Increasing Positive Perceptions of Counseling: The Importance of Repeated Exposures

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Abstract

This study assesses the effectiveness of repeated exposures to a video intervention based on the Elaboration Likelihood Model. The video was designed to increase help-seeking attitudes and perceptions of peer norms and to decrease the stigma associated with seeking counseling. Participants were 290 undergraduates who were randomly assigned to a repeated-exposure video intervention, a single-exposure video intervention, or a control video condition. Participants completed measures pre- and post-intervention and at a 3-week follow-up. Those in the repeated-exposure intervention improved significantly more than the single-exposure and control groups on help-seeking attitudes and perception of peer norms but not for stigma. The effect of repeated exposures on attitudes and peer norms showed both immediate and longer term effects. Effective, empirically supported interventions capable of reaching large numbers of people are necessary to improve utilization rates of counseling services. This study offers support for the use of repeated video interventions in changing attitudes and perceptions of counseling.

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Three fourth of the estimated 50 million Americans suffering from a mental illness do not seek psychological services (Center for Mental Health Services, 2000). Furthermore, within a given year, only 2% of those struggling with problems that do not meet diagnosable criteria seek counseling (Andrews, Issakidis, & Carter, 2001). This presents a serious mandate for the counseling profession. It seems as if the large majority of those who could benefit from counseling do not seek services. This unmet need has led researchers to try to understand the factors linked with the likelihood of using counseling. For example, studies have shown that one of the best predictors of intentions to seek counseling is positive attitudes toward counseling (Bayer & Peay, 1997; Vogel, Wester, Wei, & Boysen, 2005). Furthermore, peer norms that encourage rather than discourage the use of counseling seem necessary for someone seeking help (Rickwood & Braithwaite, 1994; Vogel, Wade, Wester, Larson, & Hackler, 2007) and are consistently linked to intentions to seek and attitudes toward counseling (Vogel et al., 2005). At the same time, concern about stigma (e.g., being perceived as crazy) is one of the most discussed links with the avoidance of counseling (Nelson & Barbaro, 1985; Stefl & Prosperi, 1985), lower intentions to use counseling services (Cooper, Corrigan, & Watson, 2003; Rochlen, Mohr, & Hargrove, 1999; Sibicky & Dovidio, 1986), and more negative attitudes toward seeking counseling (Deane & Todd, 1996; Komiya, Good, & Sherrod, 2000; Vogel et al., 2005).

Given the links between attitudes, peer norms, and stigma and help-seeking decisions, it is important to examine interventions designed to reduce these barriers. Mental health awareness campaigns using the media have been started by government agencies in a number of countries to educate the public about mental health disorders and to encourage earlier treatment utilization (Nemec, 2005). For example, in 2003, the National Institute of Mental Health launched the Real Men Real Depression (RMRD) campaign. The RMRD campaign uses media such as videos and the Internet to raise awareness about depression among men. Researchers have posited that these types of efforts hold promise for reaching individuals experiencing mental health issues who might not otherwise recognize their symptoms or seek treatment (Hammer & Vogel, 2010; Rochlen & Hoyer, 2005).

Although the notable increase in the number and type of media-based advocacy efforts seems like a positive step, researchers have rarely examined

the effectiveness of media interventions in improving help-seeking attitudes and norms or decreasing stigma. In fact, in a 1999 report, the U.S. Surgeon General called attention to the need for continuous evaluations of an intervention's effectiveness in increasing service use. Although useful and important indicators of visibility have been collected such as the prevalence of multimedia visibility (e.g., website hits), these visibility indicators do not speak directly to whether or not the increased visibility is actually changing attitudes, norms, and stigma about mental illness and the utilization of counseling services. As stated by Wilde (1993), the goal for future researchers should be to work toward increasing published data on the effectiveness of interventions. As such, the goal of this study is to fill in some of these gaps in the literature by conducting a random assignment pre–post test comparison of the effectiveness of a video intervention viewed via the Internet.

The intervention draws on media research theories (i.e., cultivation hypothesis; Gerbner, 1969) and attitude change theories (i.e., Elaboration Likelihood Model [ELM]; Petty & Cacioppo, 1986). Both theories posit complementary relations between exposure to messages and changes in perceptions, beliefs, and attitudes. The cultivation hypothesis suggests that the magnitude and duration of changes in perceptions, beliefs, and attitudes are enhanced through multiple exposures to consistent messages and images. ELM researchers have shown that specific characteristics of the message (e.g., the use of an emotional appeal to increase attention) can enhance the effect of each viewing on changes in perceptions, beliefs, and attitudes. Therefore, we developed an intervention video to include key characteristics found to be important by ELM researchers and then empirically tested the effect of the number of exposures to the intervention video. Specifically, we compared the effect of (a) no intervention video exposure, (b) single intervention video exposure, and (c) 3 intervention video exposures on initial and subsequent (3-week) changes in help-seeking attitudes, peer norms, and the stigma associated with seeking counseling services.

The Media and Perceptions of Mental Health Services

Media outlets have been shown to be one of the public's most important sources of information about mental illness (Borinstein, 1992) and psychotherapy (Jorm, 2000; Jorm et al., 1997). In addition, a survey by the National Health Council revealed that at the turn of the 21st century, more people in the United States turned to media outlets as their primary source of health information (40%) than to physicians (36%) (Chory-Assad & Tamborini, 2003). In addition, 76% of the participants reported having taken advice

offered in a news story they heard or read, and the majority cited television news magazines as the most credible source of health news (Chory-Assad & Tamborini, 2003). As such, people seem to be comfortable receiving information about health care services from the media.

Media sources can have a significant influence on a person's social construction of reality (Potter, 1993). Within mass media studies, one central theory is the cultivation hypothesis (Potter & Chang, 1990). The cultivation hypothesis, developed by George Gerbner in 1969, predicts a positive relation between amount of media exposure and the acceptance of norms, values, conceptions of reality, attitudes, thoughts, and beliefs that are in line with those broadcast by media programs. Specifically, these cultivated perceptions are learned through repeated viewings of information over time. For example, numerous studies have shown that frequent viewers of television are more likely to perceive the real world as it appears on television (Potter, 1993). The problem with obtaining mental health information from media sources is that when mental health information is presented, it is often negative and inaccurate (Philo, 1994) and portrayed in an exaggerated and sensationalized manner (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Wolff, Pathare, Craig, & Leff, 1996). This inaccuracy may perpetuate negative mental health attitudes and decrease the use of mental health services.

The media are outlets of equal opportunity, however, and health-related messages can be framed in positive and accurate ways. Some agencies and groups are trying to take advantage of this potential. For example, preventive measures are being taken, with media outlets as a conduit, to combat AIDS (condoms, HIV testing, clean needle programs), treatments for cancer (lumpectomies and mastectomies), and education of STDs (Hornik, 1997; Snyder & Hamilton, 2002). Similarly, media outlets can be used to disseminate theory-based messages to counter negative messages about mental illness and to help improve help-seeking attitudes.

