heard of a radio serial called "Berhane?" 1= Yes, heard of it but not listen	

Now I'm going to give several statements about your opinions on the radio soap JOURNEY OF LIFE. I'm interested in the extent to which you agree or disagree with the following statements. Each of your answers will be on this scale (show ruler) ranging from "Strongly Disagree" to "Strongly Agree." You can simply point to or say your answer in response to each statement. *There are no right or wrong answers; these are simply your opinions. Your answers will be kept confidential. We appreciate your honesty. If respondent has never listened to Journey of Life go to 301.			PRAC For e the q "Dorc I migl Agree How state good PART VALII	CTICE IT xample, uestion, wat is g th point I e" would yo ment? "[" (MAKE TICIPAN D ANSW	TEM: in resp good". here, "S bu resp Doro wa E SURI T GIVE /ER.)	Strongly bond to at is E S A	o (the
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Aaree	
209	Journey of Life influenced me to protect myself against HIV/AIDS.	1	2	3	4	5	
210	Journey of Life made me believe HIV/AIDS is a serious health threat.	1	2	3	4	5	
211	Journey of Life made me believe that it is possible that I myself might be susceptible to getting infected with HIV/AIDS	1	2	3	4	5	
212	Journey of Life made me feel hopeless about fighting against AIDS	1	2	3	4	5	
213	Journey of Life made me feel like there was nothing I could do to avoid getting HIV/AIDS	1	2	3	4	5	
214	Journey of Life made me feel scared about AIDS	1	2	3	4	5	
215	Journey of Life influenced me to use family planning.	1	2	3	4	5	
216	Journey of Life made me believe that having children when I wasn't ready would be harmful.	1	2	3	4	5	
217	Journey of Life made me believe that I might have children when I didn't want them.	1	2	3	4	5	
218	Journey of Life made me believe that family planning worked in preventing me from having children unless I really wanted them.	1	2	3	4	5	

219	Journey of Life made me believe that I was able to use family planning	1	2	3	4	5	
220	Journey of Life made me feel emotional.	1	2	3	4	5	
221	Journey of Life had a strong emotional	1	2	3	4	5	
222	Journey of Life was an emotional program.	1	2	3	4	5	
223	Journey of Life made me feel hopeful about avoiding HIV/AIDS infection.	1	2	3	4	5	
224	Journey of Life made me believe I could personally do something to avoid getting infected with HIV/AIDS.	1	2	3	4	5	
225	Journey of Life made me believe there were effective ways to avoid HIV/AIDS infection.	1	2	3	4	5	
226	Journey of Life was entertaining.	1	2	3	4	5	
227	Journey of Life was boring.	1	2	3	4	5	
228	I wish Journey of Life had lasted longer.	1	2	3	4	5	
229	The quality of the Journey of Life story was very good.	1	2	3	4	5	
230	The quality of the production of Journey of Life was very good (e.g., sound, special effects).	1	2	3	4	5	
231 a	Journey of Life was educational.	1	2	3	4	5	
231 b	Journey of Life kept me in suspense from episode to episode.	1	2	3	4	5	
232	I learned a lot about HIV/AIDS from Journey of Life.	1	2	3	4	5	
233	I learned a lot about family planning from Journey of Life.	1	2	3	4	5	
234	Journey of Life provided a lot of good information about HIV/AIDS.	1	2	3	4	5	
235	Journey of Life provided a lot of good information about family planning.	1	2	3	4	5	
236	The characters on Journey of Life were realistic Ethiopians.	1	2	3	4	5	

237	I have talked with my friends about Journey of Life.	1	2	3	4		5
238	I have talked with my family about Journey of Life.	1	2	3	4		5
239	I have talked with my boyfriend/girlfriend/husband/wife about Journey of Life.	1	2	3	4	:	5
240	After listening to Journey of Life, I wanted to change my life for the better.	1	2	3	4		5
241	Please tell us who is your favorite Journey of Life character.	1= As 2= Ba 3=Sa 4= Ar 5= El 6= Az 7= Ze					
242	Why is this character your favorite?			·····			
243	Please tell us who is your LEAST favorite Journey of Life character.	1= As 2= Ba 3= Sa 4= Ar 5= El 6= Az 7= Ze	skale ahiru aba nelewor ias zeb zeb	k			
244	Why is this character your LEAST favorite?						

