Reducing Stigma toward Seeking Mental Health Treatment

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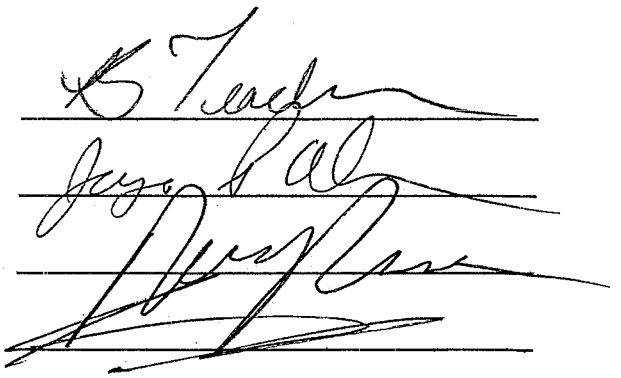
A Dissertation presented to the Graduate Faculty
of the University of Virginia in Candidacy for the Degree of
Doctor of Philosophy

Department of Psychology

University of Virginia
August, 2009



Abstract

The current proposal examines the effectiveness of an educational intervention aimed at reducing negative attitudes toward mental illness and mental health treatment-seeking, and increasing indicators of willingness to seek treatment. Implicit and explicit indicators of stigma were evaluated across two groups of high school students (experimental group, *n*=80: education about mental illness and treatment, and contact with a mental health consumer; and control group, *n*=76: education about tobacco smoking and contact with an individual affected by cigarette smoking) to determine the effectiveness of the intervention in the reduction of stigma. Following the intervention, we assessed implicit attitudes (those residing outside of conscious control and/or awareness) and explicit attitudes (self-reported) toward mentally ill individuals and toward seeking mental health treatment. In addition to the attitude measures, we examined reports of personal willingness to seek treatment and behavioral indicators of openness to mental health treatment. We were also interested in demographic variables that might moderate the effectiveness of the intervention.

Overall, results suggested the stigma intervention was effective at reducing explicit but not implicit measures of bias. Consistent with hypotheses, participants receiving the experimental (versus control) intervention reported less stigma toward mental health treatment and mentally ill people, though not more openness toward seeking mental health treatment on the behavioral indicators (personal willingness to seek treatment and interest in treatment information). In trying to understand for whom the intervention worked most effectively, exploratory analyses revealed an intervention group difference for Caucasian (though not non-Caucasian) participants on the behavioral

indicator outcomes, such that the Experimental group reported greater interest in treatment information. Further, participants receiving the control intervention displayed more openness to smoking cessation treatment. These findings provide support for the effectiveness of an educational intervention among adolescents in reducing negative attitudes toward mental illness and mental health treatment, but raise questions about how to effectively address implicit stigma as well as how to translate stigma reduction into changes in actual behavior.

Key words: stigma, mental illness, treatment-seeking, implicit and explicit attitudes, intervention

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Acknowledgements

I would like to gratefully and sincerely thank Dr. Bethany A. Teachman for her guidance, understanding, patience, and friendship during my graduate studies at the University of Virginia. Her mentorship was paramount in providing a well-rounded experience consistent with my long-term career goals. She encouraged me to grow not only as a researcher and clinician, but also as an instructor and independent thinker. I am truly appreciative for her encouragement to pursue my own research interests while developing a sense of self-sufficiency and confidence in my own abilities. I would also like to thank all the members of the PACT lab group for their friendship and support, especially Shannan, Tynessa, Josh, Elise, Meghan, and Shari. Thank you too, to Christina Ryan for giving me the opportunity to grow as a research mentor and advisor.

I would like to thank the Department of Psychology at the University of Virginia, especially those members of my doctoral committee for their input, valuable suggestions, accessibility, and assistance in gaining very difficult (and invaluable) access into the school system to reach a broader research population.

Finally, I would like to thank my family and friends for their support, friendship, and edits of endless manuscript drafts. First, I would like to thank my friends for their ability to keep me grounded and reminding me to take time for fun. I thank my parents, Tom and Denise, for their faith in me and their encouragement to move beyond my comfort zone and grow, both personally and professionally. Also, I thank my sisters and brother, Anne, Dana, and Tommy, for their ability to always make me laugh. Most importantly, I would like to thank my husband, Brandon. His support, encouragement, patience, and love have been more important than I can express.

In any given year, an estimated 20-25% of adults in the United States will struggle with a mental illness (National Institutes of Mental Health, 2006). However, of these 44 million individuals, approximately 10.9 million adults fail to receive adequate treatment (Substance Abuse and Mental Health Services Administration, 2004). Results from epidemiologic studies suggest that 50-60% of individuals who could benefit from mental health treatment do not seek care (Kessler et al., 2001; Regier et al., 1993), leaving millions of individuals in what Stefl and Prosperi (1985) refer to as the "service gap". Perhaps even more concerning, an estimated 20% of children and adolescents struggle with a mental illness, yet 70% of these children fail to receive adequate treatment (Surgeon General's Report on Mental Health, 1999).

Many factors contribute to this failure to seek treatment; in the current study we focus on one prevailing theory – that stigma toward mental illness may act as a significant barrier to seeking mental health care (Amato & Bradshaw, 1985; Cooper, Corrigan, & Watson, 2003; Corrigan, 2004; Kushner & Sher, 1991; Rüsch, Angermeyer, & Corrigan, 2005). As many as 20% of individuals surveyed by the American Psychological Association reported that stigma negatively impacted seeking treatment (Kirchheimer, 2004). Unfortunately, despite the large number of individuals affected by inadequate treatment utilization, the empirical literature concerning the effects of stigma on seeking treatment and interventions to reduce stigma is sparse for adults and virtually non-existent for children and adolescents.

Attitudes toward Mental Illness and Link to Treatment Seeking

Stigma has been defined as "an attribute that is deeply discrediting" (Goffman, 1963), and stigmatization is a process whereby a label sets an individual apart from

others, links the person to undesirable characteristics, and leads to rejection and discrimination (Link & Phelan, 2001).

Stigma toward persons with mental illness may manifest in a number of forms. For example, the general public often views individuals with a mental illness as dangerous, incompetent, or blameworthy for their difficulties (Corrigan et al., 2002). As a result, persons with a diagnosis of mental illness are often the target of various discriminatory practices (e.g., housing, employment, interpersonal, medical), by numerous sources (strangers, employers, peers, family members; see Farina, 1998, for a good review). The mere existence of a diagnostic label, even in the absence of any overt marker of a mental illness such as disordered behavior, is often sufficient to elicit the negative effects of stigma (Link, Cullen, Frank, & Wozniak, 1987; Link, Mirotznik, & Cullen, 1991; Link, Struening, Cullen, Shrout, & Dohrenwend, 1989; Weinstein, 1983).

There is increasing concern that the threat of stigma is a significant barrier to seeking mental health treatment (Barney, Griffiths, & Jorm, 2006; Cooper, Corrigan, & Watson, 2003; Corrigan, 2004; Kushner & Sher, 1991). Amato and Bradshaw (1985) investigated this possibility by considering individuals' self-reported reasons for delaying help-seeking. Participants included 30 adults who were interviewed about a "distressing problem" they had faced during the previous year, and the reasons they had for hesitating to seek assistance with the reported difficulty. Results suggested that individuals who attributed the cause of the problem to their own actions and those who rated their problems as more "intimate" were more likely to be fearful of appearing incompetent, inadequate, or foolish, and therefore reported more fear associated with help-seeking. However, even among those who did seek treatment, most did not seek a mental health

professional as their first method of care, turning instead to family or friends. Further, Cooper, Corrigan, and Watson (2003) found that individuals reported they were less likely to consider seeking future care if they viewed those with a mental illness as responsible for their disorders, reacted to them angrily, and withheld pity and helping behaviors from them.

A recent review by Corrigan (2004) further documented the hypothesized link between increased levels of stigma and decreased help-seeking behaviors. Specifically, he posits that the threats of diminished self-esteem and of identification as a stigmatized group member act as significant barriers to seeking treatment. Corrigan cites evidence for a "non-specific labeling" effect, such that those labeled mentally ill, regardless of the specific mental illness diagnosis, are subject to more severe stigma than those individuals without a mental illness diagnosis (Corrigan et al., 2000; Weiner, Perry, & Magnusson, 1988). Further, because mental illness is frequently a concealable stigma, affected persons may decide to avoid the stigma by denying their group membership (i.e., mental illness diagnosis) altogether, which is often accomplished by avoiding institutions that mark them as a group member, such as mental health treatment facilities (Corrigan & Matthews, 2003). As a result, fear of stigma negatively affects the likelihood of seeking mental health treatment.

Challenges in evaluating stigma

Recent initiatives, such as the Presidential Task Force (New Freedom Commission on Mental Health, 2003), are attempting to address the negative association between stigma and seeking mental health treatment, and there has been some question about whether these initiatives are effectively reducing stigma. For instance, findings

that stigma has declined in recent years (American Psychological Association, 2004) contrast with research indicating widespread stigma (Corrigan, 2004; Corrigan et al., 2002; review by Farina, 1998) as well as with consumers' own self-reports (Wahl, 1999). One concern is that these initiatives may simply be making it less acceptable to openly derogate persons with mental illness (Stier & Hinshaw, 2007). As such, an apparent decrease in stigma may not be due to an actual decline in negative attitudes, but rather, to a decline in the explicit reporting of such attitudes. However, it is also possible that stigmatizing attitudes now reside mainly outside of conscious awareness, and therefore, are less readily accessed via self-report measures. To consider this possibility, we will evaluate both implicit and explicit measures of stigma. Explicit attitudes are those attitudes and beliefs that individuals consciously endorse. On the other hand, "implicit attitudes are introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects" (Greenwald & Banaji, 1995, p. 8).

To investigate the presence of implicit biases toward the mentally ill, Teachman, Wilson, and Komarovskaya (2006) conducted two studies to examine both explicit and implicit attitudes and stereotypes about individuals with a mental illness relative to those with a physical illness. The first study utilized a college sample while the second used a sample diagnosed with a mental illness. Researchers demonstrated negative implicit attitudes and beliefs about the relative helplessness and blameworthiness of persons with a mental illness. These attitudes and beliefs were evident among both the college sample and those diagnosed with a mental illness; in fact, both groups showed equivalent levels

of bias. However, the implicit and explicit measures were mostly unrelated, highlighting the importance of evaluating both explicit and implicit evaluations.

Recent research has suggested that although sometimes correlated, implicit and explicit attitudes are also often dissociated, influenced in part by various moderating variables, such as social desirability (Nosek, 2005; meta-analysis by Greenwald, Poehlman, Uhlmann, & Banaji, in press). In the current study, given the likelihood of social desirability concerns (i.e., it may not be socially acceptable to explicitly acknowledge negative views about persons with mental illness), it is possible that implicit and explicit attitudes will not be highly related and may differentially predict treatment-seeking outcomes. For instance, explicit attitudes about mental illness and treatment-seeking in general are expected to influence reported willingness to actually personally seek treatment because they share in common similar methods and availability to conscious introspection. At the same time, there is growing evidence documenting the significant effect that implicit attitudes exert on an individual's actual *behavior* even when one is unable to report the attitude or when endorsing explicit attitudes contradictory to those held implicitly (Bargh, Lee-Chai, Barndollar, Gollwitzer, & Trötschel, 2001; Greenwald, Poehlman, Uhlmann, & Banaji, in press). There is often a discrepancy between attitudes and behaviors (Fazio, 1990; Wicker, 1969), and one advantage of the current study is that we will examine measures of both attitudes and behaviors reflecting openness to treatment. Whether attitudes toward mental illness that are explicit versus implicit will differentially predict reported willingness to seek treatment versus indicators of behavioral interest remains somewhat exploratory, but is an

important question if we want to more fully understand how different forms of stigma can interfere with various treatment-seeking outcomes.