Theoretical Support for How to Use the Media for Attitude Change

Researchers studying the effects of exposure to different types of persuasive messages have noted several factors linked with how influential the message is. In terms of media images, two theories have been explicitly noted for focusing on number of exposures to the message and way that the message is processed. For example, according to cultivation theory (Gerbner, 1969), repeated exposure to images and themes present in the media will influence

an individual's attitudes, perceived norms, and beliefs in line with the portrayed images. It has been posited that heuristics serve as one explanatory mechanism by which repeated exposure influences the formation and modification of target beliefs. For example, the availability heuristic proposes that judgments about events are affected by the memories available at the time judgments are made (Kahneman & Tversky, 2000; Tversky & Kahneman, 1973). The availability depends on how easily information is accessed and retrieved from memory and frequency of exposure is one factor that increases the likelihood of availability (Bargh, 1996; Higgins, 1996; Kahneman & Tversky, 1982). In support of this, Haugtvedt, Schumann, Schneier, and Warren (1994) found that people receiving three exposures to different types of marketing advertisements showed greater persistence in attitude change over a 1-week period, compared to people who received just one exposure. Similarly, a review of the effectiveness of mass media campaigns for reducing drinking and driving showed that increasing the frequency of audience exposure maximized intervention effectiveness (see Elder et al., 2004).

These findings may explain the inconsistent finding in the few studies examining the effect of mental health interventions on changing attitudes and perceptions of mental health stigma. Studies tend to find that interventions produce some immediate effects but that these effects do not last over time (Corrigan et al., 2001; Corrigan et al., 2002). One reason for this limited effect may be the limited duration of most interventions (i.e., one-time intervention). If repeated exposures are necessary for stronger and lasting effects, then one-time interventions may not be sufficient to create lasting attitudinal or behavioral change. Therefore, this study is designed to manipulate the number of exposures to an intervention video (single vs. three exposures) in order to examine the theoretical propositions proposed by media researchers.

Although cultivation theory suggests the general connection between exposure to messages and the development of attitudes, norms, and stigmatizing beliefs consistent with those messages, other theories such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986) also suggest that specific characteristics of the message will make the message more or less likely to be accepted. Therefore, a second reason that previously studied interventions designed to change perceptions of mental health and mental health services may not produce consistent effects over time may be the inconsistent use of message characteristics that lead to longer term changes. Specifically, ELM suggests that changes in attitudes and other beliefs occur through two routes of persuasion: central and peripheral routes. Central route processes involve extensive and focused thought and thus tend to predominate

in situations that elicit higher elaboration. Thus, attitudes and other beliefs are affected by the amount that a person thinks about or elaborates on a message (Petty, Haugtvedt, & Smith, 1995). In the case of a media intervention, the most relevant central cues include the message content. In contrast, peripheral route processes do not involve elaboration of the message through thought on the merits of the actual argument presented. Instead, they involve environmental characteristics of the message, such as the perceived credibility and attractiveness of the source and how the message is presented (Petty & Cacioppo, 1986). Relevant peripheral cues include use of emotional appeals and messenger characteristics.

Message content. Researchers examining the effectiveness of interventions have shown that attitude change depends on the type of information presented. For example, in a study by Penn et al. (1994), participants received information about an aspect of mental illness. Those participants who received information about post-treatment living arrangements (i.e., positive information) reduced negative judgments about the person with mental illness. In turn, those participants who received information on the acute symptoms of an illness (i.e., negative information) showed an increase in negative attitudes toward those with mental illness. In other words, it seems that highlighting the positive aspects can improve attitudes whereas highlighting negative symptoms can actually trigger negative stereotypes and promote negative attitudes. Thus, interventions interested in improving perceptions of help seeking may need to highlight the positive aspects of the behavior.

Message content also needs to be clear and straightforward (Atkin, 2002). Interventions that are not clear in their content are open to differential interpretations, which may interfere with the intended message. A study conducted by Zillmann (2006) examined textual narratives as a way to increase clarity and relevance. Results suggested that imagery (e.g., showing an image of a tick-bite victim in a news report on the threat of Lyme disease) and properly framed textual narratives (e.g., text on a screen underscoring the image as "tick-bite victim") not only can serve to attract viewers to pertinent health and safety messages but may also function as a marker to guide audience interpretations. Furthermore, narratives can be used to help the viewer understand why the images being portrayed are relevant to them (e.g., "More than 98 percent of all reported cases of Lyme Disease are concentrated in the coastal Northeast, mid-Atlantic states, Wisconsin and Minnesota, and northern California"; National Institutes of Health, 2003). In addition, providing narrative information within an educational intervention can provide a sense of efficacy to the viewer. For example, messages that clearly describe to the

audience what target behavior is being advocated and offer detailed instructions for how to perform the behavior will alleviate ambiguity in the message content and help the viewer feel confident in his or her ability to perform the behavior (Barber, Bradshaw, & Walsh, 1989).

Emotional appeals. The use of emotional appeals may also be an important way that media interventions can influence attitudes and behavior. Emotionally stirring imagery may not need thought elaboration to have an important effect and so can influence viewers via peripheral routes of persuasion. The effects can be seen in two televised ads and a related poster campaign in the United States aimed at drug prevention. They were launched in 1987 and created by Partnership for a Drug-Free America. These commercials compared one's brain on drugs to a frying egg. The intention was to highlight the terrible things that would happen to your brain if you take drugs. This campaign became well known for its entertainment value based on fear and humor and it won the Mobius Advertising Award in 1997 (1st Place in Public Service Announcement Television). The implication of these ads was that emotionally arousing appeals could increase attention and long-term memory. More specific, emotional appeals are thought to enhance the effectiveness of an ad due to emotional arousal resulting in superior encoding into one's brain. Amygdaloid monitoring discerns emotional salience that prompts the activation of central norepinephrine receptors, and the enhanced sensitivity of these receptors creates the conditions for superior coding of emotional situations into long-term memory (Cahill, Prins, Weber, & McGaugh, 1994; McGaugh & Gold, 1989). Emotional material may also draw attention to an issue. Presentations associated with affective reactivity tend to receive disproportional attention and thereby increase perceptions of the magnitude of the issue (Zillmann, 2006). In accordance with emotion theory, affect intensity is thought to create action readiness (Frijda, 1986) and instigate appropriate overt behaviors (Rolls, 1999; Zillmann, 1996). The use of emotionally arousing presentations offers a greater likelihood of motivating such actions than purely rational or informational appeals (Loewenstein, Weber, Hsee, & Welch, 2001; Slovic, Finucane, Peters, & MacGregor, 2002). Therefore, relevant to the present mental health intervention, individuals whose beliefs about counseling and mental health are activated by an emotionally reactive message may be more likely to focus on and remember the message and, therefore, may be more likely to view counseling as a possible strategy to deal with mental health issues.

Messenger characteristics. Another factor to consider when designing a media intervention is the characteristics of the messenger. The messenger is a character who delivers information, demonstrates behavior, or provides a

testimonial. Characteristics of the messenger such as credibility, intelligence, likeability, social status, or expertise significantly influence message acceptance under different circumstances (Heesacker, Petty, & Cacioppo, 1983; Jones, Sinclair, & Courneya, 2003; Rosen, 2000). For example, individuals with characteristics admired by the audience (e.g., celebrities) can help draw attention to an issue. Likewise, a messenger who shares similar characteristics to the audience can help build personal relevance by helping the audience identify with the character and his or her experiences (Atkin, 2002).

Identification is an important aspect of messenger impact and is defined as the process by which the viewer finds aspects of the character that are similar to herself or himself (Laplanche & Pontalis, 1973). If the character's behavior is exaggerated, such as throwing child-like temper tantrums, or the character's condition is too extreme for the average viewer (e.g., paranoid schizophrenia), the viewer is likely to reject identification with the character. As a result, it may be best to use moderate characterizations that do not threaten the viewer's self-concept so that he or she may identify with the messenger. Furthermore, the messenger should be someone who evokes empathy. Empathy is commonly defined as one's capacity to think, perceive, and feel the emotion of another person. Empathy is elicited in a media intervention by having the viewer witness the emotional experiences of another person and, subsequently, the viewer should come to feel one's own emotions that are associated with these expressions. The emotional responses do not need to be identical to those witnessed; however, some similarity in experiences needs to be present, or the viewer may not feel empathy and the emotional appeal will be unsuccessful (Zillmann, 1991).

