Dispelling Myths About Schizophrenia Using Film

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Portrayals of schizophrenia in popular film contribute to misinformation about treatment of schizophrenia. Can film by used to educate? This study examined the effectiveness of viewing film portrayals of accurate vs. inaccurate information about schizophrenia in correcting misinformation. A video was constructed consisting of segments from popular movies and documentaries that contrasted inaccurate and accurate illustrations of schizophrenia. College students were randomly assigned to either the video presentation or traditional lecture on schizophrenia, and later tested on their knowledge of schizophrenia. Results showed knowledge improvement following both video and lecture, with video having a greater corrective effect for female students after viewing 3 of the 8 segments. These results are discussed with reference to sex-role socialization and empathetic identification.

Movies have a long history of depicting mental illness in distorted, pejorative, and often destructive ways (Byrne, 1998; Gabbard & Gabbard, 1999; Hyler, Gabbard, & Schneider, 1991). Schizophrenia is particularly subject to several movie-perpetuated distortions. Cinematic schizophrenic characters frequently are depicted as dangerous to others, unpredictable, and grossly disorganized in behavior, speech, and affect. These characters often experience vivid, terrifying visual hallucinations; an event that signals a break with reality with violent consequences. In some movies, schizophrenia is linked with the split or multiple personality in which the alter ego engages in psychotic behavior. These cinematic portrayals are inaccurate and negatively stereotypical (Hyler, 1988; Wedding & Niemiec, 2003).

The majority of those who are diagnosed with schizophrenia are nonviolent toward others (Levey & Howells, 1994); hallucinations, if present, are most commonly auditory (Comer, 2001); and the behaviors of affective flattening, apathy, and avolition are more predominant in schizophrenia than are gross disorganizations of thought and behavior (Herz & Marder, 2002). In addition, schizophrenia and split personality are neither etiolog-

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ically nor diagnostically related (American Psychiatric Association [APA], 2000).

Movies also provide misinformation about causes, outcome, and treatments of schizophrenia. In the movies, traumatic life events can cause schizophrenia, and treatments—which feature electroconvulsive therapy (ECT), insight-oriented psychotherapy, or a special empathetic understanding from a loving helper—can cure. These cinematic depictions are not supported empirically. Current research (Herz & Marder, 2002) strongly indicates that biological factors and not psychosocial events are implicated in the development of schizophrenia. Psychotropic medicines and not ECT or insight-oriented psychotherapy are the treatment of choice to alleviate psychotic symptoms. And while a special empathetic understanding may help in symptom management, the notion of cure through a loving relationship is a myth.

The public's knowledge about schizophrenia parallels cinematic stereotypes. A substantial percentage of the lay public believes that persons with schizophrenia are unpredictable and dangerous to others (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000), prone to violence (Levey & Howells, 1994; Wahl, 1992), and characterized by a split personality (Furnham & Rees, 1988; Wahl, 1987). Traumatic causation of schizophrenia and psychologically based treatments that cure schizophrenia are also common public misconceptions (Furnham & Rees, 1988; Wahl, 1987). The mass media appear to have a direct influence on these stereotypical beliefs, with the public itself identifying media in the form of movies, television, and newspapers as primary sources of misinformation and negative attitudes about mental illness (Fischoff, 1996; Fleming, Piedmont, & Hiam, 1990; Granello, Pauley, & Carmichael, 1999; Lopez, 1991; Philo et al., 1994).

Empirical studies underscore popular movies' influence on attitudes toward mental illness. Domino (1983) found greater negative attitudes of college students toward the mentally ill following their viewing of *One Flew Over the Cuckoo's Nest*, a feature film that was criticized for its inaccurate and negative characterizations of mental hospitals and mental patients (Hyler, 1988). Similarly, Wahl and Lefkowits (1989) found that a television movie featuring a violent mentally ill patient generated negative attitudes and beliefs about the mentally ill in a college student sample.

It seems likely that popular movies contribute to misinformation about characteristics, causes, and treatments of mental illness in general and schizophrenia in particular. Can this same medium be used to educate? Hyler et al. (1991) suggested that the presentation of authentic fictional cinematic portrayals of mental illness may be the most effective strategy to counteract inauthentic media portrayals. However, popular movies presenting accurate portrayals of schizophrenia are limited in number, leaving

researchers to investigate the usefulness of information-oriented visual media as a persuasive strategy.