Educational Interventions and Stigma Reduction

Previous research has documented the effectiveness of educational interventions aimed at reducing stigma toward mental illness in various groups, including middle school students, high school students, college students, and medical professionals (Corrigan et al., 2000; Essler, Arthur, & Stickley, 2006; Mound & Betterill, 1993; Pinfold et al., 2003; Rickwood, Cavanagh, Curtis, & Sakrouge, 2004; Watson et al., 2004).

Several studies have shown that participation in a brief educational program can be effective at reducing negative attitudes toward mental illness or increasing factual knowledge (Corrigan & O'Shaughnessy, 2007; Pinfold et al., 2003; Rickwood et al., 2004; Schulze, Richter-Werling, Matschinger, & Angermeyer, 2003). For instance, researchers recently implemented a school-based program aimed at reducing stigma toward mental illness, increasing knowledge about mental health, and encouraging seeking mental health treatment (Rickwood et al., 2004). The intervention consisted of a presentation delivered to high school classes by trained individuals who have experienced mental illness, and who shared their personal stories. Presenters conducted a single 50 to 90 minute session during which they explained the concept of stigma and discussed facts and myths about mental illness. The control group consisted of high school students not participating in the intervention. Results indicated that the intervention was effective in several areas, including having a strong impact on increasing general knowledge of mental health, a moderate impact on reducing stigma toward mental illness, and a weak impact on reported intentions to seek mental health treatment. However, it should be

noted that the measure of help-seeking consisted of individuals' explicitly reported intentions, and not actual help-seeking behaviors or implicit attitudes toward help-seeking. Further, because the control group consisted of an untreated sample, we cannot be certain that positive changes in the intervention group were not due simply to non-specific factors, such as increased attention or contact.

Similarly, Schulze et al. (2003) examined the effect of an intervention designed for high school students in Germany, presented over the course of one week. The intervention aimed to instill a sense of competence in participants' abilities to cope with crises and discussed schizophrenia as the result of multiple factors. The project utilized interactive discussions; information regarding mental illness, treatments, and stigma; and contact with an adolescent struggling with schizophrenia. The control group consisted of students participating in a different project unrelated to mental health. However, students were able to choose in which project they wanted to participate, thereby creating the potential for a self-selection bias. Unfortunately, this seems to have occurred because those in the experimental condition endorsed more positive pre-intervention attitudes toward people with schizophrenia. Results indicated that the intervention was effective at improving negative stereotypes as well as willingness to engage socially with individuals with schizophrenia.

Educational interventions that aim to address false assumptions and misconceptions about stigmatized groups have used books, videos, slides, and other equipment to counter these negative stereotypes (Corrigan et al., 2001; Pinfold et al., 2003; Smith, 1990). Interventions such as these are also often augmented by interactive discussions, because participants are more likely to remember accurate information and

reject false assumptions when they have been active in discussing and countering these myths with teachers and peers (Corrigan & Penn, 1999; Lynch, 1987; Penn et al., 1994). Several other factors have also been determined to be of particular importance in increasing the effectiveness of such interventions. For instance, previous research supports the idea that in order to maximize effectiveness, interventions should contain corrective information that challenges misconceptions (Corrigan et al., 2002).

Numerous studies also support the role of contact with a mental health consumer in supplementing the information supplied by the intervention (Corrigan & O'Shaughnessy, 2007; Pinfold et al., 2003; Rickwood et al., 2004; Schulze et al., 2003; Spagnolo, Murphy, & Librera, 2008). It is important to note that the nature of the contact is most helpful when the information portrayed is moderately disconfirming of stereotypes (Reinke et al., 2004; e.g., presenting a realistic view of the individual's recovery from their mental health struggles), portrays an individual of equal status and is therefore someone to whom others can relate (Corrigan, 2000; Gaertner, 1996; Reinke et al., 2004), is of similar age to the participants (Secker, Armstrong, & Hill, 1999), and is institutionally supported (i.e., endorsement of the program by the participant's organization, such as the school administration; Adlerfer, 1982; Williams, 1977).

The current proposal will extend these previous findings to create an experimental intervention based on empirically informed intervention principles. In addition, we will include a control intervention with content unrelated to mental health (i.e., a parallel intervention detailing the risks of tobacco smoking). Both the experimental and control interventions will include videos and slides to counteract myths and misconceptions, and will occur within the context of an interactive discussion that challenges these

misconceptions with corrective information. Further, each intervention will also provide contact with an individual who has experience with either mental illness or tobacco smoking, and this contact will portray information that is moderately disconfirming of stereotypes, portrays an individual of equal status, and is institutionally supported (communicated by the school's offering of the intervention).

Despite establishing the effectiveness of programs designed to reduce stigma toward mental illness, few studies have considered interventions aimed specifically at reducing stigma toward seeking mental health treatment, and virtually no literature exists examining an intervention designed to increase behaviors reflecting openness to treatment. Further, although there is evidence supporting the importance of a contact component as part of a mental illness stigma-reduction intervention, there is little literature examining other factors important to the nature of the contact. For instance, it is not clear whether a match on different demographic variables (e.g., gender, ethnicity, mental illness diagnosis, etc.) between the participant and the contact individual is essential for contact to be an effective stigma reduction tool. Yet, this question is critical in thinking about how to match interventions to various subgroups. It is possible that the contact will be more effective for those participants for whom there is a match on demographic features with the contact individual because these participants may relate more strongly to the contact individual (a Caucasian, young adult male in the current study). Alternatively, the specific content addressed by the contact individual may be critical. For instance, the intervention may more strongly predict interest in treatment information specifically for those disorders the contact individual discusses (ADHD and Depression in the current study). Whether matching on various features with the contact

individual will differentially predict reported willingness to seek treatment and indicators of behavioral interest remains exploratory, but is an important question as we seek to understand for whom stigma-reduction interventions are most effective.

In addition, this study aims to build upon the promising early projects outlined above by using larger sample sizes and an alternate-treatment (versus no-treatment) control group. Finally, we will include both explicit and implicit measures of stigma to examine whether they differentially predict reported willingness to seek treatment and behavioral indicators of openness to treatment.

Methods

Pilot Studies

A pilot study was conducted to ensure that the experimental and control interventions (including the completion of all measures) could be realistically administered and completed within the proposed one-hour time period. Pilot participants included 43 undergraduate students (experimental group, N=23; and control group, N=20) recruited through the University of Virginia psychology participant pool in exchange for payment or course credit. Following feedback from this group, we further developed the intervention and streamlined some of the measures. We subsequently administered the improved intervention and measures to a group of pilot high school students. Pilot participants included 33 high school students (experimental group, N=16; and control group, N=17) recruited through a local Charlottesville high school, with a gift given to the school as a thank you.

Feedback from all pilot participants was used to fine tune the procedures, and we were also be able to check for trends in the data to indicate whether the intervention

seemed likely to have the desired effects. Further, we were able to check that the interventions were well matched in terms of non-specific effects. For instance, we checked that the experimental and control interventions did not differentially influence participants' affect.

Main Study

Participants

Participants included 159 local high school students, ages 15-17 years. This age group was chosen based on research indicating that the peak period for the onset of many mental health or emotional difficulties occurs at this age (e.g., depression, social anxiety disorder, and generalized anxiety disorder; Fombonne, 1999; Juster, Brown, & Heimberg, 1996; Noyes et al., 1992; Rasmussen & Eisen, 1990; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992), and because this population experiences such high rates of unmet treatment need (Surgeon General's Report on Mental Health, 1999). Further, we were interested in intervening at an age before attitudes about treatment-seeking were likely well-elaborated, and when many difficulties first manifest, rather than waiting until individuals have struggled for several years without treatment. We also wanted to use a sample with some level of autonomy to pursue treatment-seeking (e.g., as opposed to children of grade school age). This study was a first step in evaluating the effectiveness of a stigma-reduction intervention on a local high school population of a limited age range (and therefore at a similar developmental stage to one another), in order to increase internal validity. Inclusion criteria included fluency in written and spoken English. To increase external validity, no exclusions were made

based on current/past psychiatric diagnosis and treatment history, though information pertaining to current/past treatment use and diagnosis was assessed.

Of the 159 individuals who completed the study, 3 were excluded due to inconsistencies in response patterns suggesting a clear failure to pay attention (e.g., marking the same number on the Likert scale for every item of each questionnaire), leaving a final sample of 156. The final Experimental sample (N=80) was 60% female, mean age was 15.8 (SD=.68 range = 15-19) and 73.4% were Caucasian (12.7% African American, 1.3% Asian, 8.9% Hispanic, and 3.8% indicated "mixed" or "other"). The final Control sample (N=57) was 54% female, mean age was 15.7 (SD=.57; range = 15-18) and 72.4% were Caucasian (15.8 % African American, 0% Asian, 3.9% Hispanic, and 7.9% indicated "mixed" or "other").

Power Analysis

Previous research examining the effectiveness of an intervention targeting stigma of mental illness with high school students reported an effect size of d =.76 (indicating more positive attitudes toward mental health; Pinfold et al., 2003). Using this effect size, power calculations following Buchner (1997) suggest that a sample size of N=76 per intervention group was needed to have greater than 90% likelihood of seeing an effect with alpha = .05. Thus, our final samples size (Experimental group: N=80; Control group: N=76) should have sufficient power to detect intervention effects.

Measures

Development of Intervention Materials.

The experimental intervention consisted of a 35 minute presentation[1], including an interactive power point presentation and discussion of basic information about mental illnesses and mental health treatment, common myths and misconceptions, and a brief (8 minutes) video presentation of an adolescent currently struggling with a mental illness. The presentation concluded with an opportunity for the participants to ask questions of the presenters. This presentation format (combining accurate and corrective information with an individual's personal story of mental illness) follows from several previous studies finding that educational interventions with analogous components were effective at reducing stigma in various groups, including middle school students, high school students, college students, and medical professionals (Corrigan et al., 2001; Mound & Betterill, 1993; Pinfold et al., 2003; Rickwood et al., 2004; Watson et al., 2004).

In line with previous research, the stigma reduction intervention contrasted myths about mental illness with corrective information that challenged these myths (Corrigan et al., 2002). In addition, we presented the intervention in an interactive format, as opposed to a strictly lecture-style presentation (Lynch, 1987), so that the students became active participants in dispelling their own misconceptions, and offered their own ideas about myths for discussion. Further, numerous prior studies support the role of contact (with an individual who has personal experience with mental illness) in helping to reduce stigmatizing attitudes (Pinfold et al., 2003; Pinfold, Thornicroft, & Huxley, 2005; Rickwood et al., 2004; Schulze et al., 2003). Therefore, the power point presentation

[1] In the interest of creating an intervention that can be easily administered to high school classes, we designed the intervention to take 30-40 minutes (no longer than the length of a class period). Although brief, previous studies support the effectiveness of a brief educational program in reducing negative attitudes toward mental illness and increasing factual knowledge (Pinfold et al., 2003; Rickwood et al., 2004; Schulze, Richter-Werling, Matschinger, & Angermeyer, 2003).

involved pictures of famous individuals who have struggled with various mental illnesses.[2] In addition, because there is some research suggesting that video contact can work as effectively as a live presentation in reducing stigma (Reinke et al., 2004), we showed participants a video presentation of an individual who has struggled with a mental illness. The content of the video followed from research suggesting that effectiveness in reducing stigma is enhanced by several components. For example, the video consisted of contact that is moderately disconfirming of prior stereotypes (Reinke et al., 2004), achieved by balancing the individual's difficulties resulting from the mental illness with their ability to live a "normal" life despite the mental illness, and portrayed an individual of equal status (Cook, 1985; Riordan, 1978); the individual in the video was of a similar age as those participating in the intervention, and described his experience with mental illnesses that are highly prevalent in this age group – Depression and Attention Deficit with Hyperactivity Disorder. Further, it was important that the intervention be institutionally supported (Adlerfer, 1982; Williams, 1977), which was communicated by the school's offering of the intervention. Finally, the video allowed participants to relate to the individual portrayed (e.g., the individual in the video did not represent an unattainable status, such as with a celebrity) so that the experience of the individual did not seem foreign to the participants (Gaertner, 1996; Reinke et al., 2004).