	Please tell us what you think about each of these characters – all answers should be on the following scale: Use this code: 1 Strongly Disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly Agree	LIKING: "I like CHARACTER."	SIMILARITY: "CHARACTER is very much like me."	IDENTIFICATION: "I identify CHARACTER."	WANT TO BE LIKE: "I want to be like CHARACTER."
245 a-d	Askale	12345	12345	12345	12345
246 a-d	Bahiru	12345	12345	12345	12345
247 a-d	Saba	12345	12345	12345	12345
248 a-d	Amelework	12345	12345	12345	12345
249 a-d	Elias	12345	12345	12345	12345
250 a-d	Azeb	12345	12345	12345	12345
251 a-d	Zeleke	12345	12345	12345	12345

•

SECTION 3: SEXUAL HEALTH & HIV/AIDS

Now I'	Now I'm going to ask some questions about sex and HIV/AIDS. It is important for us to get								
complete answers to these questions because they will help us devise appropriate programs									
tor people in Ethiopia. Again, no one will ever see your answers and we really appreciate									
your n	Directly.								
204	Have you ever had sexual intercourse?								
301									
	How old were you when you first had sexual	Years							
302	intercourse?								
303	About how many sexual partners have you	Partners							
a	had over your whole life?								
		De trace							
303 b	During the last 12 months (the last year)?								
	On average, how frequently do you have								
	sexual intercourse?								
304	(e.g., a few times a year, once a year, once a								
	month, etc.)								
	On average, how frequently does the								
305	AVERAGE ETHIOPIAN Male/Female								
	[matched to respondent's sex] have sexual								
	intercourse?								
306	Do you have a regular sexual partner?	1= yes							
		2= no							
	Who is this person?	1= spouse							
		2= fiancé							
		3= girlfriend/boyfriend							
307		4= acquaintance							
		5= paid sex worker							
		6 other							
	The last time you had sex did you use a	1= Yes							
200	contraceptive?	2= No							
308		3= Can't remember							
		4= Don't know							

309	What did you use?	01= Pill 02= Injections 03= IUD 04= Implants/Norplant 05= Condoms 06= Foam/jelly 07= Female sterilization 08= Male sterilization						
		09= Periodic abstinence 10 Withdrawal 11 Other						
310	Under perfect circumstances, how freque would you LIKE to have sexual intercou							
311	When comparing yourself to other Ethiopian [men/women] just like yourself, how does your level of sexual desire compare?			 1= much lower than others just like me 2= lower than others just like me 3= about the same as others just like me 4= higher than others just like me 5= much higher than others just like me 				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
312	I find it difficult to talk about sexual issues with my parents	1	2	3	4	5		
313	I find it difficult to talk about sexual issues with my friends	1	2	3	4	5		
314	I find it difficult to talk about sexual issues with my romantic friend	1	2	3	4	5		
315	My best friend tries to convince me to be more sexually active	1	2	3	4	5		
316	How often do you think about sex each d	lay	1 2 3 4 5	= Neve = Once = Twice = Three = Frequ	r e e times uently			
317	From where do you get most of your information	1= School						
------	--	-------------------------------						
	(DO NOT READ LIST. CIRCLE ALL	2= Friends						
	MENTIONED)	3= Parents						
		4= Other relatives						
		5= Teachers						
		6= Others						
318	Do you do anything to protect yourself against	1= Yes, always						
		2= Yes, sometimes						
		3= No, don't need to						
		4= No, I don't think about it						
319	If yes, what have you done to protect yourself?							
a-f	For each spontaneous answer follow up by	1= Become abstinent						
	asking, "How often do you use that strategy to	2= Use condoms						
	protect yourself against HIV/AIDS infection?"	3= Limit partners						
	1 Use all of the time	4= Get tested for HIV						
	3 Use some of the time	5= Screen partner carefully						
	4 Use rarely	6=						
	5 Use never	Other						
320a	Sometimes people put themselves at risk of	1= never						
	getting HIV/AIDS by having sex with someone	2= once						
	they don't know well, without using a condom.	3= 2-3 times						
	How frequently, if at all, have you ever done	4= 4-5 times						
	anything that might put you at risk for getting	5= 6-10 times						
	HIV/AIDS.	6= more than 10 times						
	We appreciate your honesty here. The							
	responses are "never," "once," "2-3 times," "4-5							
	times," "6-10 times," "more than 10 times"							
320b	Do you have the virus that causes AIDS?	1= definitely no						
		2= may be no						
		3= not sure						
		4= maybe yes						
		5= definitely yes						
321	Have you ever been tested for HIV/AIDS?	1= Yes						
		2= No						
322	Have you ever talked with other people about	1= No never						
	HIV/AIDS?	2= Yes, once						
		3= Yes, a few times						
		4= Yes, a lot						
		5= Yes, all of the time						