Current Study

Media-based interventions may contribute to positive perceptions of counseling and those who seek it. In other words, the media may provide a useful medium for videos aimed at increasing public awareness and education about counseling. Specifically, an intervention video may serve as a successful educational tool to help dispel myths and stereotypes about mental health and counseling services. However, to do so, such video interventions will need theoretical grounding and empirical support. Therefore, this study examined the effectiveness of repeated exposures (cultivation theory) to a video developed based on ELM's focus on central processing (message content) and peripheral processing (characteristics of the message such as emotional appeal and messenger characteristics). In other words, the intervention

video was developed based on the characteristics noted in the ELM literature and then we empirically tested the effect of the number of exposures to the intervention video. Specifically, we used an experimental repeated measures design to examine the effect of intervention video condition (control, single intervention exposure, and three intervention exposures) on initial and longer term (3-week post-intervention) changes in help-seeking attitudes, peer norms, and stigma.

The three outcomes of help-seeking attitudes, peer norms, and stigma were assessed for several reasons. First, theoretically, cultivation theorists have distinguished between the effects of media exposure on (a) general probability estimates concerning the occurrence of a behavior separate from (b) specific positive and negative attitudes about the behavior (Gerbner, 1969). In the case of help seeking, estimates would be beliefs such as the likelihood that peers seek help and the likelihood that seeking counseling would result in stigmatization. In turn, attitudes would be positive or negative value judgments and feelings associated with counseling, specifically. Furthermore, media researchers have for a long time noted the role of media in attitude formation (Ball-Rokeach & DeFleur, 1976), in people's perceptions of peer norms (Paluck, 2009), and in the link between negative media portrayals and the stigmatization of those experiencing a mental illness (Corrigan, 1998, 2004; Wahl, 1999). Consistent with these assertions, Vogel, Gentile, and Kaplan (2008) found direct correlations between the amount of media viewed (i.e., television) and help-seeking attitudes, help-seeking norms, and the stigma associated with counseling. As such, these factors are potentially influenced by the media and are representative of the factors involved in the decision to seek professional help; therefore, it is important to examine the potential effect of the video on each factor.

We hypothesized that participants in the repeated-exposure (three exposures) intervention group would show significantly greater improvements in attitudes, peer norms, and stigma than single-exposure and control video groups. In addition, these significant effects are expected to be maintained across a 3-week period. Furthermore, since studies consistently find that women (a) endorse more positive attitudes toward counseling than men (Fischer & Farina, 1995), (b) are more likely to have peer support for seeking help than men (Raviv, Sills, Raviv, & Wilansky, 2000; Vogel et al., 2007), and (c) report less stigma associated with counseling than men (Vogel, Wade, & Haake, 2006; Vogel et al., 2007), we also examined potential differential effects of the intervention for women and men.

Method

Participants

Participants were college students enrolled in introductory college classes at a large Midwestern university (N = 290, 34% male and 66% female) who self-selected into a study on attitudes and media. Consistent with the larger university population, 90% were European American, 3% were Asian/Pacific Islander, 3% were Latino/a, 3% were African American, and 1% specified other or biracial. In addition, 47% were 1st-year students, 30% sophomores, 13% juniors, 7% seniors, and 1% who specified other. At this institution, 5.4% (1,511 out of 27,945) of the students used the University Counseling Services within a given academic year.

Measures

Attitudes toward seeking counseling. To measure attitudes about counseling, the Attitudes Toward Seeking Professional Psychological Help (ATSPPH; Fischer & Farina, 1995) scale was employed. The ATSPPH scale is a 10-item shortened version of the original 29-item scale (Fischer & Turner, 1970). Items are answered using a 5-point Likert-type scale (1 = *disagree*, 5 = *agree*). Of the 10 items, 5 are reverse-scored, indicating that higher total scores represent a more positive attitude toward help seeking. Internal consistencies are reported to be .84 and a 4-week test–retest correlation of .80 (Fischer & Farina, 1995). Fischer and Farina reported the correlation between the shorter and longer versions to be .87, which suggests that they are measuring similar constructs. In addition, current studies using the measure have reported internal consistencies of .82 (Vogel et al., 2005) and .88 (Vogel et al., 2006), respectively. For the current study, the internal consistency of the sample was .83. The shortened 1995 version also correlated with whether the participant had previously sought professional help for personal crises (.39; Fischer & Farina, 1995).

Peer norms. To assess peer norms with regard to help seeking, we adapted the Perceived Norms scale created by Fishbein, Hall-Jamieson, Zimmer, von Haeften, and Nabi (2002). In their study testing the relative effectiveness of antidrug public service announcements, they asked participants, "Of students your age, how many do you think do, or have done, the following things?" The following things included eight behaviors such as drinking and smoking. For the purposes of the present study, help seeking was the target behavior. Specifically, participants responded to three questions: (a) "Of students your

own age, how many do you think have ever sought mental health counseling?"; (b) "Of students your own age, how many do you think are currently seeing a mental health counselor?"; and (c) "Of students your own age, how many do you think would consider seeking mental health counseling?" For each target, participants responded according to a Likert-type scale from 1 (*none*) to 5 (*most*). Responses were summed so that higher scores reflect greater perceptions of peer norms. The internal consistency of the original measure was reported to be between .82 and .90 (Fishbein et al., 2002). The internal consistency of the sample in the current study was .74.

Stigma concerning counseling. To measure participants' stigma associated with seeking psychological help, two scales were used. The first, the Stigma Scale for Receiving Psychological Help (SSRPH; Komiya et al., 2000), assesses perceptions of societal or social stigma. It contains five Likert-type items rated from 1 (*strongly disagree*) to 5 (*strongly agree*). All five items are summed and higher total scores reflect greater perceptions of stigma. The SSRPH contains items such as "Seeing a psychologist for emotional or interpersonal problems carries social stigma." The internal consistency for the measure was originally found to be .73. The SSRPH has been found to correlate with attitudes toward seeking professional help ($r = -.40$, $p < .001$; Komiya et al., 2000). For the current study, the internal consistency was .82.

The second measure used was the Self-Stigma of Seeking Help (SSOSH; Vogel et al., 2006) scale, which assesses the internalized stigma associated with seeking help. The SSOSH scale is a 10-item measure that uses a 5-point Likert-type response scale (1 = *strongly disagree*, 3 = *agree and disagree equally*, 5 = *strongly agree*). An example item is "Seeking psychological help would make me feel less intelligent." Of the 10 items, 5 are reverse-scored, indicating that higher total scores represent greater self-stigmatizing with regard to seeking therapy, thus considering help seeking as a greater threat to one's self-esteem. Internal consistencies are reported to be between .86 and .92 (Vogel et al., 2006). For the current study, the internal consistency of the sample was .90. In terms of the scale's construct validity, initial and confirmatory factor analyses identified a single construct (Vogel et al., 2006). Convergent validity was also demonstrated: The SSOSH scale was related to social stigma (.46 to .48), anticipated risks (.30 to .47), anticipated benefits (−.40 to −.45), attitudes toward seeking professional psychological help (−.54 to −.63) and willingness to seek counseling (−.34 to −.38), the tendency to self-disclose distressing information (−.25), and the tendency to self-conceal (.15).