The control intervention consisted of a parallel 35-minute educational presentation with content unrelated to mental health. This control intervention involved showing a video with comparable amounts of information detailing the risks of tobacco

[2] Although celebrities are not individuals of equal status or to whom participants can personally relate, discussing the experiences of well-known celebrities served as one form of contact with individuals who have struggled with a mental illness. Further, the inclusion of well-known and respected celebrities was intended to combat the myths that mental illnesses are rare or the result of something negative about the person.

smoking. The specific video was one filmed with the express purpose of reducing tobacco smoking in adolescents. It included five sections that outline: 1. the addictiveness of nicotine and the truth about tobacco advertising, 2. the effect of tobacco advertising on adolescents, 3. the subversive techniques employed by tobacco advertising, 4. the story of an individual's tobacco-related death, and 5. inspiration to remain tobacco-free. Although the control intervention was not an exact match in administration style (i.e., the experimental intervention was delivered in a live interactive format whereas the control intervention involved showing a video of an interactive presentation), the control intervention consisted of components comparable to those of the experimental condition. For instance, both contrast common myths and misconceptions with corrective information, and present contact with an individual struggling with tobacco smoking with whom the participants would likely be able to relate.

Note that both the experimental and control interventions were administered by highly trained graduate and undergraduate students. Training to administer the interventions included several stages. First, presenters were introduced to the intervention as mock participants. Following the introduction and familiarization with the protocol and all study materials, each presenter administered the full protocol to the larger group of presenters, then to a smaller group, and finally to the first author. Presenters needed to demonstrate familiarity with the protocol script (i.e., an ability to deliver the full presentation without reading from the script), and maintain the standardized presentation format while delivering the script in an interactive style.

During practice administrations, presenters also had to show they could handle difficult questions or comments from study participants.

Measures of Affect.

Positive and Negative Affect Scale (PANAS.; Watson & Clark, 1994): assesses current positive and negative affect. This is a 20-item, 5-point Likert scale (1=Very slightly or not at all; 5=Extremely), with higher scores indicating that the individual is experiencing the affective state strongly. The PANAS contains two general subscales assessing positive affect and negative affect, each consisting of 10 items. The PANAS was administered pre- and post-intervention to establish that any differences in post-intervention attitudes toward mental illness, mental health treatment, or smoking were not simply due to different affective states elicited by the two different interventions. This scale has adequate psychometric properties (Watson & Clark, 1994); in the current study, internal reliability was .83 (Cronbach's alpha) for the positive affect scale at pre-test and .87 for the positive affect scale at post-test. Likewise, internal reliability was .80 for the negative affect scale at pre-test and .82 for the negative scale at post-test

Measures of Stigma.

Community Attitudes toward the Mentally Ill (CAMI – Social Restrictiveness Scale; Taylor & Dear, 1981): assesses explicit levels of stigma toward persons with mental illness. This is a 40-item, 5-point Likert scale (1=Strongly agree; 5=Strongly disagree), with higher scores reflecting more negative attitudes toward mentally ill persons. The CAMI contains four subscales assessing authoritarianism, benevolence, social restrictiveness, and community mental health ideology. The scale has adequate psychometric properties (Taylor & Dear, 1981). In the interest of time, we used only the

Social Restrictiveness subscale (sample item: "The mentally ill should be isolated from the rest of the community"). In the current study, internal reliability was .79 (Cronbach's alpha) for the Social Restrictiveness subscale. This scale was selected based on a previous study finding that the Social Restrictiveness scale was the most highly correlated of the four subscales with participants' reported willingness to seek mental health treatment (Saporito & Teachman, manuscript in preparation).

Attitudes toward Seeking Professional Psychological Help (ATSPPH – short form; Fischer & Turner, 1970): assesses general atttitudes toward seeking professional psychological help (as opposed to personal intentions to seek help). This is a 4-point Likert scale (1=Disagree; 4=Agree), with higher scores indicating positive attitudes toward seeking treatment. In the interest of time, we used the10-item shortened version of Fischer and Turner's (1970) original 29-item scale. The shortened 10-item version has adequate psychometric properties (Fischer & Farina, 1995). Scores from the shortened scale correlate .87 with full-scale scores derived from the original scale, and were found to have comparable internal consistency at .84 (Cronbach's alpha) to the original scale. In the current study, internal reliability was .72 (Cronbach's alpha) for the shortened scale. Further, previous studies have found an association between higher ATSPPH scores (i.e., more positive attitudes toward seeking professional help) and previously having sought mental health treatment (Cooper, Corrigan, & Watson, 2003; Fischer & Turner, 1970), supporting the scale's validity.

Implicit Bias Measures. To evaluate implicit attitudes, we assessed automatic associations in memory related to 1) seeking mental health treatment, and 2) persons with

mental illness. Associations are considered automatic in that they reflect attitudes that are outside of conscious control, and at times outside of conscious awareness.

The Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) is a response time task that requires participants to classify word stimuli as belonging to superordinate categories to reflect the ease with which they associate concepts in memory. This measure has been widely used to assess implicit attitudes and stereotypes and has adequate psychometric properties (Greenwald & Nosek, 2001). The IAT was developed for administration via computer, but has also been adapted for a paper-pencil format (e.g., Schwartz, Chambliss, Brownell, Blair, & Billington, 2003; Teachman & Brownell, 2001; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). In the current study, we will use a paper-pencil version to enable administration to the full class simultaneously.

Originally, the IAT was designed to be a relative task, meaning that an equivalent comparison category is required in order to assess the target attitude category of interest (e.g., comparing "Mentally Ill People" to "Physically Ill People"). However, the results of extensive pilot testing for the current study suggested that a relative version of the paper-pencil IAT assessing automatic associations toward "Mental Health Treatment" and "Mentally Ill People" was not psychometrically sound. Instead, we decided to use a new, *non-relative* version of the IAT, called a "Brief IAT", in which a comparison category is not needed. This non-relative version of the IAT has only recently been developed so its psychometric properties are not as well established as the original IAT's.

To evaluate automatic associations toward mental health treatment, the category "Mental Health Treatment" was paired with descriptor categories that reflect common

evaluations of seeking treatment as being either "Respectable" or "Shameful". This IAT task will be referred to as "IAT-Treatment". In this task, there were two category pairing conditions (known as blocks): one where the category "Mental Health Treatment" was paired at the top of the page with the category "Shameful," and another block where the category "Mental Health Treatment" was paired at the top of the page with the category "Respectable". When classifying words in the first block pairing, participants were told to circle any word stimuli that belonged to either the "Mental Health Treatment" or "shameful" categories. They were told to place a slash mark through all other words. The words not belonging to either of the two categories at the top of the page consisted of words belonging to the opposing descriptor category (i.e.., "Respectable") and to an unrelated target category (e.g., words consisting of alternate professions such as "Dentistry," "Plumbing," "Optometry," "Massage"). Following this category pairing condition, the descriptor category was switched, and participants were again asked to classify the word stimuli according to the new category pairing (e.g. the same categorization task was completed while pairing "Mental Health Treatment" with "respectable"), and the words through which participants placed a slash included words of the opposing descriptor category (i.e., "Shameful") and the unrelated target category (i.e., words consisting of non-mental health related professions).

Likewise, to evaluate automatic associations toward persons with mental illness, the categories "Mentally Ill People" and either "Bad" or "Good" were paired at the top of the page (this task will be referred to as "IAT–Mentally Ill People"). When classifying words in the first condition, participants were told to circle any word stimuli that belonged to either the "Mentally Ill People" or "bad" categories. They were told to place

a slash mark through all other words. The words not belonging to either of the two categories at the top of the page consisted of words belonging to the opposing descriptor category (i.e., "Good") and to an unrelated target category (e.g., words reflecting physical health problems, such as "Asthmatic," "Diabetic," "Cancerous," "Paralyzed"). Following this category pairing condition, the descriptor category was switched, and participants were again asked to classify the word stimuli according to the new category pairing (e.g. the same categorization task was completed while pairing "Mentally Ill People" with "good"), and the words through which participants placed a slash included words of the opposing descriptor category (i.e., "Bad") and the unrelated target category (i.e., words consisting of physical health problems). Thus, for each IAT task, one category pair was presented, and then switched for the next block of trials.

Each IAT task consisted of two pages: one page in which the target and descriptor categories reflected negative associations with mentally ill people or with mental health treatment and one page in which the categories reflected positive associations. Participants were given 20 seconds to correctly categorize as many words as they could by circling the words that belonged to one of the two categories (e.g., "Mentally Ill people" and "Good") listed at the top of the page, and placing a slash through all other words. It is important to note that this is not a subjective judgment task, but simply a categorization task. Specifically, participants were told to categorize word stimuli (circle the correct words) according to the category labels appearing at the top of the page (i.e., participants were "given the answer"); they were *not* asked to categorize stimuli according to their personal thoughts or evaluations about the categories (e.g., "I think mentally ill people are good"). Therefore, all category labels and their corresponding

word stimuli were presented to each participant at the top of every page, and remained there for the duration of the task.

It was expected that when categories were paired to match automatic associations, more words would be correctly classified than for those category pairings that contradict one's automatic associations. Thus, IAT effects are determined by contrasting the average number of correctly classified word stimuli in one category pairing with the average number of correctly classified word stimuli in the other, while taking into account the participant's general response speed. Given the novelty of the task, we first asked participants to complete an IAT task unrelated to mental illness or treatment-seeking to familiarize them with the procedure. The order of the IAT blocks (i.e., different sheets reflecting the opposite category pairings) within each task was counterbalanced to minimize order effects, while the tasks themselves were presented in a fixed order (1. Practice task, 2. IAT-Treatment, 3. IAT-Mentally Ill People) so that the main variable of interest (attitudes about seeking treatment) was not influenced by the other mental illness-relevant task.

Four word stimuli were selected for each category. To select stimuli for the categories (e.g., "Respectable," "Shameful," "Seek Treatment,"), a list of between six and fourteen common words were pre-tested in order to choose the words most representative of each category. Pre-test respondents (N=14) were asked to rate the ease with which they were able to classify each word into the provided category. The four most easily classified words, rated at least 4 or higher (on a 7-point scale), were selected for the task. Further, stimuli for "Mentally Ill People" were drawn from a previous study by Teachman et al. (2006).

Semantic Differential Scales: assesses explicit attitudes toward "Mentally ill people" on 7-point semantic differential scales (1 = "Bad" to 7 = "Good"), "Seeking treatment for a mental illness" (1 = "Shameful" to 7 = "Respectable"), and "Smoking tobacco" (1 = "Bad" to 7 = "Good"; and 1 = "Harmful" to 7 = "Harmless"). These self-report items were designed to parallel the nature of the implicit tasks to allow for more direct implicit/explicit comparisons.

Perception of Stigma: assesses students' perceptions of stigma by family and friends toward seeking mental health treatment. Two items were included within the demographics section and were presented on a 7-point Likert Scale (1=Very Negative; 7=Very Positive), with higher scores indicating positive perception of family and friends' attitudes toward seeking treatment (e.g., "If you were to struggle with a mental illness, how do you think your *family* would feel about you seeking treatment?").

Measures of Treatment-Seeking.