323	Do you know where you could go to	get a	n	1 Yes,				
	AIDS lest? If yes, where?			2 No				
	Please indicate the extent of your agreement or disagreement with the following statements.	Strongly	uisagree	Disagree	Neutral	Agree	Strongly Agree	
324a	HIV/AIDS test clinics in Ethiopia give accurate results.		1	2	3	4	5	
324b	HIV/AIDS test clinics in Ethiopia provide high quality services.		1	2	3	4	5	
324c	It is difficult to go to an HIV/AIDS test clinic in Ethiopia.		1	2	3	4	5	
324d	I don't trust HIV/AIDS test clinics in Ethiopia.		1	2	3	4	5	
325	By your own estimate, would you say that in your community or in your neighborhood:			1. NOBODY HAS HIV/AIDS 2. ONLY FEW PEOPLE HAVE HIV/AIDS 3. MANY PEOPLE HAVE HIV/AIDS 4. OTHER				
326	If you had to describe the way people AIDS are treated in your community w say they are:	with	1 2 3 3 4 5 8	. TREAT EVERYB . TREAT SYMPAT . ISOLA DTHERS . MISTR DTHERS . OTHEI . DON'T	ED LIK ODY EL ED WIT HY TED FR EATED R (SPEC	E SE TH OM BY CIFY)	URE	
327	Do you have a relative who has AIDS or virus that causes AIDS?	the	1 2 3 4 5	= definit = may b = not su = maybe = definit	ely no e no re e yes ely yes			

328	If yes, if you had to describe the way your family and friends treat this person with AIDS would you say that he or she is:	1. TR FAMII 2. TR SYMF 3. ISC MEMI 4. MIS MEMI 5. OT (SPE)	EATED LY MEI EATED PATHY DLATEI BERS STREA BERS HER _ CIFY)) LIKE MBER) WITH D FRO TED B	othei S I More M Fam By Fam	R E IILY IILY	
		8. DO	N'T KN	IOW/N	IOT SU	RE	
329	Regarding medical treatment, do you think that the amount of medical treatment for people with AIDS should be less than, the same as or more than those with other illnesses?	1. LES 2. SA 3. MC 4. DO	SS TH/ ME AS DRE TH N'T KN	AN IAN IOW/N	IOT SU	RE	
330	If a person knows that he or she has AIDS or the virus that causes AIDS do you think that he/she should keep it private or tell other people in the community?	 SHOULD KEEP IT PRIVATE SHOULD TELL OTHERS OTHER (SPECIFY) DON'T KNOW/NOT CURE 				S	
	Would you be willing to personally take care	No	Y	es	DK		
331a	Had suffered an accident?	0		1	3		
331b	Were sick with malaria?	0		1	3		
331c	Were with tuberculosis?	0		1	3		
331d	Were sick with AIDS?	0		1	3		
you thin "Strongl * Reme	Now I'm going to ask you several questions about k about ways to prevent AIDS. Each of your answ y Disagree (1)" to "Strongly Agree(2)". mber, there are no right or wrong answers. Just g	ut your wers wi give you	percep II be or ur hone	otions on this s	of AIDS cale ra	and w nging	/hat from
332	I am at risk for getting HIV/AIDS	1	2	3	4	5	
333 SEV	Getting AIDS is the worst thing that could happen to me.	1	2	3	4	5	
334 SEV	Getting AIDS is a sure death sentence.	1	2	3	4	5	