Procedures

Before data collection began, human subject approval was obtained from the university's Institutional Review Board. Participants were informed that this study was about media presentations and attitude salience of media content and viewing patterns. Persons younger than age 18 were not allowed to participate. The study had four time points and participants received 1 point of extra credit in their class for each time point they participated in. At each point in time, the data were collected online. Results from data collected via the Internet have been found to be consistent with results collected in person (Gosling, Vazire, Srivastava, & John, 2004). For Time 1 (pretest), participants provided demographic information (sex, age, race/ethnicity, year in school) and completed a questionnaire that included each of the measures noted above (i.e., help-seeking attitudes, peer norms, and stigma). Participants ($N = 290$) completed these measures and also provided their e-mail address for contact throughout the study. After the pretest was completed, participants were randomly assigned to one of three conditions: intervention video repeated viewing (IVR), intervention video single viewing (IVS), or control repeated condition (CR). In the IVR group, for Time 2, participants watched a 7-minute intervention video online (see description below), completed the same questionnaire (i.e., help-seeking attitudes, peer norms, and stigma), and then watched the same video a second time. This took place 1.5 weeks after Time 1. At Time 3, participants watched the intervention video a third time and then completed the same questionnaire 1 week after Time 2. For the fourth and final part, Time 4, the IVR participants completed the final questionnaire online 3 weeks after Time 3. In the CR group, participants followed the exact same procedures as in the IVR group, except that they watched a control video (see description below) instead of the intervention video. In the IVS condition at Time 2, participants watched the 7-minute intervention video and completed the questionnaire 1.5 weeks after Time 1. For Time 3, they completed the questionnaire again (the same as the other conditions but no additional viewing of a video) 1 week after Time 2. For the fourth and final part, Time 4, they completed the final questionnaire 3 weeks after Time 3.

In sum, the IVR group viewed the intervention video three times over the course of the study. The CR group viewed a control video three times. The IVS group viewed the intervention video only once over the course of the study. For all participants, Time 4 was 5.5 weeks after initial pretest and 3 weeks after Time 3. Across the study procedures, 144 of the 290 participants completed all time points. This group of participants was 35% male and 66% female and self-reported as European American (94%), Asian/Pacific

Islander (3%), African American (2%), and Latino/a (1%). In addition, 47% were 1st-year students, 28% 2nd-year students, 16% 3rd-year students, 8% 4th-year students, and 1% who specified other.

Materials

Intervention video. The intervention video is an edited compilation of segments from a televised reality show that portrayed the experiences of a Caucasian college-age woman who was experiencing mental health concerns (i.e., alcohol, depression, and eating issues) and her process of seeking and receiving counseling. The specific segments were edited using visual transitions and sound enhancements from the Mac software program, iMovie. In addition to the main character, there were seven other individuals included in the video. These individuals were the friends and roommates of the main character. The individuals were all similar in age (18–25) to the college students who participated in this study. In terms of gender, there were four men and three women. In terms of ethnicity, there was one African American individual, one Latino individual, and five European American individuals. Reality show segments were selected to more realistically and accurately portray a real person. In particular, the main character of the video intervention offered a real-life exemplar of what it is like to be a therapy client in and outside of sessions and therefore could help viewers empathize and identify with her experiences.

The video was designed based on the findings in mass media research and from research on ELM's central processing (message content) and peripheral processing (emotional appeal, messenger characteristics) routes. For example, the video contained a message that aimed to educate viewers about counseling through positive information about the function of counseling, the roles that mental health professionals play, and increased awareness of services available to them. In one scene, the main character's therapist states, "Let me explain what we're going to be doing. We're going to be getting you to understand your thoughts if it makes you feel bad, and then teach you how to maybe question those thoughts." To ensure a clear and straightforward message with increased control over interpretation, the video used textual narrative information to enhance efficacy over the targeted behavior. The text narrative was displayed on the screen as the video was playing. An example of textual narrative was normalizing the need for help among a college population and publicizing available services on campus (i.e., noting that free counseling is available on campus). Second, in addition to providing positive informational content, messages with an emotional appeal were used, as this

arousal can motivate action readiness. For example, a segment was included that describes the effect of the therapy on the main character's social support and roommate relationships. Several roommates comment about the positive changes they see in her and the main character states, "To have my roommates be happy for me and proud of me, it makes it feel that much better." This was used to activate personal interest and relevance as many college students have experiences with roommates and close social networks. In addition, another segment was included where the main character expressed positive emotions about therapy while providing the viewer with information about the therapeutic process: "I like talking to the doctor 'cause he's an unbiased party and doesn't make me feel crazy. . . . [He is] just trying to help me help myself to not be so negative and that there is a different way to look at situations." It has also been suggested that messages are more likely to be accepted if they are portrayed realistically. Segments were selected based on their realism by showing both the initial fears and subsequent growth of the main character. An example of such segments includes a time when the main character stated her initial concern about counseling: "I'm supposed to be going to a doctor who's basically going to be letting me know I'm crazy and that there's a lot of things wrong, and that he's going to tell me all these things to do and how to fix them and they're not going to work." Then after seeing her therapist, she states that he "doesn't make me feel crazy or bad. He almost makes it something that is so normal to feel bad and that it's still possible to feel better" and "I like talking to the doctor 'cause he's an unbiased party and doesn't make me feel crazy. . . . For the first time I felt like someone really listened."

The video contained a number of positive aspects of help seeking and counseling as well. For example, one of the character's friends says, "I think the fact that [she's] in therapy right now is working wonders for her. She's finally able to start making changes and start trying to better herself." In addition, the video used first person testimonies to help with identification with the characters. By using testimonies of a real person, the video can augment both personal relevance and identification with the messenger. These factors, taken together, provided the general guidelines in the creation of the intervention video.

A group of psychology undergraduate and graduate students ($N = 10$) provided feedback on the intervention video. These individuals were identified and recruited from undergraduates participating in psychology research laboratories focused on media effects and psychology graduate students enrolled in the Counseling Psychology program at the university. These groups were selected because of their familiarity with media research and the process of

counseling. An e-mail was sent to both target groups asking for participation. They were asked to view the video and respond to how much the video seemed relevant to college students and addressed perceived concerns associated with counseling services. Participants generally saw the video as relevant to college students ($M = 3.25$, on a 4-point scale) and as addressing perceived concerns ($M = 3.10$). It was also mentioned that viewers could likely identify with the fact that the main character was similar in age and lifestyle to college students, attractive and of seemingly good physical health, popular, and socially supported. Participants were also asked to note scenes they viewed as salient (positively or negatively). The most common scenes that were noted were those that evoked empathy and helped viewers identify with the main character. Specifically, the most effective scenes were reported to be those that displayed emotions such as sadness, hopelessness, nervousness, and ambivalence toward therapy in the beginning of the video, and hope, pride, joy, and fulfillment from therapy by the end. Scenes that were commonly deemed least effective were those that portrayed her problems as extreme. As a result, a scene where the main character could be seen as hysterically crying was deleted. In addition, the viewers liked a scene where realistic expectations were set up concerning what therapy would be like, and so another segment was added where the main character can be seen saying, "It's different than I thought it'd be. I thought he'd be able to, like, 'fix' my problems. He's just trying to help me understand the way I think." Finally, it was indicated that the portrayal of therapy should focus on therapy as a gradual process and not a quick fix. Therefore, the line "I know it's not going to happen in one day, but at least the process has started" was included in the final version.