Penn, Chamberlin, and Mueser (2003) examined the effectiveness of a documentary to counter negative attitudes and beliefs about the mentally ill in a college student sample. Students viewed a lengthy documentary that disputed several myths about schizophrenia by providing footage of people with schizophrenia relating their real-life stories. Testimony from family members, mental health professionals, and research scientists provided additional accurate information about schizophrenia. Although students' attributions about schizophrenia were more positive following the documentary, their attitudes about schizophrenia and willingness to interact with persons with schizophrenia remained unchanged and negative.

Other studies have examined whether visual media depicting factual accounts of mental illness could amend the negative attitudes and misinformation generated from popular movies. The students in Domino's (1983) study who reported negative attitudes toward the mentally ill after they viewed *One Flew Over the Cuckoo's Nest* were shown a follow-up documentary that presented scenes from the movie interspersed with scenes from an actual mental hospital. The addition of authentic material failed to persuade, as attitudes remained negative. Similarly, embedding an informational trailer about schizophrenia in a sensationalistic television movie about a mentally ill killer had no impact on viewers' rejecting attitudes toward the mentally ill (Wahl & Lefkowits, 1989).

On the surface, these findings suggest that visual media that are information oriented are not powerful enough to counter negative attitudes and misinformation about mental illness, especially those attitudes and beliefs formed or reinforced by visual media that are entertainment oriented. However, the format used to convey discrediting information in the aforementioned studies may not have been effective. There is considerable evidence that the means by which information is processed has a substantial impact on learning. According to dual-coding theory (Paivio, 1986), optimal learning occurs when information is processed referentially through two sensory channels: the verbal (i.e., text, audio) and the nonverbal (i.e., pictures). Information that is *monocoded*—that is, processed through either channel alone—results in less efficient retention of information (Mayer, 2003).

In Domino's (1983) study, the follow-up documentary consisted of brief clips from *One Flew Over the Cuckoo's Nest* interspersed with lengthy footage of real mental hospital patients and staff. This format may have confused rather than educated viewers, because no verbal channel (e.g., text, narrative voiceover) information was provided explaining the documentary's purpose. The documentary used in Penn et al.'s (2003) study consisted

of factual accounts of schizophrenia from numerous and diverse sources who intermittently provided accompanying verbal information. This format did not permit information about schizophrenia to be processed referentially and may have been, as the authors acknowledge, too diffuse and too ambiguous to affect attitude change. In Wahl and Lefkowits' (1989) study, the brief informational message embedded in a feature-length movie about a mentally ill killer probably was not of sufficient length or intensity to offset the sensationalistic imagery provided in the movie.

Dual-coding teaching strategies have been researched extensively across a wide range of content areas (Najjar, 1996). Little is known, however, about dual coding and learner characteristics. Gender, in particular, has been understudied despite evidence that females and males exhibit fundamental cognitive and perceptual differences in many areas (Halpern, 2000). Gender differences have been found in mental rotation abilities (Hyde & McKinley, 1997), processing of visual information (Meyers-Levy, 1989), memories of personal past (Niedzwienska, 2003), and learning styles (Belenky, Clinchy, Goldberger, & Tarule, 1997). The influence of gender on dual coding of information is of interest then.

To examine the educational effectiveness of information-oriented visual media, a methodology is needed that provides accurate information about schizophrenia in a format that is both dual coded and unambiguous. Evidence has suggested that ambiguity in learning is reduced when concepts are taught through a comparative exemplification methodology (Byrd et al., 1999), a methodology that presents two forms of the concept—the positive example and the negative example—in the same set of materials. Learning occurs as a function of identification and comparison of those aspects of the positive example that make it correct with those aspects of the negative example that make it incorrect. Comparative exemplification is optimized when both the positive and negative examples are labeled clearly (Yelon & Massa, 1987) and juxtaposed to permit direct comparison and contrast (Clark, 1999).