	** Use "would be" if participant has never had se	X.					
335 SE	I am (would be) able to use condoms to prevent HIV/AIDS infection.	1	2	3	4	5	
336 SE	I am able to be abstinent to prevent HIV/AIDS infection.	1	2	3	4	5	
337 SE	I am (would be) able to be monogamous to prevent HIV/AIDS infection.	1	2	3	4	5	
338 SE	I am able to talk to my partner about HIV/AIDS prevention methods to prevent infection	1	2	3	4	5	
339 SE	Using condoms to prevent HIV/AIDS is (would be) easy for me.	1	2	3	4	5	
340 RE	Condoms are effective in preventing HIV/AIDS infection.	1	2	3	4	5	
341 RE	Abstinence is effective in preventing HIV/AIDS infection.	1	2	3	4	5	
342 RE	Being monogamous is effective in preventing HIV/AIDS infection.	1	2	3	4	5	
343 ATT	My using condoms to prevent HIV/AIDS infection is (would be) good. (USE "WOULD BE" IF "Never" TO 2M1)	1	2	3	4	5	
344 ATT	My being abstinent to prevent HIV/AIDS infection is (would be) good.	1	2	3	4	5	
345 ATT	My being exclusively monogamous to prevent HIV/AIDS infection is (would be) good.	1	2	3	4	5	
346 DA	I try not to think about getting infected with HIV/AIDS when having sex.	1	2	3	4	5	
347 INT	I intend to use condoms to prevent HIV/AIDS infection during the next 12 months.	1	2	3	4	5	
348 INT	I intend to be abstinent to prevent HIV/AIDS infection during the next 12 months.	1	2	3	4	5	
349 INT	I intend to be exclusively monogamous to prevent HIV/AIDS infection during the next 12 months.	1	2	3	4	5	
350 BAR	It is better not to talk about HIV or AIDS in my community.	1	2	3	4	5	
351 BAR	HIV/AIDS prevention methods cost too much.	1	2	3	4	5	
352 BAR	HIV/AIDS prevention methods are inconvenient.	1	2	3	4	5	
353 React	Current campaigns on HIV/AIDS prevention are misleading.	1	2	3	4	5	
354 SN	My culture is against using condoms to prevent HIV/AIDS	1	2	3	4	5	

355 SN	My religion is opposed to using condoms to prevent HIV/AIDS.	1	2	3	4	5	
356 SN	My friends use condoms to prevent HIV/AIDS.	1	2	3	4	5	
357 SN	My siblings use condoms to prevent HIV/AIDS.	1	2	3	4	5	
358 SN	Most Ethiopians just like me use condoms to prevent HIV/AIDS.	1	2	3	4	5	