Control video. The control video was made in the same fashion as the intervention video. Segments were taken from the same reality series episodes, portraying the same main character and surrounding cast of individuals. The main difference resides in the video content. Unlike the intervention video, the control contains no portrayals of, references to, or associations with mental health or therapy. Instead, the same characters can be seen carrying on everyday activities such as going to work and holding everyday conversations. The theme of the video is the main character's thoughts, feelings, and behaviors related to her interpersonal relationships with the other individuals in the video. For example, the opening scene consists of the main character saying, "I'm anxiously awaiting to meet my . . . other roommates." From there, the scenes portray the type of relationship exchanges, support, and conflicts that she has with the other characters.

Table 1. Zero-Order Correlations for Outcome Measures at Pretest

	1	2	3	4	M	SD
1. Attitudes	—	.17*	−.38***	−.63***	32.25	6.74
2. Peer norm		—	−.04	−.16	7.83	1.67
3. Social stigma			—	.43***	13.03	3.52
4. Self-stigma				—	25.63	6.45

$N = 144$.
*$p < .05$. ***$p < .001$.

Results

Preliminary Analyses

Descriptive statistics. Means and standard deviations for all observed variables are reported along with the zero-order correlations at pretest (see Table 1).

Differential attrition. To examine the possible effects of attrition, a test of the differences between participants who dropped out and those who finished the study was conducted. As noted above, 144 participants completed all three questionnaires over the 5.5 weeks of the study. Chi-square analyses were conducted to test for differences between participants who finished the study ($n = 144$) and those who dropped out ($n = 146$) on the demographic variables gender, ethnicity, and year in school. There were no significant differences between groups on any of these variables. Specifically, the percentage of participants who finished and who dropped out of the study did not significantly differ by gender, $\chi^2(1, 290) = 0.11$, $p > .05$; ethnicity, $\chi^2(4, 290) = 6.33$, $p > .05$; or year in school, $\chi^2(4, 288) = 3.22$, $p > .05$. An independent-samples t test was conducted to test for differences between the two groups on each of the dependent variables. Again, there were no significant differences between conditions on any of these variables. Specifically, no effects were found for attitudes, $t(284) = .46$, $p > .05$; peer norms, $t(283) = .45$, $p > .05$; self-stigma, $t(288) = −.78$, $p > .05$; and social stigma, $t(280) = .17$, $p > .05$. Therefore, although a number of individuals dropped out of the study over the course of the 5.5 weeks of the study, it seems that this attrition was largely random and thus should not systematically alter the findings.

Pretreatment differences. Chi-square analyses were conducted to test for pretreatment differences across the three conditions on the demographic variables gender, ethnicity, and year in school. There were no significant differences between groups on any of these variables. Specifically, results indicated no significant pretreatment differences based on gender, $\chi^2(2, 290) = 2.58$, $p >$

.05; ethnicity, $\chi^2(8, 290) = 9.00$, $p > .05$; or year in school, $\chi^2(8, 288) = 9.67$, $p > .05$. To test for pretreatment differences in mean scores on participant age and the dependent variables between the three conditions, analyses of variance (ANOVAs) were conducted. Again, there were no significant differences found between conditions on any of these variables. Specifically, results indicated no significant main effect for age, $F(2, 289) = .40$, $p > .05$; attitudes, $F(2, 285) = .22$, $p > .05$; peer norms, $F(2, 284) = .53$, $p > .05$; self-stigma, $F(2, 287) = 1.73$, $p > .05$; or social stigma, $F(2, 279) = .97$, $p > .05$.

Main Analyses

We expected that repeated viewings of the intervention video would result in greater changes than the other two conditions in the outcome measures (i.e., attitudes, peer norms, and stigma). Repeated-measures ANOVAs were used to test whether there were differential changes in each of the outcomes across the three conditions (IVR, CR, IVS) over the four time periods (Time 1: pretest, Time 2: first exposure, Time 3: second exposure, Time 4: 3-week follow-up). In other words, we expected an interaction between time (four level) and condition (three level). Gender was also included as a two-level between-subjects factor to test for interactions between gender, condition, and time. The effect size used is partial eta squared (indexed by η_p^2). The corresponding qualitative judgments for η_p^2 are 0.01 (small), 0.06 (medium), and 0.14 (large) (Cohen, 1988).

Analyses for each of the four outcomes (attitudes, peer norms, self-stigma, and social stigma) were conducted separately. Analyses indicated that the time × condition interaction was present for attitudes, $F(6, 272) = 2.44$, Wilks's λ = .90, $p = .026$, $\eta_p^2 = .05$ (see Figure 1), and peer norms, $F(6, 272) = 3.26$, Wilks's λ = .87, $p = .004$, $\eta_p^2 = .07$ (see Figure 2). Results were not statistically significant for either self-stigma or social stigma (ps > .52). The two-way interactions between gender and condition or gender and time as well as the three-way interactions between gender, condition, and time were not statistically significant for attitudes, peer norms, or either stigma measure (ps > .05).

To understand the two statistically significant interactions, planned comparison ANOVAs were conducted to compare the IVR condition with the other two conditions at each time point for both attitudes and peer norms. Thus, 2 (condition: IVR vs. CR and IVR vs. IVS) × 2 (time: pretest to Time 2, pretest to Time 3, and pretest to Time 4) repeated-measures ANOVAs were conducted. As hypothesized, when comparing changes in attitudes between the IVR and CR groups, results indicated changes from pretest to Time 2, $F(1, 82) = 4.12$, Wilks's λ = .95, $p = .046$, $\eta_p^2 = .05$; pretest to Time
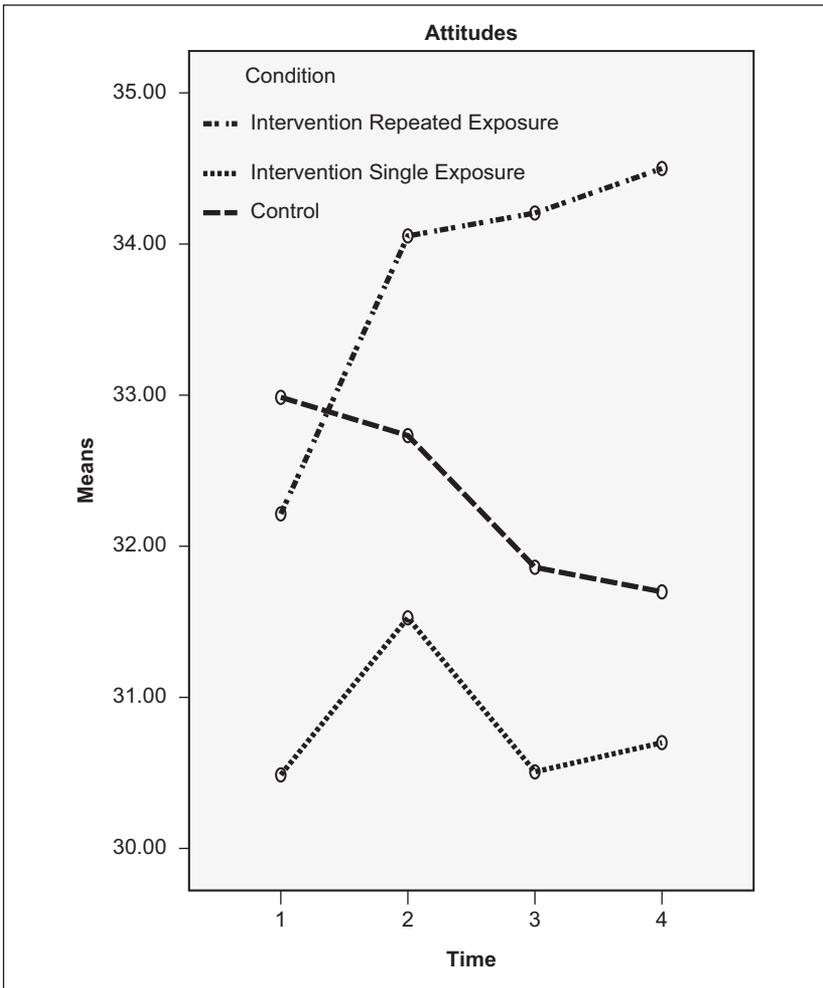
Figure 1. Time x Condition Interaction for Attitudes