The purpose of this study is to examine the usefulness of a visually based media format that is dual coded and unambiguous to dispel misinformation about schizophrenia. Given that dual-coding theory predicts improved learning, it is hypothesized that an information format that presents text-labeled accurate visual illustrations of schizophrenia contrasted with text-labeled inaccurate illustrations will be more effective in correcting misinformation about schizophrenia than will an information format that presents only lecture information about schizophrenia. An additional purpose of this study is to explore the influence of gender on correction of misinformation about schizophrenia under dual-coded and monocoded information formats.

Method

Participants

Participants were 143 undergraduate students (94 women, 49 men; *M* age = 19.44 years) who were enrolled in general psychology courses. The sample consisted of 51% humanities and social science majors, 10% business majors, 35% science and technology majors, and 4% undecided. Data from 4 students who reported personal experience with schizophrenia were omitted.

Measures and Procedure

From prior research on lay public beliefs (Furnham & Rees, 1988; Wahl, 1987), eight myths about the symptoms, causes, and cures of schizophrenia were identified. Corresponding facts reflecting current scientific knowledge were identified from current psychology and psychiatric texts (APA, 2000; Comer, 2001). A 36-min video was constructed, which consisted of clips from popular movies that illustrate these myths juxtaposed with clips from documentary/training videos that illustrate or present corresponding facts.

Video segments (i.e., myth and fact clip pairs) were of the same approximate length, and each segment was ordered such that the corresponding fact clip followed each myth clip. All clips were labeled clearly with each video clip preceded by a text slide labeling it as myth or fact and stating the myth or fact. The myth and fact clips were determined to have acceptable content validity, as established by the assessments of trained mental health clinicians. Of the eight myth segments, five featured female characters with schizophrenia (four in inpatient settings), and three featured males with schizophrenia (one in an inpatient setting). Of the eight fact segments, three featured males with schizophrenia (no inpatients), two featured females with schizophrenia (one as an inpatient), and three featured either interviews of experts disputing the myths or inpatients in a psychiatric setting with voiceovers. Sources and descriptions of myth and fact segments are presented in the Appendix.

An eight-question true–false pretest based on the eight myths and facts was administered to students who were enrolled in general psychology courses at the beginning of the semester. In addition, students reported their gender, age, major, and whether they had any personal experience with schizophrenia. Approximately 3 months later (prior to the class unit on abnormal psychology), students were assigned randomly to either the video presentation on schizophrenia myths and facts or to a traditional (non-video) lecture on the same myths and facts. Video and lecture presentations were equivalent as to content and length. The lecture was scripted so that it

provided the same content as the video. Students were instructed to take notes under both conditions. A posttest consisting of the same true–false questions was administered to all students 2 weeks later.

Results

Knowledge About Schizophrenia: Pretest

Prior to receiving either video or lecture information about schizophrenia, the majority of participants subscribed to four of the eight myths about schizophrenia. As shown in Table 1, the majority of participants believed that schizophrenia could be caused by a traumatic life experience; that a person diagnosed with schizophrenia must have hallucinations; that insight therapy can cure schizophrenia; and that split personality and schizophrenia are the same condition. The majority of participants did not subscribe to the other four myths and accurately reported that people with schizophrenia are not typically violent toward others; that auditory hallucinations are the most common type of hallucinations; that ECT is not an effective treatment for schizophrenia; and that schizophrenia cannot be cured through a loving relationship. Independent-group *t* tests reveal no significant knowledge differences between the video- and lecture-exposed groups on any of the pretest items and no significant knowledge differences between males and females on any of the pretest items.

Knowledge About Schizophrenia: Posttest

The majority of both video- and lecture-condition participants showed knowledge improvement about schizophrenia on all items, with the exception of the myth item that hallucinations are necessary for a diagnosis of

Table 1

Myths Held About Schizophrenia on Pretest

Myth	Percentage
Trauma can cause schizophrenia	71
Hallucinations necessary for diagnosis	69
Insight can cure schizophrenia	69
Schizophrenia and split personality are the same	55

Table 2

Percentage Correct in Knowledge About Schizophrenia Under Lecture and Video Format

	Lecture		Video	
Item	Pre %	Post %	Pre %	Post %
Split personality and schizophrenia not same	53	80	37	87
Hallucinations not necessary	28	22	35	46
ECT not effective	61	79	62	87
Violence not typical	91	100	83	99
Loving relationship cannot cure	63	94	56	76
Trauma cannot cause	22	58	35	68
Insight cannot cure	34	61	29	61
Auditory hallucinations predominant	61	84	69	93

Note. There were no significant differences between lecture and video on any items. ECT = electroconvulsive therapy

schizophrenia. Lecture participants showed lower knowledge scores on this item. Percentage of correct responses and knowledge before and after lecture and video instruction are shown in Table 2.