Willingness to seek treatment (developed by the first author): This 5-item explicit measure assesses an individual's reported willingness to personally seek mental health treatment (rather than attitudes about mental health treatment more generally). The first question determines participants' likelihood of seeking any sort of treatment for a mental illness (e.g., "If you were struggling with an emotional difficulty or mental illness, how likely would you be to seek treatment with a mental health professional (i.e., a psychologist, psychiatrist, or physician)?". This question is followed by items assessing how helpful specific treatments are thought to be (e.g., psychologist, psychiatrist) and items assessing how likely one is to seek specific treatments (e.g., from a psychologist, psychiatrist), assuming each were free and available. This scale has adequate

psychometric properties (Saporito & Teachman, manuscript in preparation); in the current study, internal reliability was .80 (Cronbach's alpha) for the full scale.

Treatment Information Questionnaire: To create a behavioral indicator of openness to treatment that could be used in a large sample of adolescents (most of whom would not need current treatment), participants were asked to check either "Yes" or "No" to indicate whether they would be interested in additional information about specific treatment seeking topics (i.e., Accessing a local therapist, Accessing a psychiatrist or someone to prescribe psychiatric medications, or Resources to quit cigarette smoking) and/or about specific mental illnesses (i.e., Anxiety, Depression, Eating disorders, ADHD).

The information was presented in this way to minimize any pressure to choose specific information (because all students were asked to make a check mark next to all information items, it was not obvious which topics interested specific students). We then added the total number of items checked from the mental health treatment information options to provide a continuous measure of a behavior reflecting openness to treatment. It is important to note that this measure does not directly reflect behavioral intentions, but was used as an indicator of potential interest in treatment. Given logistical considerations (namely, it was not possible to follow these individuals long-term to determine future treatment-seeking behaviors), this measure was used as a proxy to assess potential treatment seeking openness.

Measures of Intentions to Smoke.

Smoking Intentions Questionnaire (Pierce, Choi, Gilpin, Farkas, & Merritt, 1996): assesses explicit intentions to smoke tobacco, and has been found to predict actual

smoking behaviors four years later (Pierce et al., 1996). This is a 4-item, 4-point Likert scale (1=Definitely yes 4=Definitely not), with lower scores reflecting greater intentions to smoke (e.g., "If one of your best friends were to offer you a cigarette, would you smoke it?"), which is designed for adolescents, ages 12-18. This measure was included to assess the effectiveness of the control intervention in reducing reported intentions to smoke tobacco. The scale has adequate psychometric properties (Andrews, Netemeyer, Burton, Hoberg, & Christensen, 2004); in the current study, internal reliability was .94 (Cronbach's alpha) for the full scale. This measure also allowed us to examine whether there was a cross-over effect from the experimental intervention, such that we were increasing a reported willingness to seek treatment for all health behaviors versus just for those health behaviors specific to the intervention (e.g., mental illness or tobacco smoking).

Measure of Participant Information and Contact.

Demographics Questionnaire (developed by the first author): includes standard demographic questions such as age, ethnicity, gender, etc. Participants were also asked to note whether they had contact with persons who have been diagnosed with a mental illness ("Has a close friend or relative ever struggled with a moderate to severe mental or emotional difficulty…"). Responses were scored dichotomously as "Yes" or "No". In addition, participants were asked to note whether they had struggled with a mental illness ("Are you currently, or have you ever struggled with moderate to severe mental or emotional difficulties …"). Responses were scored dichotomously as "Yes" or "No".

Procedure

Parental letters, along with parental consent forms and teen assent forms, were first sent home to inform parents about the study and to allow them the chance to give parental consent for their child to participate. If parents gave consent for their child to participate, the students were then given the opportunity to decide if they would like to participate by signing an assent form (detailing the same information as that presented in the parental consent form), which was also sent home prior to the intervention. On the day of the intervention, we again requested permission from those students with completed parental consent and youth assent forms. If parents or students did not consent to participate, then the students went to a separate room where they were permitted to work on class work. Further, it was made clear to participants that they could withdraw from the study or request the destruction of their materials, and this would in no way affect their standing as a student.

All parts of the study (i.e., the intervention, administration of the measures, and dissemination of information) were administered in a group setting within the classroom (approximately five to ten students per group). Students within a given class were randomly assigned to either the experimental (stigma of mental illness) intervention condition or to the control (anti-smoking) condition. Following informed consent, participants in both intervention groups were asked to complete a short baseline measure of explicit stigma toward mental illness, attitudes toward mental health treatment, and tobacco smoking (using the Semantic Differential Scales), and a short measure assessing their current affective state (PANAS).

Next, trained graduate and undergraduate students delivered the assigned intervention to the class using a standardized set of materials. Classrooms in the

experimental condition were presented with the interactive power point presentation contrasting myths and misconceptions about mental illness and mental health treatment with corrective information, and a brief video featuring an individual who has struggled with a mental illness. Classrooms in the control condition were presented with a video contrasting myths and misconceptions about tobacco smoking with corrective information, which also included a video contact with an individual affected by tobacco.

Following the intervention, all participants first completed an assessment of their current affect (PANAS) to check whether the experimental and control interventions differentially impact affect. Participants then completed the IAT tasks, followed by the Willingness to Seek Treatment questionnaire. All participants then completed measures assessing their explicit attitudes toward seeking mental health treatment in general (ATSPPH-short form); explicit stigma toward mental illness (CAMI – social restrictiveness scale); explicit attitudes regarding the acceptability of having a mental illness, attitudes toward seeking treatment, and attitudes toward smoking (Semantic Differential Scales); and explicitly reported behavioral intentions to smoke (Smoking Intentions Questionnaire). These measures were presented in a fixed order to minimize the effect of interference from previous measures on those questionnaires most central to the hypotheses. Thus, the smoking-relevant outcomes were presented last. (See Appendix for copies of all scales). Next, all participants completed basic demographic information and information regarding their mental health history.

Finally, participants in both the experimental and control groups were given the Treatment Information questionnaire and were instructed to check either “yes” or “no” for each item to indicate topics about which they desired more information for

themselves, family members, or friends. All participants were then given information sheets with facts about mental illnesses, seeking mental health treatment, and accessing smoking cessation information (National Alliance on Mental Illness, 2004; National Institute of Mental Health, 2004a; 2004b; The Foundation for a Smoke Free America, 1995), and then fully debriefed.

Results

Data Reduction

IAT data were scored according to the scoring algorithm developed by Lemm, Lane, Sattler, Khan, and Nosek (under review) to address issues particular to the paper-pencil format. In this algorithm, the square root of the difference between the number of items correctly classified between the two blocks is multiplied by the ratio of items correctly classified. It is calculated as (X/Y)* Square Root (X – Y), where X is the greater of A and B (and A and B represent the number of items correctly classified in each of the two blocks), and Y is the smaller of A and B. If B is greater than A, the resulting values are multiplied by negative 1 to retain the directionality of the IAT effect. The algorithm improves the psychometric properties of the task (relative to simply taking a difference score of correctly classified items between the blocks) in two ways. First, incorporating the ratio (of response speed on the block with positive descriptor pairings relative to response speed on the block with negative descriptor pairings) helps account for overall response speed. Second, computing the square root minimizes the effect of extreme scores.

Due to high error rates (i.e., error rate greater than or equal to 30% on either block), eight participants had their data deleted on the Seeking Treatment task, and 17

participants had their data deleted on the Mentally Ill People task. We chose 30% as the error rate cutoff because this was at least two standard deviations from the mean number of errors across blocks, and represented a natural cut point in the data for outliers, allowing us to retain the maximum amount of data. Due to unusually slow responding (defined as participants answering less than or equal to four items correctly on a block), three participants had their data deleted on the Seeking Treatment task, and four participants had their data deleted on the Mentally Ill People task. We chose four items as the cut point because this was at least two standard deviations from the mean number of correct items across tasks, and represented a natural cut point in the data for outliers.

Further, we removed three participants from the final analyses due to improbable responding on the explicit measures that suggested that they were not attending to the task (i.e., marking the same number for every item on several measures), leaving a final sample of N=156 (Experimental: N=80; Control: N=76).

Sample Characteristics and Comparison of Groups at Baseline

The Experimental and Control groups were compared to ensure that the groups did not differ on relevant demographic variables at baseline. Independent-samples t-tests indicated no significant differences in the average age of the groups (mean for full sample: 15.7 years), t_{154}=.91, p=.37, d=.07. Likewise, a chi-square test indicated no significant group difference in ethnicity, $\chi^2(4)$=3.81, p=.43; gender (percentage for full sample: 57.1% Female), $\chi^2(1)$=.55, p=.46; average family SES (mean SES for full sample: M=$40–59,999/ year), $\chi^2(7)$=13.56, p=.06; or whether they reported ever having struggled with a mental illness (percentage of sample reporting a diagnosis for full sample: 42.8%), $\chi^2(1)$=1.43, p=.23. However, results of a chi-square test for the contact

question (having contact with a friend or family member who had struggled with a mental illness) indicated a significant group difference, such that more participants in the Experimental (versus Control) group reported having contact, (Experimental: 71.2% reported having contact; Control: 51.9% reported having contact), $\chi^2(1)=4.47$, $p=.03$[3].

The groups were then compared to ensure that they did not differ on state affect or mental health and smoking attitudes prior to the intervention. As expected, independent-samples t-tests indicated no significant differences in average positive affect, $t_{153}=.41$, $p=.68$, $d=.03$, or negative affect, $t_{152}=.72$, $p=.47$, $d=.06$ on the PANAS. There were also no differences in attitudes toward mentally ill people, $t_{153}=.68$, $p=.50$, $d=.05$, or attitudes toward seeking mental health treatment, $t_{153}=1.15$, $p=.25$, $d=.09$, as measured by the Semantic Differential Scales. However, results indicated that individuals in the Control group endorsed more negative attitudes toward smoking tobacco at pretest on the Semantic Differential Scales than those in the Experimental group (Smoking as bad versus good: $t_{153}=3.20$, $p=.002$, $d=.26$; Smoking as harmful versus harmless: $t_{153}=2.13$, $p=.03$, $d=.17$). Thus, pre-intervention smoking attitudes will be included as a covariate in subsequent analyses assessing the smoking-relevant dependent variables. See Table 1 for descriptive statistics by intervention group.

Implicit Mental Illness Associations

Before evaluating the specific effects of the intervention, we examined the implicit mental illness associations (the IAT tasks) given that these were novel measures

[3] It should be noted that this measure was completed after the administration of the intervention. Therefore, it is not clear whether this is a true baseline difference in contact, or is the result of the intervention. That is, it is possible that following the Experimental intervention participants had a better understanding of the variety of difficulties that may fall within the context of a mental illness or felt more comfortable disclosing, and therefore reported higher levels of contact. With this in mind, we reran all primary analyses with contact as a covariate in order to control for its potential effects. The results did not significantly change when contact was included as a covariate.

and their psychometric properties have not been well established. The overall error rate was .07% for the final sample (.06% for the Experimental group and .08% for the Control group), suggesting people did not have difficulty determining the right answer to the categorization tasks. The average number of items answered correctly across tasks was 20.00 items (SD = 6.18) for the final sample (M=21.49, SD=6.93 items for the Experimental group and M=18.46, SD=4.89 items for the Control group), indicating sufficient variability on the tasks, and making it unlikely that floor or ceiling effects had occurred that would limit the chance to see group differences.