3, $F(1, 82) = 8.90$, Wilks's $\lambda = .90$, $p = .004$, $\eta_p^2 = .10$; and pretest to Time 4, $F(1, 82) = 10.58$, Wilks's $\lambda = .89$, $p = .002$, $\eta_p^2 = .11$. In turn, when comparing changes in attitudes between the IVR and IVS groups across time points, there was no time × condition interaction from pretest to Time 2, $F(1, 96) = .71$, Wilks's $\lambda = .99$, $p = .40$, $\eta_p^2 = .01$ (they both watched the intervention video once at this point), but there was a time × condition interaction from
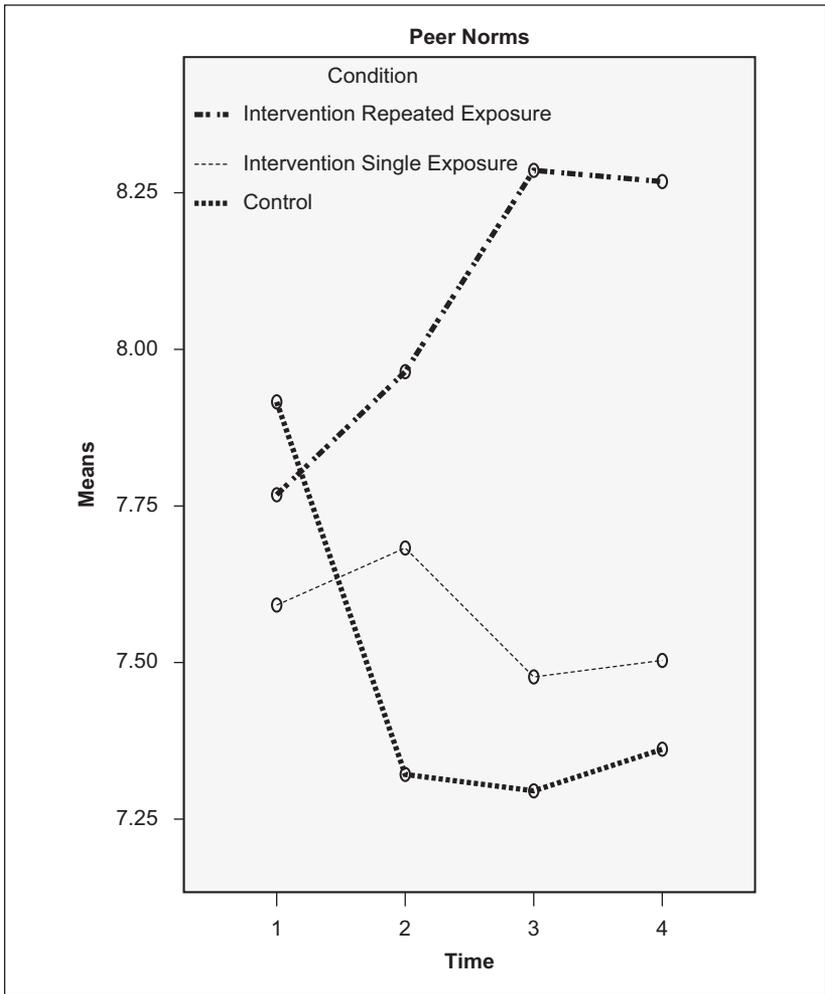
Figure 2. Time x Condition Interaction for Peer Norms

pretest to Time 3, $F(1, 96) = 5.23$, Wilks's $\lambda = .95$, $p = .02$, $\eta_p^2 = .05$, and from pretest to Time 4, $F(1, 96) = 5.40$, Wilks's $\lambda = .95$, $p = .02$, $\eta_p^2 = .05$.

To further examine the within-group changes for attitudes, paired-sample *t* tests were employed comparing each time point to the pretest (see Table 2). It is important to run this test separately to indicate the direction of change, relative to the relationship between two time points within a given condition

Table 2. Means and Standard Deviations at Each Time Point

Outcome	Pretest M (SD)	Time 2 M (SD)	Time 3 M (SD)	Time 4 M (SD)
Attitudes				
IVR	33.00 (7.64)[1]	34.67 (6.51)[2]	34.52 (5.62)[2]	34.90 (7.40)[2]
IVS	31.09 (6.55)	32.12 (6.44)	31.44 (6.54)	31.41 (5.79)
CR	33.06 (5.95)	33.01 (6.05)	32.15 (5.97)	32.00 (6.05)
Peer norms				
IVR	7.81 (1.80)[1]	8.12 (1.63)	8.31 (1.52)[2]	8.41 (1.55)[2]
IVS	7.74 (1.72)	7.83 (1.61)	7.57 (1.59)	7.59 (1.57)
CR	7.98 (1.49)[1]	7.34 (1.28)[2]	7.30 (1.37)[2]	7.36 (1.54)[2]

N = 144. Means in the same row with different superscripts were statistically significantly different (p < .05). IVR = intervention video repeated viewing; IVS = intervention video single viewing; CR = control repeated condition.

instead of between conditions. The IVR group had an immediate positive effect in attitudes from pretest to Time 2, $t(42) = -2.37$, $p = .02$, $\eta_p^2 = .12$, and showed positive changes between pretest and Time 3, $t(42) = -2.26$, $p = .03$, $\eta_p^2 = .11$, and pretest and Time 4, $t(42) = -2.64$, $p = .01$, $\eta_p^2 = .15$. For the IVS group, there were no immediate or longer term effects across time points (ps > .07). Furthermore, the CR group showed no changes over time (ps > .16). Thus, only after repeated exposures were positive changes in attitudes clearly present and maintained for at least 3 weeks.

As hypothesized for peer norms, when comparing changes between the IVR and CR groups, results indicated changes from pretest to Time 2, $F(1, 82) = 6.26$, Wilks's $\lambda = .93$, $p = .01$, $\eta_p^2 = .07$; pretest to Time 3, $F(1, 82) = 13.7$, Wilks's $\lambda = .86$, $p < .001$, $\eta_p^2 = .14$; and pretest to Time 4, $F(1, 82) = 10.9$, Wilks's $\lambda = .88$, $p = .001$, $\eta_p^2 = .12$. In turn, there was no change in peer norms between the IVR and IVS groups from pretest to Time 2, $F(1, 96) = .12$, Wilks's $\lambda = .99$, $p = .72$, $\eta_p^2 = .00$ (they both watched the intervention video once at this point), but a change from pretest to Time 3, $F(1, 96) = 5.08$, Wilks's $\lambda = .95$, $p = .03$, $\eta_p^2 = .05$, and a change from pretest to Time 4, $F(1, 96) = 4.35$, Wilks's $\lambda = .96$, $p = .04$, $\eta_p^2 = .04$.