The 2 (Gender) × 2 (Information Format) × 8 (Schizophrenia Items) between-groups MANOVA reveals a significant multivariate main effect for gender (Wilks's $\Lambda = .89$), $F(8, 132) = 2.05$, $p < .05$; and for the interaction of gender and format (Wilks's $\Lambda = .89$), $F(8, 132) = 2.04$, $p < .05$. No significant main effect for instructional method was found. Females were more correct on posttest under the video format on three schizophrenia test items: split personality is not synonymous with schizophrenia (females, $M = 0.58$, $SD = 0.54$; males, $M = 0.37$, $SD = 0.69$); hallucinations are not necessary for a diagnosis of schizophrenia (females, $M = 0.18$, $SD = 0.61$; males, $M = -0.03$, $SD = 0.73$); and psychosocial trauma does not cause schizophrenia (females, $M = 0.49$, $SD = 0.66$; males, $M = 0.04$, $SD = 0.65$). The effect size for both gender effects and the interaction was small ($\eta\rho^2 = .11$).

Discussion

The purpose of the present study was to examine the effectiveness of a dual-coded, unambiguous, visually based format to dispel misinformation

about schizophrenia. Results show that prior to the video or lecture presentation about myths and facts of schizophrenia, the majority of participants in this study reported misinformation about symptoms of schizophrenia (i.e., hallucinations are required for a diagnosis, split personality and schizophrenia are the same condition), causes of schizophrenia (i.e., a traumatic life experience can cause schizophrenia), and treatment of schizophrenia (i.e., insight therapy can cure). These findings were not unexpected, as they correspond both to popular movie stereotypes and to prior survey research identifying common misconceptions about mental illness and schizophrenia within the lay public (Furnham & Rees, 1988; Wahl, 1987).

Prior surveys also have found the linkage of schizophrenia with violence to be a commonly held misconception by the public. Hence, it was surprising that over 80% of study participants did not believe that people with schizophrenia typically are violent toward others. Perhaps this stereotype is disappearing as a result of recent organizational efforts to educate the public about the low prevalence of violence within schizophrenia populations (Corrigan & Penn, 1999).

The hypothesis that the visually based format of presenting text-labeled juxtaposed portrayals of inaccurate and accurate characterizations of schizophrenia would be superior to traditional lecture in correcting misinformation about schizophrenia was not supported. Participants under both video and lecture format showed knowledge improvements on the majority of items. However, knowledge scores differed as a function of gender. For female participants, the video presentation in contrast to lecture had a greater corrective effect on three of the eight myths. These video segments were similar in that a young adult female characterized as schizophrenic was featured in either the myth clip or the fact clip. Two of the segments contained myth clips from popular movies that depicted female teenagers in inpatient psychiatric settings, and the third segment contained a documentary fact clip that featured the first-person account of a female college student who described her life challenges as a consequence of schizophrenia.

The video segments found not superior to lecture for the female viewers featured persons who were demographically dissimilar: homeless men, college-aged men, and older women. A possible explanation as to why greater learning occurred from these three video segments and not the others derives from research on sex-role socialization (Eagly, 1987). This research indicates that because of social norms, females are socialized toward relationships and connectedness with others. Connectedness is posited to facilitate learning in females. As Belenky et al. (1997) clarified, many females are ''connected knowers (p. 113),'' whose cognitive patterns are embedded in relationships. Connectedness appears to be fostered through a perceived similarity

between self and the other, which promotes empathy with the other (Hakansson & Montgomery, 2002). Hence, when characters in the video segments were demographically similar to the participants—female, of high school or college age, and Caucasian—it appears that female viewers perceived themselves as similar and identified empathetically with the characters. And, in accordance with Belenky et al.'s theory, this identification could explain the increase in learning.