IAT-Treatment effects greater than zero reflect more items answered correctly when "Mental Health Treatment" was paired with a negative descriptor (shameful) compared to when "Mental Health Treatment" was paired with a positive descriptor (respectable). IAT-Treatment effects greater than zero can therefore be interpreted as bias against seeking treatment. Likewise, IAT-Mentally Ill People effects greater than zero can be interpreted as bias against mentally ill people. Contrary to previous research that found evidence of a relative implicit bias against mental illness (e.g., Teachman et al., 2006), results with the current sample of a one-sample t-test against zero revealed no evidence of an implicit bias for either the Experimental group (M=.75, SD=3.35), t_{73}=1.93, p=.06, d=.22 or the Control group (M=.32, SD=2.80) t_{64}=.93, p=.36, d=.11. Further, we found evidence of an implicit preference for mental health treatment as respectable versus shameful for the Experimental group (M=-.92, SD=3.71), t_{73}=2.13, p=.04, d=.24, though no evidence of an implicit preference for the Control group (M=.12, SD=2.90), t_{71}=.36, p=.72, d=.04. Given the novelty of the IAT tasks, a number of

secondary analyses were conducted to evaluate the properties of the measure (see Appendix A).

Effect of the Intervention

Change in Affect.

To examine changes in reported affect before and after the intervention, two separate repeated measures analysis of variances (ANOVAs) were conducted (one for change in positive affect and one for change in negative affect). In each analysis, intervention group was the between-subjects factor and time (pre- or post-intervention) was the within-subjects factor. In evaluating positive affect scores, there was a main effect of time, such that participants reported decreased positive affect from pre-test to post-test, $F_{(1, 153)}$=12.48, p=.001, η_p^2=.08. Further, the time by intervention group interaction was significant, $F_{(1, 153)}$=6.66, p=.01, η_p^2=.04. Follow up paired samples t-tests for change in positive affect from pre- to post-test indicated that the Experimental group reported lower positive affect following the intervention, t_{79}=4.32, p<.001, d=.48, but there was no significant change for the Control group, t_{74}=.68, p=.50, d=.08. Similarly, when evaluating negative affect scores, there was a main effect of time, such that participants reported increased negative affect from pre-test to post-test, $F_{(1, 152)}$=7.69, p=.01, η_p^2=.05. Further, the time by intervention interaction was significant, $F_{(1, 152)}$=8.61, p=.004, η_p^2=.05. Follow up paired t-tests for change in negative affect from pre- to post-test indicated that the Control group reported higher negative affect following the intervention, t_{74}=3.36, p=.001, d=.39, though no significant change occurred for the Experimental group, t_{78}=.15, p=.88, d=.02. Thus, both groups showed some type of affective change following the intervention, becoming either less positive or more

negative. Given the group differences, change on the PANAS positive and negative affect scales will be used as covariates in subsequent analyses to examine effects of the intervention above and beyond the effects on affect. Table 1 reports the means and standard deviations for the positive and negative affect scores by intervention group and time point.

Group Differences in Mental Health Stigma.

Our primary question concerned group differences on the stigma measures following the intervention. We conducted a MANCOVA to evaluate differences in the four main indicators of mental health-related stigma: explicit attitudes toward treatment (ATSPPH), explicit attitudes toward mental illness (CAMI), implicit attitudes toward seeking treatment (IAT-Treatment), and implicit attitudes toward mentally ill persons (IAT-Mentally ill people). Intervention group was the between-subjects factor and change in the PANAS positive and negative affect scales were included as covariates.

As hypothesized, there was a main effect of the intervention, such that participants in the Experimental (relative to Control) group endorsed more positive attitudes toward mental health, $F_{(4, 126)}=2.88$, $p=.03$, $\eta_p^2=.08$. Follow-up univariate tests (with change in positive and negative affect included as covariates) for the stigma measures indicated a significant intervention group difference on the ATSPPH, such that the Experimental group reported more positive attitudes toward treatment, $F_{(1, 150)}=12.11$, $p=.001$, $\eta_p^2=.08$, and a nonsignificant trend on the CAMI such that the Experimental group reported more positive attitudes toward mental illness, $F_{(1, 149)}=2.78$, $p=.10$, $\eta_p^2=.02$. There were no significant group differences on the IAT-Treatment, $F_{(1, 140)}=1.43$, $p=.23$, $\eta_p^2=.01$, or IAT-Mentally ill people, $F_{(1, 134)}=.275$, $p=.60$, $\eta_p^2=.00$. Thus,

results supported the hypothesis that participants receiving the experimental intervention would report more positive attitudes toward seeking treatment and mental illness, and findings indicated this effect was driven by the explicit rather than implicit measures.

Note, we also administered the Semantic Differentials Scales both prior to and following the interventions. However, because the semantic differential items (both attitudes toward mentally ill people and towards seeking treatment) were extremely skewed and had a restricted range, these measures could not be used as sensitive measures of change in attitudes toward mental illness or treatment. Thus, we do not include these results here, but the full analyses on these items are included in Appendix B for the interested reader.

Individual Differences as Moderators of Intervention Effect on Stigma. We were interested in examining other variables that might predict stigma, either on their own or in interaction with the intervention. Results suggested several main effects whereby the following variables significantly predicted stigma when included in the above MANCOVA analysis: gender (females reported less stigma; $F_{(4, 123)}=2.50$, $p<.05$, $\eta_p^2=.08$); personal diagnosis (reporting a personal diagnosis predicted less stigma; $F_{(4, 123)}=2.54$, $p=.04$, $\eta_p^2=.08$); pre-intervention attitudes toward persons with a mental illness (more positive pre-intervention attitudes predicted less stigma; $F_{(4,121)}=3.68$, $p=.01$, $\eta_p^2=.11$); and perception of stigma from friends (perception of less stigma from friends predicted less endorsed stigma; $F_{(4, 122)}=4.06$, $p=.004$, $\eta_p^2=.12$). The following variables were not predictors (ethnicity, mental illness contact, perception of stigma from family, or pre-intervention attitudes toward mental health treatment; all $p>.10$). Despite the above main effects, results indicated that none of the demographic (i.e., gender, ethnicity,

personal diagnosis or mental illness contact) or attitude (perception of stigma from family or friends, or pre-intervention stigma toward mentally ill people or mental health treatment) variables *moderated* the intervention effect for the main indicators of mental health related stigma; all $p>.10$.

Group Differences in Openness to Mental Health Treatment.

We then examined differences in openness to treatment following the intervention, using a MANCOVA to evaluate personal willingness toward seeking treatment (Willingness to Seek Treatment Scale) and a behavioral indicator of interest in treatment information (Treatment Information Questionnaire). Intervention group was the between-subjects factor and change in PANAS positive and negative affect were included as covariates. However, contrary to hypotheses, there was no significant effect of the intervention, $F_{(2, 147)}=2.08$, $p=.13$, $\eta_p^2=.03$[4].

In addition, because the contact individual talked specifically about his experiences with Depression and ADHD, we also examined whether participants noted greater interest in these topics in particular (i.e., we replaced total number of treatment topics checked with either interest in Depression or interest in ADHD). In both cases, results of a Logistic Regression (each topic was evaluated in a separate model) did not change in that there was no significant main effect of intervention in either analysis (both $p>.10$). Table 2 reports the means and standard deviations for the treatment-seeking measures by intervention group.

[4] Although we were primarily interested in a behavioral indicator of openness to treatment (rather than mental health more generally), we also examined other variants of the Treatment Information Questionnaire (i.e., we replaced total number of treatment topics checked with either total number of disorder topics checked or total number of disorder plus treatment topics checked). In all cases, results did not change in that there was no significant main effect of intervention: total number of disorder topics checked, $F_{(2, 145)}=2.55$, $p=.08$, $\eta_p^2=.03$; total number of any mental health topics checked, $F_{(2, 145)}=2.21$, $p=.11$, $\eta_p^2=.03$.

Individual Differences as Moderators of Intervention Effect on Openness to Treatment. Despite the lack of a main effect of intervention group differences in openness to treatment-seeking for the sample as a whole, we were interested in examining for whom the intervention may have been more or less effective. In particular, we evaluated whether demographic or attitude variables would predict greater openness, either on their own or in interaction with the intervention.

Ethnicity. Because the contact component of the intervention consisted of a white male discussing his mental health experiences, it is possible that the ethnicity of the participants (and thus the ethnic match between the participants and the contact individual) moderated the effect of intervention group in predicting openness to mental health treatment. We first conducted a MANCOVA to evaluate the effect of ethnicity (dichotomized as Caucasian or non-Caucasian, which represented a match or non-match with the contact individual) on openness to treatment (on the Willingness to Seek Treatment Scale and Treatment Information Questionnaire). Intervention group and Ethnicity were the between-subjects factors, and changes in the PANAS positive and negative affect scales were included as covariates. Results of the MANCOVA indicated a main effect of ethnicity, $F_{(2, 145)}=7.14$, $p=.001$, $\eta_p^2=.09$, though no intervention group by ethnicity interaction, $F_{(2, 145)}=1.84$, $p=.16$, $\eta_p^2=.03$. Follow-up univariate tests (with change in positive and negative affect included as covariates) indicated that the non-Caucasian group expressed more behavioral interest in mental health treatment information on the Treatment Information Questionnaire, $F_{(1, 148)}=11.89$, $p=.001$, $\eta_p^2=.07$, and a nonsignificant trend to score higher on the Willingness to Seek Treatment Scale, $F_{(1, 150)}=2.80$, $p=.10$, $\eta_p^2=.02$. Descriptive, exploratory follow-up evaluations based on an

examination of subgroup means suggested that the main effect was likely driven primarily by Hispanic participants. Note however, that these were exploratory findings. Also, because the non-Caucasian group was comprised of all participants who were not Caucasian (and thus included small sample sizes from different ethnic minorities with a great deal of variability among the non-Caucasian group), these findings should be interpreted with caution.

Given that there was no ethnicity by group interaction, we cannot conclude that non-Caucasian participants were differentially affected by the intervention. Notwithstanding, because the sample sizes of the Caucasian (n=113) and non-Caucasian (n=43) groups differed greatly, limiting power in the MANCOVA, we decided to more closely examine the effect of ethnicity in exploratory follow-up analyses that would not rely on an uneven dichotomized variable. Specifically, the above MANCOVA was rerun within each ethnic group (Caucasian separate from non-Caucasian), rather than including ethnicity as a between subjects factor. Interestingly, while there was a significant effect of the intervention for Caucasian participants, $F_{(2, 106)}$=4.79, p=.01, η_p^2=.08, there was no significant effect of the intervention for non-Caucasian participants, $F_{(2, 36)}$=1.31, p=.28, η_p^2=.07. Follow-up univariate tests (with change in positive and negative affect included as covariates) for the openness to treatment measures for the Caucasian group indicated a significant intervention group difference on the Treatment Information Questionnaire, such that the Experimental group reported more interest in treatment information, $F_{(1, 107)}$=8.40, p<.01, η_p^2=.07. This analysis was exploratory so should be interpreted with caution, but it suggests that the intervention was more effective at increasing behaviors

indicating openness to treatment among Caucasian participants than among non-Caucasian participants.

Other Demographic Variables. We then examined whether other demographic variables (i.e., gender, contact with persons with mental illness, and personal history of mental illness) would moderate the effect of intervention group in predicting openness to mental health treatment. When we included the demographic variables (either gender, contact, or personal history) as between-subjects factors in the above MANCOVA analysis, results indicated no main effects of the demographic variables; all $p>.10$. Further, results indicated that no demographic variables moderated the effect of the intervention in predicting openness to mental health treatment; all $p>.10$.