To further examine the within-group changes for peer norms, paired-sample t tests were employed comparing each time point to the pretest (see Table 2). The IVR group had no immediate effect from pretest to Time 2, $t(42) = -1.30$, $p = .20$, $\eta_p^2 = .04$, but showed positive changes in peer norms over time between pretest and Time 3, $t(42) = -2.23$, $p = .03$, $\eta_p^2 = .11$, and pretest and

Time 4, $t(42) = -2.55$, $p = .02$, $\eta_p^2 = .14$. For the IVS group, there were no immediate effects or long-term effects ($p > .26$). Thus, as with attitudes, clear benefits of the video intervention were realized only after repeated exposures. It is interesting that the CR group showed consistent changes between pretest and Time 2, $t(44) = 3.30$, $p = .002$, $\eta_p^2 = .20$; pretest and Time 3, $t(44) = 3.56$, $p = .001$, $\eta_p^2 = .23$; and pretest and Time 4, $t(42) = 3.05$, $p = .004$, $\eta_p^2 = .18$. However, unlike the IVR group, the change in peer norms actually decreased at each time point. In other words, participants' report of peer norms actually went down over time.

Discussion

This study examined the effect of repeated exposure to a video intervention based on key factors of cultivation theory and ELM on changes in perceptions of help-seeking attitudes, peer norms, and stigma associated with seeking help. It is the first of its kind to examine whether multiple exposures to a video intervention concerning mental health issues and seeking help can result in significant changes in these outcomes across four points in time when compared to a single exposure and control video. The results showed some support for the effect of repeated exposures on both attitude and peer norms but not for perceptions of stigma (self or public). In other words, exposure to the intervention video led to more positive attitudes toward seeking counseling and a greater belief that people one's own age sought counseling. These effects went away without repeated viewing. With repeated viewing, the effects lasted for at least 3 weeks after last seeing the video. It is important that the changes showed moderate to large effect sizes, suggesting a real change in participants' perceptions. As such, there is good reason to believe that the use of an intervention video can have meaningful changes in attitudes and normative beliefs with repeated viewing.

This finding strongly supports the claims of cultivation theorists where viewers' perceptions come into line with what they are exposed to in the media over time. In other words, people with more frequent exposure to media messages are more likely to perceive the real world as it appears in their media world. This finding complements the results found by Haugtvedt et al. (1994), which indicated that people receiving three exposures to different types of marketing advertisements showed greater persistence in attitude change compared to people who received just one exposure. The results also extend these findings by showing the persistence of the effects over 3 weeks as opposed to 1 week. These findings also help to explain some of the inconsistent findings of previous studies concerning the effect of mental health

interventions (Corrigan et al., 2001; Corrigan et al., 2002). Interventions limited to single exposures may produce limited effects and these effects may not last for extended periods of time. It seems that repeated exposures are necessary for stronger and lasting effects. It is unclear whether these results are best described by a dose-response type of model (in which the effects get stronger in a linear relation with each repeated exposure) or by a threshold-style model (in which there is little lasting effect until some threshold of exposures has been reached). It is interesting that marketing research has started to examine the "ideal" number and types of exposures that are necessary for advertisements to work (Malaviya, 2007) and future researchers may want to build on this study by directly examining different types and frequencies of exposures.

Consistent with tenets of the Elaboration Likelihood Model, which suggests that specific characteristics of the message will make the message more or less likely to be accepted, the intervention video was designed to appeal to both central (message content) and peripheral (emotional appeal and messenger characteristics) routes of persuasion. In this study, we had a real-life person, similar in demographic background to the college population being sampled and in moderate emotional distress, talk about her experiences as a client. According to ELM, similarity in characteristics should help augment personal relevance for the audience, which should theoretically increase thought elaboration and change cognitions. In addition, positive portrayals of counseling were promoted and the message content also offered information about how to seek counseling services. Each of these factors, according to ELM, should help viewers accept the normative message that 18- to 25-year-olds do seek counseling as well as the informational message about what counseling is and how one would go about seeking professional help. However, although each of the factors was considered in developing the video, none of these factors were specifically manipulated and, as such, future studies are needed to examine which of these elements are most important and in what quantity.

The finding that the effects of the video were present for general attitudes about counseling and perceptions of peer norms but not perceptions of stigma deserves some discussion. One reason may be that attitudes and peer norms are more malleable in response to video interventions whereas stigma could be more entrenched, personal, and central to people's ideas about themselves, others, and seeking help. If this is true, then stigma might not readily change following a short video, even after repeated exposures. Although this study used several outcome measures, most intervention studies use only one type of outcome assessment (e.g., attitudes or stigma)

and this may also explain some of the inconsistencies in previous research where different outcome measures were used. However, another reason for the differential effect between the outcome measures may be based on the focus of the video. The video portrayed a character experiencing some mental health problems, yet the majority of the segments focused on her process of seeking help (i.e., her discussing her concerns about seeking help, her talking about what the experience was like). This was intentional as the focus was on the help-seeking process. However, this type of portrayal might not affect stigma. Stigma (even if it is focused on help seeking) may be more closely tied to people's perceptions of how others would view them if they were to be labeled as having a mental illness. Studies have shown that both direct contact and indirect contact (i.e., watching a video) of someone with a mental illness can reduce (at least temporarily) perceptions of stigma (Corrigan et al., 2002), and so maybe if the video focused more on having her describe her symptoms and experiences with mental health concerns and had the other characters show greater acceptance for such features, it may have had more of an effect on stigma. This needs to be further examined in future studies.

Finally, the fact that the CR group showed consistent decreases in reported peer norms across the study also deserves some discussion. This change was not expected and may be due to one of several reasons. First, people's perceptions of the normative behavior of counseling among their peers may generally decrease over time. College students' general peer groups may have negative perceptions of counseling and these messages may negatively influence individuals' perceptions of the likelihood that others would use counseling services over time. In turn, a decrease in perceived norms may be particularly likely when the discussion of counseling is raised without any additional positive counter-messages. Perhaps, repeatedly asking participants to access thoughts about the extent to which their peers have been in or would consider counseling led to the increased activation of either negative messages they have heard from others or the assumption that if they didn't know someone who sought help, it must be a low occurrence.

Implications

The present findings have several research and clinical implications. Although these findings add to the growing body of evidence for the effectiveness of media interventions, less is known about the actual factors that accounted for the variance in outcomes. We know that the theory-based framework used to create this video led to some immediate and longer term effects on attitudes

and peer norms, but we do not know which, if any, individual components of the video are most potent. Thus, it will be important to examine factors that mediate the intervention effects for the repeated- and single-exposure interventions. As such, subsequent studies may seek to hone in on a few of the factors (emotional arousal, identification, message content) used in the design of the present video. For example, future studies could be designed to examine characteristics of the messenger by comparing interventions with a male and female main character, an everyday person and celebrity, or spokespeople from differing age groups. It is possible that the effects are best explained by the promotion of positive associations with counseling in the video and a decrease in negative associations, as this is a common finding in previous stigma and attitude toward counseling research (Fishbein & Cappella, 2006; Jones et al., 2003; Rothman, Kelly, Hertel, & Salovey, 2003; Wahl & Lefkowits, 1989). Further research will need to test the message used in help-seeking interventions to determine if this is a valid interpretation. Moreover, the length of the video, number of exposures needed, and use of alternative types of video may need to be tested in the future. It will also be useful to investigate the mechanisms or cognitive processes that occur as a result of the video. For example, it could be useful to test whether the repeated-exposure condition produces intervention effects because of increased thought elaboration, personal relevance, emotional salience, and/or increased accessibility in memory. Furthermore, it is unclear what the implications are for shorter interventions (e.g., public service announcements, which are usually only 30 seconds in length). Perhaps longer segments are needed for substantial attitude change, or perhaps more exposures are needed as the message becomes shorter. Future researchers may want to examine the effects of both number of exposures and the length of different types of intervention videos to tease apart these issues. Finally, the findings suggest the vital importance of continuing to determine ways to enhance the magnitude and duration of the effects from videos such as the one tested. Strategies such as increasing the frequency of exposures, extending the time between exposures, or integrating application-based activities into the design may prove helpful.