Of notable concern are the knowledge scores of male participants. Males' knowledge scores under the video format were inferior to females' knowledge scores on seven of the eight items. Sex-role socialization research (Eagly, 1987) indicates that differences in the way males and females establish relationships with others could account for this finding. Males are socialized to be less interpersonally oriented than females and are less ready to establish empathetic identification with characters perceived as vulnerable. As demonstrated by Baumeister and Sommer (1997), males develop connectedness through social comparison with other males who are judged on constructs of power, competency, and success. The video segments featured male characters who likely would not be judged as powerful or competent, as these men were either homeless, suicidal, or severely disorganized in behavior and appearance. Thus, male participants' lack of empathetic identification with low-status characters portrayed in the video could have resulted in their lower knowledge scores.

There are limitations in the present study. First, generalizability of results is limited by the testing of a college group in a classroom setting and by the overrepresentation of females in the sample. To assess clearly the didactic utility of this visually based media format, testing with more diverse groups and in settings less associated with formal education would be necessary. A second limitation concerns the small sample size, which could have contributed to the small effect size associated with significant main effects for gender and gender/information-format interactions. However, while the effect size was small, the findings were statistically significant. Future research with an increased sample would likely increase the robustness of these results.

The instrument used to assess knowledge changes about schizophrenia was problematic. The true–false response format did not allow an examination of the influence of belief perseverance of the myths. Structuring the testing instrument in a Likert-scale format would permit analysis of myth resiliency under video or lecture correction. In addition, wording on one item was ambiguous and could mislead respondents. The myth item stated that ECT is an effective treatment for schizophrenia and the fact item stated that medications—and not ECT—are effective treatments. While it is true that ECT typically is not prescribed as standard treatment for acute

schizophrenia, ECT has been shown to be effective in the treatment of catatonic symptoms and drug-resistant schizophrenia (Schatzberg, Cole, & DeBattista, 2003). Rewording this item as "ECT is not given as standard treatment for acute schizophrenia" should resolve any confusion generated by the original item.

Another limitation concerns the lack of competent and powerful male exemplars in the video segments, a problem linked to the unavailability of films portraying competent males labeled as schizophrenic. Popular movies are replete with deranged, incoherent, psycho-killer characters (Byrne, 1998), and training videos tend to depict the extremes of psychopathology. Perhaps with the recent video release of the popular movie *A Beautiful Mind*, which features a high-status (i.e., a doctorate in mathematics, prestigious awards, beautiful wife) main character with schizophrenia, male viewers might identify more readily with that character, which, in turn, would contribute to their learning.

Given that gender may be an important mediating variable in processing dual-coded information, future research is needed to examine systematically the source–viewer relationship with reference to gender and to similarity constructs. For example, it would be of interest to examine how the status of the male actor versus the status of the character portrayed contributes to identification in male viewers. Future research also is needed to clarify the comparative exemplification methodology used in this study. This methodology consisted of juxtaposing a nonexample (i.e., the myth) selected from a popular film with an example (i.e., the fact) selected from a documentary. Though this strategy was effective in dispelling some myths, it is possible that an even more parsimonious strategy could prove useful in countering misinformation about schizophrenia. It would be interesting to note whether viewers could learn equally well from a text-labeled video presentation of just the myth or the fact clip.

Insofar as knowledge informs attitudes and behaviors, misinformation about schizophrenia can be damaging. A belief that schizophrenia is linked to violence contributes to fear of people with schizophrenia, stigmatization, and consequent discrimination (Perlick, 2001). A belief that schizophrenia is curable contributes to false expectations in both those with schizophrenia and family members (Philo et al., 1994). The presumption that a traumatic event can cause schizophrenia reinforces the myth of the schizophrenogenic parent (Hyler, 1988), a belief that could generate unwarranted familial guilt. Educational programs can impact these misconceptions. As Corrigan and Penn (1999) found, those with a better understanding of mental illness are less likely to engage in stigmatization and discrimination.

The present study's finding that some video segments increased knowledge about schizophrenia is promising. Viewing accurate portrayals of

people experiencing schizophrenia may counter negative stereotypes and correct misinformation, provided the media source is articulated clearly, dual coded, and facilitates connections.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Baumeister, R. F., & Sommer, K. L. (1997). What do men want? Gender differences and two spheres of belongingness: Comment on Cross and Madson (1997). *Psychological Bulletin*, *122*, 38-44.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1997). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.