Stigma. We then evaluated how various stigma measures (explicit stigma, implicit stigma, perception of stigma from family, perception of stigma from friends, pre-intervention stigma toward mentally ill people, or pre-intervention stigma toward mental health treatment) would predict openness to treatment, either alone or in interaction with the intervention. Specifically, a series of hierarchical linear regression analyses were conducted with separate analyses for the Willingness to Seek Treatment Scale and Treatment Information Questionnaire. Each potential stigma moderator was evaluated in a separate model. In each model, changes in PANAS positive and negative affect were entered into the equation as a first step. Next, the potential moderator variables (either explicit stigma, implicit stigma, perception of stigma from family, perception of stigma from friends, pre-intervention stigma toward mentally ill people, or pre-intervention stigma toward mental health treatment) and intervention group (dummy coded) were entered. Finally, the interaction term between the potential moderator and intervention

group was added. Results suggested that there were some significant main effects. Specifically, the ATSPPH was predictive of the Willingness to Seek Treatment Scale and the Treatment Information Questionnaire, such that more positive general attitudes about treatment seeking predicted greater personal willingness to seek treatment and greater interest in treatment information. Similarly, perception of family stigma and perception of friend stigma were both predictive of the Willingness to Seek Treatment Scale, such that a perception of less stigma predicted greater personal willingness to seek treatment. Finally, pre-intervention stigma toward mental health treatment was predictive of the Willingness to Seek Treatment Scale, such that more positive pre-intervention attitudes predicted greater personal willingness to seek treatment (see Tables 3-8).

Results further indicated that neither explicit stigma, implicit stigma, perception of stigma from family, nor perception of stigma from friends moderated the effect of the intervention in predicting openness to mental health treatment (all $p>.10$; see Tables 3-6). However, there was a non-significant trend for the interaction between pre-intervention stigma toward mental health treatment and intervention group as a predictor of the Willingness to Seek Treatment Scale. Follow-up hierarchical linear regression analyses were then conducted within each intervention group to examine the interaction effect. In each model, changes in PANAS positive and negative affect were entered into the equation as a first step. The pre-intervention stigma variables (toward mentally ill people or toward mental health treatment were then entered as the second step. Follow-up analyses indicated that more positive pre-intervention attitudes toward treatment significantly predicted greater willingness to seek treatment for the Experimental group, though not for the Control group. In addition, the interaction between pre-intervention

stigma toward mentally ill people and intervention group significantly predicted the Treatment Information Questionnaire. Follow-up hierarchical linear regression analyses within each intervention group indicated that more positive pre-intervention attitudes toward mentally ill people predicted greater interest in treatment information for the Control group, while more negative pre-intervention attitudes toward mentally ill people predicted greater interest in treatment information for the Experimental group (see Tables 7-8).

In sum, although gender, personal mental illness history, and contact did not predict or moderate the effect of the intervention, there was a main effect of ethnicity such that non-Caucasian participants indicated greater openness to mental health treatment. In addition, there was a significant effect of the intervention for Caucasian participants whereby the Experimental group reported more interest in treatment information, though no significant effect of the intervention for non-Caucasian participants. Further, while explicit stigma toward mental illness and implicit stigma were not predictive of willingness to seek treatment or whether participants expressed interest in mental health treatment information, greater explicit stigma toward treatment in general predicted less personal willingness to seek treatment and interest in obtaining treatment information. Further, perception of greater stigma from family and friends toward seeking mental health treatment and greater pre-intervention stigma toward mental health treatment were negatively related to one's report of personal willingness to seek treatment (though not to interest in obtaining treatment information handouts). However, neither explicit nor implicit stigma, perception of family or friend stigma, personal mental illness diagnosis, nor contact with family or friends with a mental illness

moderated the effect of the intervention in predicting openness to treatment. Finally,. a non-significant group by pre-intervention stigma toward mental health treatment interaction predicted the Willingness to Seek Treatment scale whereby more positive pre-intervention attitudes toward treatment predicted greater willingness to seek treatment for the Experimental group, though not for the Control group. Interestingly, however this pattern was seemingly reversed for the interaction between group and pre-intervention stigma toward mentally ill people. Specifically, results suggested that more negative pre-intervention attitudes toward mentally ill people predicted greater interest in treatment information for the Experimental group, but less interest in treatment information for the Control group.

Relationships among Mental Health Stigma Measures

Pearson correlation coefficients were calculated to explore the relationships among the stigma measures. In general, the explicit tasks were inter-related: as expected, the CAMI was negatively related to the ATSPPH (r=-.25, p=.002), such that more negative attitudes toward persons with mental illness were associated with more negative attitudes toward seeking treatment. Further, the CAMI was negatively related to the Semantic Differential items assessing pre- and post-intervention attitudes toward both mental health treatment and mentally ill people (r range: -.23 to -.35, all p<.003). The ATSPPH was also significantly related to the Semantic Differential items assessing the pre- (r=.15, p=.06) and post-intervention (r=.33, p<.001) attitudes toward mental health treatment. However, the ATSPPH was not significantly related to the Semantic Differential items assessing pre- (r=.06, p=.50) and post-intervention (r=.09, p=.25) attitudes toward mentally ill people. Finally, the implicit tasks were not significantly

related to one another (r=-.12, *p*=.18) or to the explicit stigma variables (*r* range: -.12 to .07, all *p*>.10), with one exception: the IAT-Mentally Ill People was negatively related to the Semantic Differential item assessing pre-intervention attitudes toward mentally ill people (*r*=-.19, *p*=.03), such that more negative implicit attitudes were associated with more negative explicit attitudes. Overall, this pattern suggests that, as expected, higher levels of stigma toward mentally ill people are associated with higher levels of stigma toward mental health treatment, but only for the explicit measures.

Following the above analyses for the full group, we examined the relationships among mental health stigma measures by intervention group. Interestingly, the significant full-sample relationships appear to be largely driven by the Experimental group. The relationships noted above remained comparable in magnitude when examined within the Experimental group (though it should be noted that the relationship between the IAT-Mentally Ill People and pre-intervention attitudes toward mentally ill people was significant only when analyzed for the full group). However, several of the relationships were weaker and became non-significant when analyzed within the Control group. Specifically, the CAMI was no longer significantly negatively related to the ATSPPH (*r*=-.15, *p*=.19), the ATSPPH was no longer significantly related to items assessing the pre- (*r*=-.03, *p*=.78) and post-intervention (r=.13, *p*=.27) attitudes toward mental health treatment, and the CAMI was no longer significantly related to the item assessing pre-intervention attitudes toward mentally ill people (r=-.15, *p*=.20). The meaning of these discrepant group level findings is unclear, though it is possible that this may be partly understood as a priming effect. That is, explicit evaluations about both mentally ill people and mental health treatment may have been more accessible and

elaborated for participants in the Experimental group, having just discussed these topics as part of the intervention. As a result, the evaluations may have been more strongly related.

Group Differences in Intentions to Smoke and Interest in Smoking Information

To assess the effectiveness of the Control intervention, we evaluated group differences in the smoking variables: intentions to smoke (Smoking Intentions Questionnaire) and openness to smoking cessation treatment (Treatment Information Questionnaire). As expected, an independent-sample t-test indicated a significant difference in intentions to smoke, such that participants in the Control group reported less intention to smoke, t_{154}=3.03, p=.003, d=.24. Similarly, a chi-square test indicated a non-significant trend such that participants in the Control group displayed more interest in smoking cessation treatment, $\chi^2(1)$=2.83, p=.09. (Analyses for the highly skewed smoking Semantic Differential Items are included in Appendix B.)

Overall, results generally supported the hypothesis that participants receiving the experimental intervention reported less stigma toward mental health treatment and mentally ill people though not more openness toward seeking mental health treatment, while participants receiving the control intervention displayed more openness to smoking cessation treatment, providing tentative support for the discriminant validity of the interventions. It appears that the effects of the interventions were specific to their intended targets, and did not simply increase openness to any type of health-related treatment.

Discussion

Every year, millions of children and adolescents in the United States struggle with and fail to receive adequate treatment for a mental illness. The purpose of the current study was to examine the effectiveness of an educational intervention aimed at reducing negative attitudes toward mental illness and mental health treatment-seeking, and increasing personal openness to treatment. Results were mixed in that individuals receiving the Experimental versus Control intervention reported less stigma toward mental health treatment and mentally ill people, but there were no significant intervention group differences on implicit stigma measures or behavioral indicators of openness to mental health treatment. However, exploratory follow-up analyses suggested the intervention was differentially effective depending on participants' ethnicity. The Caucasian students in the Experimental (versus the Control) group expressed more interest in treatment information topics, suggesting the expected intervention effect on behavioral indicators of openness to mental health treatment for Caucasians. In contrast, there was no intervention group difference for non-Caucasian participants. Further, only explicit stigma toward mental health treatment predicted less reported willingness to seek treatment and lower endorsement of a behavioral indicator of openness toward treatment. Finally, as expected, individuals in the Control group reported less intention to smoke and displayed greater interest in smoking cessation treatment information.

As predicted, individuals in the Experimental (versus Control) group reported more positive attitudes toward mental health treatment and toward mental illness, and these results appeared to be driven by the explicit rather than implicit attitudes. This finding provides support for our hypothesis that the intervention would reduce stigma, and extends these findings to examine a brief intervention specifically directed at

adolescents' attitudes toward mental health treatment. It is notable that group differences were observed even when using a rigorous alternate-health treatment control group, given that prior stigma reduction studies have often relied on a no treatment control group. Further, the finding that explicit stigma toward mental illness predicted less openness to mental health treatment (both self-reported and a behavioral indicator) supports Corrigan's (2004) assertion that stigma acts as a barrier to seeking mental health treatment.

Effects of the Intervention

Attitudes versus Behavior. Contrary to our hypothesis, we found no significant group difference for the sample as a whole in openness to mental health treatment following the intervention. This presents an interesting discrepancy between attitudes and behavioral indicators, as the Experimental group reported more positive attitudes toward seeking mental health treatment, though not did not display more behaviors suggesting openness to seeking treatment (i.e., checking more treatment information pamphlets). Wicker (1969) has suggested that the level of specificity is a key component in predicting behaviors, such that general attitudes weakly predict specific behaviors. In line with this theory, it may be that shifting participants' general attitudes about mental health and mental health treatment (on the explicit stigma measures) was not specific enough to predict whether participants themselves wanted information on mental health treatment topics (which is more suggestive of one's personal interest in treatment). As a result, the apparent attitude-behavior discrepancy may be due, in part, to different levels of specificity between the two measures.

Further, the theory of planned behavior (Ajzen, 1988; 1991) suggests that human action is influenced by three main factors: attitudes toward the behavior, perceived social pressure to perform (or not to perform) the behavior, and one's perceived ability to perform the behavior. According to this theory, it may be that although individuals reported a favorable attitude toward mental health treatment (in the form of reduced stigma), the social pressure to refrain from seeking treatment and/or the perceived self-efficacy of the behavior may have inhibited expressing an openness toward mental health treatment. Specifically, although participants' reported attitudes (i.e., personal stigma) toward mental health treatment may have been improved by the intervention, participants' concern about others' negative attitudes may have introduced sufficient social pressure to discourage treatment seeking behaviors. Along these lines, perception of others' stigma, from both friends and family, negatively predicted personal willingness to seek treatment in the present study, suggesting that both holding personally negative views and merely perceiving negative attitudes in others may act as barriers to seeking mental health treatment. In addition, because the current sample consisted of adolescents under the legal age of majority, their perceived self-efficacy in seeking treatment (due to parental concerns, insurance, time off from school, etc.) may have hindered their likelihood of expressing an openness to seeking treatment. Clearly, taking into account actual behaviors (and not only reported attitudes) is essential in order to fully examine treatment-seeking.

Influence of Individual Differences on Intervention Effectiveness

Stigma. Pre-intervention stigma toward mentally ill individuals appeared to moderate the effects of the intervention. It is not surprising that for the Control group

(and therefore those receiving no stigma-reduction intervention), less stigma toward mentally ill people predicts more interest in treatment information. However, findings also suggested that participants with the most negative attitudes prior to the intervention reported the greatest interest in treatment information following the Experimental intervention. The latter finding replicates previous research suggesting that a stigma-reduction intervention was most effective in improving attitudes among students with the most negative pre-intervention attitudes (Watson et al., 2004). Thus, it may be that the Experimental intervention is particularly beneficial for those with the most room for attitude improvement.