One important clinical implication of the findings is that video interventions provided over the Internet (such as the one in this study) can offer an opportunity for broad-based application to multiple real-world settings. Media outlets have been shown to be one of the public's most important sources of information about mental illness (Borinstein, 1992) and psychotherapy (Jorm, 2000; Jorm et al., 1997). Applications such as television and the Internet are increasing in popularity largely because they are efficient and practical. They also provide a medium by which people can view alternate types of the

same video messages repeatedly over time, as this study shows the potential effectiveness of doing so. Recent trends have shown that people are looking for information more and more online, and offering content via the Internet may be an important strategy to reach those in need. Websites that attract diverse viewers may be interested in hosting the video or one like it. For example, some newer websites like www.hulu.com stream television shows and movies, but they require viewers to sit through commercials and paid advertisements to do so. That may be a viable placement for a shortened version of this type of video. Message boards devoted to health care issues may also be a specific target. Movie theaters also play trailers and advertisements before showing the actual movie. These videos vary in length, ranging from seconds to minutes, and viewers must sit through them in order to see the movie they paid to see. Finally, waiting rooms in health care facilities often have pro-health videos looping on their television sets. This could be an easy sell to office administrators. By using mass media outlets to disseminate theory-based messages aimed at increasing help-seeking behaviors, we will be contributing to people's health and well-being in an empirically supported and contemporary fashion.

Given that the participants of this study were college students, a clear application of these findings for psychologists working on college campuses would be to use video interventions to promote positive mental health behaviors of students. Videos could be used to draw attention to help seeking as well as other types of mental health prevention messages such as stress prevention or mental health screenings. One new implication of this study is that these video interventions could be effective, as was the case in the current study, if presented to students through e-mail messages with links to relevant video or other intervention messages (e.g., website). The video intervention could also be placed on university websites or possibly even shown in high traffic areas such as waiting rooms of administrative buildings, student service offices, or campus health clinics to further increase the number of exposures to the video messages. This consistency of message exposure could ultimately increase the likelihood of message acceptance. Furthermore, psychologists and other health care professionals could follow up on these interventions by processing the video with students. For example, nurses and physicians could ask students a brief follow-up question about the video playing in the health clinic waiting room. Similarly, counselors could conduct outreach efforts that use the video messages as a discussion tool. Clarifying and highlighting the positive aspects of the message could both normalize the help-seeking process and increase thought elaboration concerning the content of the video. This process would mimic the experimental conditions of the present study, as according to the ELM, central route cues that elicit higher elaboration on the message content are more likely to affect attitudes.

Limitations

The current study has several important sampling limitations. First, the number of participants was hindered by the dropout rate. Although those who discontinued the study were not systematically different from those who continued, the number of individuals who did not participate in all time points reduces our power and potentially limits the generalizability of the findings. One reason that participants may have decided to drop out of the study was that they were receiving class credit for their participation (1 per time point). Across our longitudinal study, participants may have fulfilled the allowed credits for a class and/or found other research opportunities to meet the allowed credits. Once a participant has all of the allowed credits, there is little incentive to participate in additional studies and so the participant may have dropped out.

Another sample limitation is that the study used a homogeneous sample of undergraduate college students. Participants were recruited from undergraduate courses in a small Midwestern town that is predominantly European American. As a result, the sample was not diverse in terms of ethnicity, education level, or age and the results found may differ among more ethnically diverse samples. For example, Christopher, Skillman, Kirkhart, and D'Souza (2006) found that students of collectivist cultures reported significantly greater intention to seek professional psychological help after being exposed to persuasive information relating to normative beliefs than personal outcome beliefs. Therefore, researchers may want to examine potential educational, generational, or cultural differences in reactions to video interventions. Subsequent effectiveness research could consider examining the effects of tailoring future interventions toward processes underlying differences between independent- and interdependent-based cultures.

In line with the previous concerns, the main character in the video was female. This may have made it harder for men to identify with the messenger. Identification may be a key contributing factor in the video's influence on outcome changes, thus difficulty identifying with the source may have biased male mean scores, most likely in the negative direction. Although we did not find an effect for sex, future researchers may want to confirm this effect by conducting studies that directly manipulate the sex of the messenger to examine any role on viewers' perceptions. Future researchers may also want to examine the role of identifying specific mental health problems. There was no reference to the exact mental health problem experienced by the main character that led her to seek counseling. This was intentional, so as to increase personal applicability for the majority of participants. However, the

lack of specification may have enabled viewers to more easily reject identification with a vaguely and significantly distressed character.

Another potential limitation was the use of participants who were not all currently experiencing an issue or considering seeking counseling. Similarly, we did not control for participants' previous use of counseling services. Different factors might be at work for individuals who (a) have experienced a significant problem and sought help, (b) are currently considering seeking out a counselor, or (c) have not dealt with mental health problems before or have never thought of seeking psychological help. However, studies have shown that those who are not currently distressed report similar help-seeking attitudes and decisions to those currently distressed (Vogel et al., 2007), suggesting that the current results would apply. Individuals not currently distressed may also become distressed in the future and proactively changing attitudes and norms before an issue develops may be important. Still, this was one of the first studies to explore the effect of repeated exposure to a video intervention to increase positive attitudes and norms and reduce stigma associated with counseling, and so future researchers might want to validate the current findings with a clinically distressed sample who has not yet sought help. Future researchers may also want to examine whether the effects differ based on presenting issue(s). Individuals experiencing some emotional issues (e.g., depression, anxiety) may respond differently from those experiencing other more severe issues (e.g., schizophrenia).

Although the results of this study extend the findings of most previous studies by conducting a 3-week follow-up, this time period still leaves unanswered whether the intervention effects on attitudes and peer norms would persist over a longer period of time. Similarly, the study did not test the effects of the intervention video on actual behavior change. For a long time, it has been recognized that a connection between attitudes and behavior exists (Ajzen & Fishbein, 1980), but attitudes are not the same as behavior. To the degree that the ultimate goal of interventions like the one tested in this study is to improve utilization of services, then longer term studies of actual behavior change are needed with larger samples.

Conclusion

Overall, this study's intervention video led to significantly differential effects on attitudes and peer norms when viewed repeatedly when compared to a control video or single-exposure condition. These effects were seen over a 5½-week time period. These findings point to repeated exposures as a necessary factor for such shorter term and longer term changes to occur. It also lends

support for the design of the video in its ability to improve attitudes and change people's cognitions concerning the utilization of counseling services among peers. Attitudes toward behavior and peer norms of the use of that behavior are two of the key determinants of behavior change (Ajzen & Fishbein, 1980). As such, the findings of this study can be used to help guide future effectiveness research on pro-counseling video interventions aiming for help-seeking attitude and behavior change.

Declaration of Conflicting Interests

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