SECTION 4: CHILDREN AND FAMILY PLANNING

	Now I would like to switch topics and	ask about children	
401	In your opinion what is the ideal age for a woman to have her first child?	Years	.
402 a	If you have a child or children how old were you at your first delivery?	Years	
402 b	In terms of your biological children (children that you personally have had) have you	# of Sons Born	
	ever had sons? Daughters? IF NONE, RECORD '00'	# of Daughters Born	
		Total # of Children	
403	How many of your sons or daughters are now not living (died)? IF NONE, RECORD	# of Sons Died	
	<i>'00'</i>	# of Daughters Died	
404	When YOUR LAST CHILD was conceived, did you want to have a child then, did you	Wanted then = 01 141a	[]
	want to have a child but wanted to wait until	Wanted later = 02	
	<u>later</u> , or did you <u>not want</u> to have any (more) children at all?	Did not want at all = 03	
405	How much longer would you like to have	Months =	
	waited?	Years = (convert	
		Undecided/don't know 99	
406 a-	HAS LIVING CHILDREN	Ideal Number of boys / girls	
boys	If you could go back to the time you did not have any children and could choose exactly		
b-girl	the number of children to have in your whole life, how many would that be? <i>MARK 00 IF NONE</i> .		
407	NO CHILDREN	Ideal Number of boys / girls	
	If you could choose exactly the number of children to have in your whole life, how many would that be?		

408	After how many births should a couple begin using a family planning method?	1= b 2= o 3= tr 4= tl 5= fc 6= a 7= a 8= A 9= o	efore ar ne birth wo births our or m fter a so fter two fter a da ther	iy birth s hs ore birt on sons aughter	hs		
409	What should be the ideal age gap between	1= 1	year				
	two children be?	2= 1	1/2 years	S			
		3= 2	years				
		4= 2	1/2 years	S			
		5= 3	years o In to Go	d'e will			
	For the next few questions I'd like you to stat		extent	of agree	ement or		
	disagreement, as you did before, with 1 repr	esentir	na stron	alv disa	aree. 2		
	representing disagree, 3 representing neutra	l, 4 rei	presenti	ng agre	e, and 5		
	representing strongly agree.						
410	It is possible that I will HAVE MORE	1	2	3	4	5	
SUSC	CHILDREN THAN I REALLY WANT.						
411a	IF HAS NO CHILDREN: It is possible	1	2	3	4	5	
SUSC	that I will HAVE CHILDREN AT AN						
	EARLIER AGE THAN I REALLY WANT.						
411b	IF HAS CHILDREN: I had children at an	1	2	3	4	5	
	EARLIER AGE THAN T REALLY						
412	WANTED.	1	2	2		5	
SEV	REALLY WANT leads to problems	1	2	5	-	5	
413	HAVING MORE CHLDREN THAN I WANT	1	2	3	4	5	
SEV	is harmful to my future.						
414	HAVING CHLDREN AT AN EARLIER AGE	1	2	3	4	5	
SEV	THAN I WANT (ED) is (WAS) harmful to						
32.	my future.						
415	From where do you get most of your	1	= Schoo	01			
	information about Family Planning	2	= Friend	s			
		3	= Paren	ts Deleti			
		4	= Uther	Relativ	es		
		5	- ieach - Radio	ers			
		0 7	- raulo = Other	-			
		/	- Oner	2			

Now I'm interested in how your personal knowledge and/or awareness of different ways to prevent pregnancy. I'm going to ask you a series of questions about various pregnancy prevention methods. (Please use the following codes to fill in this table.)

Awareness: Have you ever heard of?	Knowledge: Ask them to completely describe what it is and how used and then code (train coders)	Ever use: Have you ever used X method?	Current Use: Do you currently use?	Plan (intention): Do you plan to use?
1= Yes	1= Proper complete knowledge	1= Yes	1= Yes	1= Never
2= No	2= Proper incomplete knowledge	2= No	2= No	2= May be
	3= Improper knowledge			3= Probably
	4= No knowledge			4= Yes, Definitely

No.	Methods of Family Planning	Awareness	Knowledge	Whether Ever adopted by respondent (or spouse)		Plan to use
	PERMANENT					
416 a-d	1) Tubal ligation					
417a -d	2) Vasectomy					
	MODERN			Ever	Current	
418a - e	1) Female pills Ask specifically for social marketing brand					
419a - 0	2) Norplant					
420a - o	3) Injection					
421a - 0	4) Condoms Ask specifically for social marketing brand					
422a	TRADITIONAL					
-0	Breast feeding					