Ethnicity. Ethnicity played an interesting role in predicting openness to treatment, both alone and in conjunction with the intervention. In particular, there was an unexpected main effect such that non-Caucasian participants indicated significantly more interest in mental health treatment information and a non-significant trend indicating greater willingness to seek treatment compared to the Caucasian participants. This finding is challenging to interpret given previous speculation that unmet treatment need might be due in large part to ethnic minorities endorsing more negative attitudes toward mental health treatment or greater stigma associated with treatment (Mouton, Harris, Rovi, Solorzano, & Johnson, 1997). However, the actual empirical literature addressing attitudes toward mental health among different ethnicities is mixed, with some studies reporting that ethnic minorities endorse attitudes toward mental illness and mental health treatment that are at least as unfavorable if not more so compared to those of Caucasians (Schnittker, Freese, & Powell, 2000), and other studies suggesting quite the opposite,

finding that ethnic minorities endorse more positive attitudes than Caucasians toward seeking mental health treatment (Diala et al., 2000; Hall & Tucker, 1985).

Findings from cross-cultural research may help make sense of the unexpected finding in the current study that non-Caucasian participants reported more positive attitudes toward treatment. For instance, many ethnic minority cultures come from collectivistic, sociocentric societies typically centered around family and extended networks, while Caucasian cultures are often defined by more individualistic societies (Barrio, 2000). One possibility, then, is that the tendency of Caucasian cultures to emphasize the individual may lead to an expectation that individuals handle problems independently, perhaps resulting in less positive views toward mental health treatment. On the other hand, an emphasis on working interdependently and within extended networks may contribute to more positive help-seeking attitudes by ethnic minorities. This theory appears to be supported by research suggesting that African-American and Latino families report larger social networks (compared to Caucasians) and express greater hope and optimism about the long term outcomes of mental illness experienced by family members (Guarnaccia, 1998). Additionally, a recent study found that higher scores of interdependence were related to a greater likelihood of seeking help for depression while higher scores of independence were related to a greater likelihood of not seeking help (Kawamoto, 2005), further suggesting that cultural differences may at least partially account for more positive attitudes among non-Caucasian participants toward seeking mental health treatment compared to those of Caucasian participants.

There were also some intriguing hints that ethnicity was important in determining for whom the intervention may have been most effective. Although there was no

ethnicity by intervention group interaction and so these follow-up, exploratory analyses must be interpreted with considerable caution, when intervention effects were examined within each ethnic group, there was an intervention group difference for behaviors indicating openness to treatment for Caucasian, though not for non-Caucasian, participants. Specifically, Caucasian participants in the Experimental (versus Control) group displayed significantly greater behavioral indicators of openness to treatment (greater interest in treatment information), but there was no evidence of an intervention effect for non-Caucasian participants. The lack of an intervention effect for non-Caucasian participants is particularly concerning given that this is a group with greater unmet mental health treatment need compared to Caucasians (Bui & Takeuchi, 1992; Kessler et al., 1994; Neighbors, 1988; Reiger et al., 1993; USDHHS, 2001; Wallen, 1992).

Given the main effect whereby non-Caucasian participants reported greater openness to mental health treatment, it seems implausible that the lack of an intervention effect for non-Caucasians could be solely due to more negative attitudes toward mental health treatment. This then begs the question as to whether various ethnicities respond differently to the intervention in its entirety, or whether some part of the intervention may have contributed to the differential response. For instance, given that previous research suggests that one of the most powerful components of a stigma-reduction intervention is contact between the participants and an individual who has struggled with a mental illness (Corrigan & O'Shaughnessy, 2007; Pinfold et al., 2003; Rickwood et al., 2004; Schulze et al., 2003; Spagnolo, Murphy, & Librera, 2008), it stands to reason that the nature of that contact may influence the effectiveness of the intervention. Because the

contact individual in the current study was Caucasian, it is possible that the intervention was more effective for those participants who were also Caucasian. These participants may have more easily identified with and related to the contact individual. Interestingly, however, we did not find similar results for gender; male participants (whose gender matched the contact individual) did not respond more positively to the intervention. One possibility is that the intervention is most effective when matched on ethnicity while gender is a less essential component of the contact. Although there is little extant research that addresses factors such as matching gender or ethnicity of the contact individual to that of the intervention participants, the current findings suggest that the issue of matching on different demographic variables warrants further study as it speaks to the importance of whether certain types of interventions are differentially effective for different individuals.

Alternatively, there may be some additional aspect of the intervention that resulted in a better fit for Caucasian participants. Though the literature is sparse concerning the role of ethnicity as a factor influencing the effectiveness of interventions, some research indicates that a culturally sensitive intervention approach may increase treatment utilization (Flaskerud, 1986). Likewise, research examining ethnicity in mental health treatment and community support programs suggests that offering a treatment that is sensitive to the individual's culture is fundamental for maximum effectiveness (Barrio, 2000). Examples include incorporating family or group networks, matching the ethnicity of the provider to the client, or a recognition that Western cultural norms such as independent action may not fit with more collectivistic cultures (Barrio, 2000). Applying this research to the current study, it may be that the intervention lacked culturally

sensitive components that would have resonated with the non-Caucasian participants. For instance, future research might consider administering the intervention to groups of families or social networks to address cultures that place less importance on individual independence and are instead more reliant on interdependent networks. Additionally, efforts should be made to ensure a greater representation of diverse ethnicities among the intervention presenters; just as an ethnic match with the contact individual might be important, future research should also consider the need to match presenters with the participants.

Given these findings suggesting that demographic factors may influence the effectiveness of the intervention, it will be important for future studies to determine whether stigma-reduction interventions are differentially effective for various subgroups. For instance, research should examine contact using individuals with varying demographic characteristics in order to determine whether a match between the contact individual and participants on other variables is essential to an effective intervention (e.g., age, ethnicity, gender, mental health diagnosis). Likewise, it will be important to consider whether variations on the content of the intervention differentially affects those participants with varied mental health diagnoses, different attitudes or levels of stigma toward mentally ill people and mental health treatment, etc.

Effects of the Intervention beyond Stigma of Mental Illness

To assess the effectiveness of the Control intervention, we evaluated group differences in the intentions to smoke and openness to smoking cessation treatment. Results supported the hypothesis that participants receiving the control intervention reported less intention to smoke and suggested that they also displayed more interest in

treatment information related to smoking (though this finding was a non-significant trend). The different findings for mental health versus smoking attitudes and intentions across groups suggest that the effects of the interventions were specific to their intended targets.

In addition, interesting patterns emerged when examining group differences in positive and negative affect from pre- to post-intervention. Both groups reported a change in "affective intensity" following the interventions, a finding that is not surprising given that the study involved approximately an hour during which adolescents were asked to pay attention to an educational intervention and complete several measures. Notably, individuals in the Experimental group reported a decrease in positive affect following the intervention while the Control group reported an increase in negative affect. One explanation for this unexpected pattern may be that there are different correlates for the positive and negative affect scales. Previous research has suggested that state negative affect scales are related to various health complaints and physical symptoms while positive affect scales are unrelated to these health issues (Beiser, 1974; Bradburn, 1969; Harding, 1982). On the other hand, social activity has regularly been found to correlate with positive affect scales, though it is largely unrelated to negative affect scales (Beiser, 1974; Bradburn, 1969; Clark & Watson, 1988; Emmons & Diener, 1985). As a result, while both groups reported less intense affect following the intervention, the Experimental group's decreased positive affect (though unaffected negative affect) may be related to the social nature of the intervention: a discussion of stigma, mentally ill people, and mental health treatment is primarily social in its topic matter. Likewise, the Control group's reported increase in negative affect (though

unaffected positive affect) may be attributed to the primarily physical-health related nature of the intervention (i.e., cigarette smoking).

Implicit versus Explicit Stigma

An interesting finding emerged whereby participants in both groups displayed relatively neutral implicit attitudes toward mentally ill people (i.e., there was no evidence of an implicit association toward mentally ill people as preferentially good or bad). In addition, while participants in the Control group displayed a neutral implicit attitude toward mental health treatment, the Experimental group displayed an implicit attitude toward treatment as more respectable than shameful[5].

Although direct comparisons are not possible because different IAT forms have been used across studies, the implicit evaluations in the present study with adolescents appear to be more positive than those observed previously with adults, where a relatively negative implicit bias against mental illness was found (Teachman et al., 2006). One possibility is that anti-discrimination groups are becoming more effective in altering attitudes toward mentally ill people. As a result, the neutral implicit attitudes toward mentally ill people may be partially explained by the PAST model (Past attitudes are still there; Petty, Brinol, Tormala, & Jarvis, 2006). This model suggests that individuals whose explicit attitudes have recently changed will display neutral implicit attitudes; specifically, they will show signs of implicit ambivalence when compared to individuals who have the same explicit attitudes but have not recently altered those attitudes. This apparent ambivalence follows from work suggesting that it is because of the joint

[5] It is worth noting that this latter finding partially supports our hypothesis that the Experimental group would display more positive implicit attitudes toward mental health treatment. Although the group difference in implicit attitudes toward treatment did not reach significance, the means were in the expected direction, such that the Experimental group (though not the Control group) displayed implicit attitudes toward treatment as significantly more respectable than shameful.

activation of positive and negative information that ambivalent individuals appear more neutral in their global evaluations (e.g. Bargh, Chaiken, Govender, & Pratto, 1992).

Perhaps consistent with the idea of some attitude ambivalence, the implicit and explicit variables were not highly correlated. This may be partially explained by variables thought to moderate the implicit-explicit relationship (Nosek, 2005), and by models highlighting why implicit and explicit attitudes are frequently dissociated (see Wilson, Lindsey, & Schooler, 2000). For example, it is quite possible that participants in the current study were motivated by self-presentation and social desirability concerns. As a result, low correlations among implicit and explicit attitudes may partly result from an adjustment of explicit attitudes while the implicit attitudes remained more resistant to change. Nosek also found that implicit and explicit evaluations were more consistent for stronger evaluations (those that are personally important, highly familiar, frequently thought about, stable, extreme, and unambivalent). In considering the current results, it may be that attitudes toward mental illness and mental health treatment show fairly low evaluative strength. Specifically, it is quite possible that for those adolescents not experiencing current distress, mental illness and mental health treatment are concepts that are not familiar, personally important, or often thought about. Likewise, it is possible that for those currently experiencing distress, these concepts are not stable or may elicit ambivalent feelings, predicting lower levels of implicit-explicit concordance.

The lack of implicit-explicit concordance may also be tied to the fact that the intervention affected explicit though not implicit stigma. It is not entirely clear why the intervention had this differential impact. Previous research has suggested that while both implicit and explicit attitudes are malleable, they are influenced by different factors (e.g.,

Gawronski & Strack, 2004; Gregg, Seibt, & Banaji, 2006; Karpinski & Hilton, 2001; Olson & Fazio, 2006).