Byrd, P., Chui-Wei, C. L., Mobley, A., Pitillo, A., Silva, S. R., & Shu-Wen, S. (1999). Exemplification and the example. *Journal of English Grammar on the Web*, *1*, 1-6.

Byrne, P. (1998). Fall and rise of the movie "psycho-killer." *Psychiatric Bulletin*, *22*, 174-176.

Clark, R. (1999). *Developing technical training* (2nd ed.). Silver Spring, MD: International Society for Performance Improvement.

Comer, R. J. (2001). *Abnormal psychology* (4th ed.). New York: Worth.

Corrigan, P., & Penn, D. (1999). Lessons from social psychology on discrediting psychiatric stigma. *American Psychologist*, *54*, 765-776.

Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatization of people with mental illnesses. *British Journal of Psychiatry*, *177*, 4-7.

Domino, G. (1983). Impact of the film *One Flew Over the Cuckoo's Nest* on attitudes towards mental illness. *Psychological Reports*, *53*, 179-182.

Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, NJ: Lawrence Erlbaum.

Fischoff, S. (1996). Sources of stereotyped images of the mentally ill. *Journal of Media Psychology*, *1*, 4-11.

Fleming, M. Z., Piedmont, R. L., & Hiam, C. M. (1990). Images of madness: Feature films in teaching psychology. *Teaching Psychology*, *17*, 185-187.

Furnham, A., & Rees, J. (1988). Lay theories of schizophrenia. *International Journal of Social Psychiatry*, *34*, 212-220.

Gabbard, G., & Gabbard, K. (1999). *Psychiatry and the cinema*. Washington, DC: American Psychiatric Press.

Granello, D., Pauley, P., & Carmichael, A. (1999). Relationship of the media to attitudes toward people with mental illness. *Journal of Humanistic Counseling*, *38*, 96-110.

Hakansson, J., & Montgomery, H. (2002). The role of action in empathy from the perspective of the empathizer and the target. *Current Research in Social Psychology*, *8*, 50-62.

Halpern, D. F. (2000). *Sex differences in cognitive abilities*. Hillsdale, NJ: Lawrence Erlbaum.

Herz, M. I., & Marder, S. R. (2002). *Schizophrenia: Comprehensive treatment and management*. Philadelphia, PA: Lippincott, Williams, & Wilkins.

Hyde, J. S., & McKinley, N. M. (1997). Gender differences in cognition: Results from meta-analyses. In P. J. Caplan, M. Crawford, J. S. Hyde, & J. R. E. Richardson (Eds.), *Gender differences in human cognition* (pp. 30-51). New York: Oxford University Press.

Hyler, S. (1988). DSM-III at the cinema: Madness in the movies. *Comprehensive Psychiatry*, *29*, 195-206.

Hyler, S., Gabbard, G., & Schneider, I. (1991). Homicidal maniacs and narcissistic parasites: Stigmatization of mentally ill persons in the movies. *Hospital and Community Psychiatry*, *42*, 1044-1048.

Levey, S., & Howells, K. (1994). Accounting for the fear of schizophrenia. *Journal of Community and Applied Social Psychology*, *4*, 313-328.

Lopez, L. (1991). Adolescents' attitudes toward mental illness and perceived sources of their attitudes: An example of pilot data. *Archives of Psychiatric Nursing*, *5*, 271-280.

Mayer, R. (2003). The promise of multimedia learning: Using the same instructional design methods across different media. *Learning and Instruction*, *13*, 125-139.

Meyers-Levy, J. (1989). Gender differences in information processing: A selectivity interpretation. In P. Cafferata & A. M. Tybout (Eds.), *Cognitive and affective responses to advertising* (pp. 219-260). Lexington, MA: Lexington Books.

Najjar, L. (1996). Multimedia information and learning. *Journal of Educational Multimedia and Hypermedia*, *5*, 129-150.

Niedzwienska, A. (2003). Gender differences in vivid memories: Autobiographical memory and self. *Sex Roles*, *49*, 321-331.

Paivio, A. (1986). *Mental representations: A dual-coding approach*. New York: Oxford Press.