423a	Rhythm abstinence			
-8	Withdrawal			
424a				
-8				

425	If yes to whether adopted any family planning	1= Health clinic
	method, what was the most important source of	2= Another health clinic
	information that convinced you to adopt a family	3= Radio
	planning method?	4= TV
		5= Print media
}	(spontaneous answers)	6= Spouse
		7= Friend
		8= Family Planning Field Worker
		9= Other

426. The next few questions will ask you how you feel about these different family planning methods.

Depending on whether or not the respondent is male or female, and whether or not the family planning method is gender appropriate, begin the sentence with either "I" or "My partner". For instance, if asking a woman, the statement reads "I can use the pill to prevent pregnancy". *Use this code: -*

1	2	3	4	5
Strongly	Disa gree	Neutral	Agree	Strongly
Disagree				Agree

If the respondent has never had sex, use the "would easily be able to" stem instead of "is easily able to" stem.

						_			
426a	The Husband should be the one to	1	2	3	4	5			
	decide whether the couple should								
	use a family planning method								
426b	Using the pill to prevent pregnancy	1	2	3	4	5			
SE	is easy for me (or my partner) to do.								
	(IF NO SEX: would be easy]								
426c	Getting Norplant/injections to	1	2	3	4	5			
SE	prevent pregnancy are easy for me								
	(or my partner) to do. (IF NO SEX:								
	would be easy]								
426d	Using condoms to prevent	1	2	3	4	5			
SE	pregnancy is easy for me/my partner								
	to do (IF NO SEX: would be easy)								
Now, v	Now, we'd like to know the degree to which you think various family planning methods								
are off	ective in preventing pregnancy								
426e	The pill is effective in preventing	1	2	3	4	5			
RE	pregnancy.								

_							
426f	Condoms are effective in	1	2	3	4	5	
RE A26m	preventing pregnancy.	1	2	2			
426g RE	preventing pregnancy.		2	3	4	5	
426h	Using the pill to prevent pregnancy	1	2	3	4	5	
	is (would be) good.					<u>-</u>	
4261	Getting implant/injections to prevent	1	2	3	4	5	
	pregnancy is (would be) good.			-			
426j	Using condoms to prevent		2	3	4	5	
AII	pregnancy is (would be) good						
426k	ONLY IF HAS HAD SEX: I try not	1	2	3	4	5	
DA	to think about getting pregnant						
	when having sex.						
4261	Current campaigns promoting	1	2	3	4	5	
REAC	family planning methods are						
	misleading.						
426m	Current campaigns promoting	1	2	3	4	5	
REAC	family planning methods are						
				-			
426n	I ne pill has bad side effects.	1	2	3	4	5	
BAR			-				
4260	Norplant has bad side effects.		2	3	4	5	
BAR			2	2		E	
426p	Injections have bad side effects.		2	3	4	5	
A26m	Modern femily planning methods	1	2	2	Α	5	
420Q	modern family planning methods		2	5	4	5	
426a	Modern family planning convises	1	2	3	Λ	5	
420r	modern larmly planning services	•	2	3	4	5	
A26e	It is embarrassing to use family	1	2	3	Λ	5	
BAR	planning services		2	5	-		
426t	My culture is against family	1	2	3	4	5	
SN	planning						
426u	My religion is opposed to family	1	2	3	4	5	
SN	planning.						
426v	My friends use modern family	1	2	3	4	5	
SN	planning methods.						
426w	My siblings use modern family	1	2	3	4	5	
SN	planning methods.						
426x	Most Ethiopians just like me use	1	2	3	4	5	
SN	modern family planning methods.						╎└──┘

SECTION 5: MISC. Scales (GENDER ROLES, IMPULSIVITY, SENSATION

SEEKING, SELF-ESTEEM, SOCIAL CAPITAL, COLLECTIVE EFFICACY)

We're almost done. This last section is like previous ones, where I asked you to give the extent of your agreement or disagreement with each statement, from (show ruler) "Strongly Disagree" to "Strongly Agree." You can simply point to or say your answer in response to each statement. * Remember, there are no right or wrong answers; these are simply your opinions.