Penn, D., Chamberlin, C., & Mueser, K. (2003). The effects of documentary film about schizophrenia on psychiatric stigma. *Schizophrenia Bulletin*, *29*, 383-391.

Perlick, D. A. (2001). Special section on stigma as a barrier to recovery: Introduction. *Psychiatric Services*, *52*, 1613-1614.

Philo, G., Secker, J., Platt, S., Henderson, L., McLaughlin, G., & Burnside, J. (1994). The impact of mass media on public images of mental illness: Media content and audience belief. *Health Education Journal*, *53*, 271-281.

Schatzberg, A. F., Cole, J. O., & DeBattista, C. (2003). *Manual of clinical psychopharmacology* (4th ed.). Washington, DC: American Psychiatric Press.

Wahl, O. F. (1987). Public vs. professional conceptions of schizophrenia. *Journal of Community Psychology*, *15*, 285-291.

Wahl, O. F. (1992). Mass media images of mental illness: A review of the literature. *Journal of Community Psychology*, *20*, 343-352.

Wahl, O. F., & Lefkowits, J. Y. (1989). Impact of a television film on attitudes toward mental illness. *American Journal of Community Psychology*, *17*, 521-528.

Wedding, D., & Niemiec, R. M. (2003). The clinical use of films in psychotherapy. *Journal of Clinical Psychology*, *59*, 207-215.

Yelon, S. L., & Massa, M. (1987). Heuristics for creating examples. *Performance and Instruction*, *26*, 13-17.

Appendix

Video Clips Used to Depict Myths Versus Facts About Schizophrenia (S)

Myth (M) and Fact (F)	Film/Documentary	Clip
Trauma can cause S (M)	*The Fisher King*	• Homeless man described as well adjusted before brutal murder of wife • Man shown witnessing her murder, then decompensating as he hallucinates red knight
Trauma cannot cause S (F)	*I'm Still Here*	• Young woman describes first S episode while in college • Family members describe her high level of functioning prior to episode and notes S unrelated to trauma
Visual hall. most common (M)	*The Fisher King*	• Homeless man interacts with imaginary "little people"
Auditory hall. most common (F)	*I'm Still Here*	• A young man describes his command hallucinations to kill himself • His unsuccessful suicide attempt is simulated
Hall. Necessary diagnosis (M)	*Rose Garden*	• Adolescent girl utters forbidden word in her secret language during therapy session • A gate crashes down and girl opens door and enters imaginary world

Appendix Continued

Myth (M) and Fact (F)	Film/Documentary	Clip
Hall. not necessary diagnosis (F)	*Madness and Medicine*	• Images of mental hospital patients sitting motionless in TV room, lying in bed, isolated in corners • Voiceover states that other than "TV therapy" there is little to do in mental hospitals
Insight can cure S (M)	*Rose Garden*	• Therapist provides insightful interpretations of adolescent girl's need for delusions • Girl realizes that she can "choose to be crazy"
Insight cannot cure (F)	*Tulane U. of Medicine*	• Prior to medication, woman with persecutory and grandiose delusions is interviewed • After medication, woman attributes her absence of delusional thinking to medication
Loving relationship can cure S (M)	*The Fisher King*	• Homeless man wakes up from catatonic state when loving friend brings him "the holy grail"
There is no cure for S (F)	*I'm Still Here*	• Interviews with both patients and professionals emphasize that S has no cure
ECT effective for S (M)	*Angel at My Table*	• Women tells her family about her diagnosis of S • She receives a series of ECT
Medication effective for S (F)	*Clozaril Case Studies*	• Prior to medication, young man is severely disorganized in thought and disheveled in appearance • After medication, man is coherent and neat in appearance

Violence typical of S (M)	*Repulsion*	• Young woman hallucinates cracks in walls and grasping hands • Woman violently attacks man with a razor
Violence not typical of S (F)	*I'm Still Here*	• Social worker interacts with homeless man with S • She disputes myth that people with S are typically violent
Split personality and S same (M)	*David and Lisa*	• A young man labels adolescent girl as S • Girl displays disorganized behavior with an abrupt change to her alter
Split personality and S not same (F)	*I'm Still Here*	• Interviews with patients and authorities state that S is not the same as split personality

Note. Hall. = hallunications. Rose Garden = I Never promised you a Rose Garden.