501	GENDER ROLE ATTITUDES scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agr ae	
501a	Males and females should have equal rights.	1	2	3	4	5	
501b	Boys should help with housework the way girls do.	1	2	3	4	5	
501c	A male child is preferable to a female child.	1	2	3	4	5	
501d	When resources are scarce only boys should be sent to school.	1	2	3	4	5	
501e	It's okay for a man to beat his wife as a sign of discipline if she does something wrong.	1	2	3	4	5	
501f	A woman should not question the authority of a man.	1	2	3	4	5	
501g	Women cannot make as good decisions on important matters as men can	1	2	3	4	5	
502	SELF-ESTEEM scale. Now I am going to read you a list of statements dealing with your general feelings about yourself. Tell me if you strongly agree, agree, disagree, or strongly disagree with each statement. Order okay? Consistency	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree	
502a	On the whole, I am satisfied with myself.	1	2	3	4	5	
502b	At times I think I am no good at all.	1	2	3	4	5	
502c	I feel that I have a number of good qualities.	1	2	3	4	5	
502d	I like the way I look.	1	2	3	4	5	
502e	I like most things about myself.	1	2	3	4	5	

502f	I wish I were somebody else.	1	2	3	4	5	
503	IMPULSIVITY scale. When I make a decision to do something:	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree	
503a	I think about all of my choices very carefully	1	2	3	4	5	
503b	I do the first thing that comes into my mind.	1	2	3	4	5	
503c	I don't even think about it; I just do it.	1	2	3	4	5	
503d	I take my time to carefully decide what to do.	1	2	3	4	5	
503e	I think things out step by step.	1	2	3	4	5	
503f	I consider if it will be good or bad for my future.	1	2	3	4	5	
503g	I do whatever feels good at the moment.	1	2	3	4	5	
504	SENSATION SEEKING scale.	Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Ag rae	
504a	I like new and exciting experiences.	1	2	3	4	5	
504b	I like to do scary things.	1	2	3	4	5	
504c	I sometimes like to break the rules.	1	2	3	4	5	
504d	I prefer friends who are exciting and unpredictable	1	2	3	4	5	
Social	Capital scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree	
505a	People in this community are willing to help their neighbors.	1	2	3	4	5	
505b	This is a close-knit community.	1	2	3	4	5	
505c	People in this community can be trusted.	1	2	3	4	5	
505d	People in this community generally don't get along with each other.	1	2	3	4	5	

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505e	People in this community do not share the same values		2	3	4	5	
505f	People in this community will intervene if someone's children were engaging in delinquent behavior.	1	2	3	4	5	
505g	In this community, if you perform a favor for	1	2	3	4	5	
	one of your neighbors they will likely return						
	the favor at some future date.						
505h	One of the norms in this community is that people help one another.	1	2	3	4	5	
Individ	ual and Collective Efficacy	Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree	
506a	I have control over the decisions that affect my life.	1	2	3	4	5	
506b	If someone opposes me, I can find means and ways to get what I want.	1	2	3	4	5	
506c	I can influence decisions that affect my community.	1	2	3	4	5	
506d	By working together, people in my community can influence decisions that affect the community.	1	2	3	4	5	
506e	People in my community can mobilize resources to change things that are bothersome.	1	2	3	4	5	
506f	People in my community can freely discuss issues that affect us.	1	2	3	4	5	
506g	People in my community can organize themselves to address a social problem.	1	2	3	4	5	
506h	People in my community can work together to influence decisions on the state or national level.	1	2	3	4	5	

507 Finally, this is the last question, Overall, how honest would you say you were in answering this questionnaire?

Not Honest At	Not Very Honest	Fairly Honest	Very Honest	Completely
All	2	3	4	Honest
1				5

THANK YOU

We appreciate your help.

Your cooperation will enable Ethiopia to ensure that health programs meet your needs.

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