For instance, the APE Model (Associative-Propositional Evaluation; Gawronski & Bodenhausen, in press) posits that there exist two types of mental processes that influence evaluative responding: associative and propositional processes. Associative processes are the basis for affective responses and therefore require no evaluation as to whether the response is accurate or inaccurate (sharing some features with implicit associations). On the other hand, propositional processes are the basis for evaluative judgments about an object and consider the validity of the evaluations (and are thus more comparable to self-reported, explicit evaluations). Findings (e.g., Wegner, 1994) suggest that training in the affirmation of stereotype-inconsistent information (e.g., that seeking mental health treatment is respectable) is capable of modifying affective reactions (especially implicit associations). However, attempts to suppress affective reactions via training in the negation of stereotype-consistent information (e.g., that seeking mental health treatment is *not* shameful) often leave these associations unaffected. Thus, in the current study, by eliciting and correcting students' own myths and misconceptions about mentally ill people and mental health treatment, we may have negated the previously held propositional evaluation (that treatment is shameful) rather than affirming the new propositional evaluation (that treatment is respectable). As a result, although we saw changes in propositional evaluations (i.e., explicit stigma), we may have also inadvertently activated underlying associations between treatment and shamefulness, which resulted in the discrepant implicit-explicit findings. Future research thus might modify the intervention to avoid activating negative associations so directly. For

instance, rather than eliciting stereotypes and myths from the students, researchers might first supply common stereotypes or myths, then elicit counter-arguments from the students. In this way, students still interactively engage in a discussion of correcting myths and misconceptions, but would only verbalize counterarguments rather than the stereotypes. Thus, students would be trained to think in the affirmation of stereotype-inconsistent information.

An additional explanation follows from Rydell and McConnell's (2006) work, suggesting that the amount of counterattitudinal information may affect the manipulation of implicit attitudes. Specifically, because implicit attitudes are thought to reflect the sum of the evaluative information associated with a target, they may require more counterattitudinal information than explicit attitudes in order to change. Lincoln, Arens, Berger, and Rief (in press) offered a similar explanation for their lack of implicit changes as assessed by the IAT following a stigma-reduction intervention. They suggested that the length of their intervention may simply have been too short to produce noticeable changes in the IAT; a possibility that may also explain the null results in the current study. Further, it is possible that more time is necessary between the intervention and assessment of implicit attitudes in order for a change in implicit attitudes to manifest (perhaps following more time to practice the new associations). It will be helpful in future research to examine whether implicit attitudes will show more change in response to a lengthier intervention or one administered over a longer period of time (e.g., a weekly seminar series).

It is also important to note that the version of the IAT used in the current study (i.e., brief IAT using a single category target and administered in a paper-pencil format to

adolescents) is novel and its psychometric properties are not well established. As a result, it may be that the implicit-explicit discrepancy is due in part to the version of the IAT used, and results may look different with a more traditional implicit measure (e.g., an IAT using relative category targets and/or administered via computer).

Clinical Implications

Results of the current study provide modest support for a brief intervention directly targeting attitudes toward seeking mental health treatment among adolescents. In designing the current intervention, we utilized various components found to be effective in previous studies (e.g., interactive discussions comprised of common myths and misconceptions about mental health and contact with an individual with a mental illness), and we built on prior work by adding an alternate health target for the control group, implicit measures, as well as using large samples sizes. Consistent with previous research, results indicated that a relatively brief intervention containing these components was effective in reducing stigma toward mental illness. In addition, the current study targeted misconceptions about mental health treatment specifically, thereby extending previous findings and indicating that the intervention was effective at reducing stigma toward seeking mental health treatment in particular. This has exciting clinical implications in that an effective intervention can be delivered within one class period, which has immediate effects on attitudes toward mentally ill people and mental health treatment among a population (adolescents) traditionally under-treated.

However, in order to fully assess the effectiveness of an intervention such as the one used in the current study, a longitudinal follow-up is needed to consider whether the current findings translate to other indicators of reduced stigma, such as an increase in

actual rates of treatment-seeking behaviors or fewer incidents of stigmatizing comments to other students. Likewise, a longitudinal study would enable us to consider the durability of the effects. Further, results of the current study suggest that including additional components shown to predict openness to treatment may serve to strengthen the stigma-reduction ability of future interventions. For instance, it may be helpful to teach individuals how to handle others' negative views, or to highlight that perception of stigma is not necessarily indicative of reality. Likewise, it will be useful to consider perception of stigma as an outcome in future interventions, to determine whether stigma-reduction interventions are effective in reduction the perception of stigma as well.

Limitations and Conclusion

The current findings need to be interpreted in light of the study's limitations. The sample is a predominantly Caucasian, high school sample, limiting generalizability of the results. Notwithstanding, an attempt was made to improve the external generalizability of the present sample by recruiting students from physical education classes that were required of all students. In this way, there was no selection bias on the basis of academic track. Further, because we randomly assigned students to the Experimental or Control group at the level of the individual student, rather than at the class level, we minimized differences between classes as a unit. Note too, that because we did not identify each smaller group of students as a unit within the data, we were unable to perform statistical analyses that would have permitted the removal of variance between the groups (e.g., nested analyses). Instead, all analyses were performed at the level of the individual student. An additional limitation of the sample is the limited age range, though this was considered necessary for this initial evaluation to increase internal validity.

Further, we were limited in our choice of certain materials and measures due to logistical constraints. For example, the contact video in the Experimental intervention consisted only of a white male discussing his experience with Depression and ADHD. Thus, although we attempted to maximize the match between the contact and the students by filming an individual of a similar age struggling with mental illnesses commonly experienced by the sample population, the contact's personal background (i.e., gender, ethnicity, and mental health diagnosis) obviously did not match with all the students. Although there were no gender or personal diagnosis effects, lack of ethnic match may have affected the intervention effects, given our exploratory finding that the intervention was effective in increasing openness to treatment for Caucasian though not non-Caucasian participants. An important next step will be to include additional contact representatives (e.g., male and female, varied ethnicities, different mental health diagnoses, etc.) to consider whether these features differentially affect the intervention depending on the student's own demographic characteristics or mental health history.

In addition, our use of a novel version of the IAT presented unique challenges as discussed above (and see Appendix A). It is therefore unclear whether the discrepant implicit-explicit results are simply a result of the IAT methodology used. Additionally, we were unable to assess participants for a longer period of time following the intervention, and were therefore limited in our ability to examine treatment-seeking behaviors (assessing only whether individuals noted interest in additional treatment information). This difficulty in measuring treatment-seeking behaviors has also been a problem in previous stigma research, and presents an important challenge for future studies. The next logical step is to employ a longitudinal design and begin examining

whether the intervention is effective in influencing individuals' actual rates of treatment-seeking behaviors. It will also be important to extend the current findings and examine the effectiveness of the intervention with groups of greater diversity (e.g., younger children, adults, more varied demographic variables, different baseline attitudes or levels of stigma, etc.).

Despite these limitations, the current study provides some promising empirical support for a stigma-reduction intervention aimed at adolescents. Using a relatively brief, one-time intervention, we were able to significantly improve attitudes toward seeking mental health treatment in a population with largely unmet mental health treatment needs. Further, because of the short duration of the intervention, implementing this intervention on a large-scale may one day be feasible, even within a busy classroom schedule. The implications for these findings are preliminary but exciting, as future research will continue to work to translate reduced stigma into increased willingness and openness toward mental health treatment.

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Table 1

State Affect and Semantic Differential Items: Means and Standard Deviations by Intervention Group and Time Point

	Mean	SD	Mean	SD
	Experimental		Control	
Affect Measures (PANAS)				
Pre-Intervention: Positive Affect	28.80	7.32	29.31	8.04
Post-Intervention: Positive Affect	25.81	8.95	28.87	8.97
Pre-Intervention: Negative Affect	14.91	5.26	14.33	4.84
Post-Intervention: Negative Affect	14.84	6.04	16.80	6.79
Attitudes Measures (Semantic Differential Scales)				
Pre-Intervention: Mentally Ill People	4.47	1.10	4.59	1.17
Post-Intervention: Mentally Ill People	5.09	1.30	4.95	1.14
Pre-Intervention: Mental Health Treatment	6.25	1.32	6.47	1.05
Post-Intervention: Mental Health Treatment	6.15	1.22	6.04	1.36
Pre-Intervention: Smoking Bad vs. Good	2.32	1.74	1.58	1.04
Post-Intervention: Smoking Bad vs. Good	2.16	1.59	1.36	.78
Pre-Intervention: Smoking Harmful vs. Harmless	1.82	1.35	1.42	.96
Post-Intervention: Smoking Harmful vs. Harmless	1.74	1.20	1.18	.60

Note. PANAS=Positive and Negative Affect Scales

Table 2

Stigma, Treatment, and Smoking Measures: Means and Standard Deviations by Intervention Group

	Mean	SD	Mean	SD
	Experimental		Control	
Stigma measures				
Explicit stigma toward treatment (ATSPPH)	17.70	5.25	15.1	4.30
Explicit stigma toward mental illness (CAMI)	20.92	6.19	22.20	5.72
Implicit stigma toward treatment (IAT-Treatment)	-.92	3.71	.12	2.90
Implicit stigma toward mental illness (IAT-MI)	.75	3.35	.32	2.80
Indicators of Treatment-seeking				
Willingness to seek treatment	24.60	5.56	23.58	5.85
Treatment Information Questionnaire	.53	.80	.34	.66
Indicators of Smoking				
Smoking Intentions Questionnaire	13.11	3.85	14.69	2.52
Treatment Information Questionnaire	24.4%	---	36.8%	---
Depression Information Questionnaire	37.2%	---	48.7%	---
ADHD Information Questionnaire	24.4%	---	33.3%	---

Note. ATSPPH=Attitudes toward Seeking Professional Psychological Help; CAMI=Community Attitudes toward the Mentally Ill; IAT-Treatment=Implicit Association Test comparing *mental health treatment* with *shameful* and *respectable*; IAT-MI=Implicit Association Test comparing *mentally ill people* with *good* and *bad.*

Table 3

Hierarchical Linear Regression Analyses for Post-Intervention Stigma Predicting Willingness to Seek Treatment

Criterion= Willingness to Seek Treatment Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Explicit Stigma as Predictor				
1 (.06) PositivePANAS + (.10) NegativePANAS	.91	.01	.00	.01
2 (.04) PositivePANAS + (.08) NegativePANAS+ (.60**) ATSPPH + (-.06) CAMI + (-.04) Group	18.00**	.38	.36	.37
3 (.04) PositivePANAS + (.08) NegativePANAS+ (.59**) ATSPPH + (-.06)CAMI + (-.04)Group + (.03)ATSPPHxGroup + (.00)CAMIxGroup	12.73**	.38	.35	.00
Model with Implicit Stigma as Predictor				
1 (.10) PositivePANAS + (.06) NegativePANAS	.80	.01	.00	.01
2 (.09) PositivePANAS + (.12) NegativePANAS+ (.06) IAT-Treatment + (-.07) IAT-MentallyIllPeople + (.15) Group	1.02	.04	.00	.03
3 (.09) PositivePANAS + (.13) NegativePANAS+ (.05) IAT-Treatment + (-.07) IAT-MentallyIllPeople + (.15)Group + (.02) IAT-TreatmentxGroup + (.00) IAT-MentallyIllPeoplexGroup	.72	.04	-.02	.00

Note. ATSPPH = Attitudes toward Seeking Psychological Treatment; CAMI = Community Attitudes toward the Mentally Ill; IAT-Treatment=Implicit Association Test comparing *mental health treatment* with *shameful* and *respectable*; IAT-MI=Implicit Association Test comparing *mentally ill people* with *good* and *bad;* PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control).

*$p < .05$, **$p < .01$

Table 4

Hierarchical Linear Regression Analyses for Post-Intervention Stigma Predicting Interest in Treatment Information

Criterion= Taking Treatment Handouts Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Explicit Stigma as Predictor				
1 (-.11) PositivePANAS + (-.10) NegativePANAS	1.50	.02	.01	.02
2 (-.10) PositivePANAS + (-.10) NegativePANAS+ (.27**) ATSPPH + (.04) CAMI + (.02) Group	2.89*	.09	.06	.07
3 (-.11) PositivePANAS + (-.09) NegativePANAS+ (.26**) ATSPPH + (.04)CAMI + (.02)Group + (.10)ATSPPHxGroup + (.09)CAMIxGroup	2.38*	.10	.06	.01
Model with Implicit Stigma as Predictor				
1 (-.11) PositivePANAS + (-.10) NegativePANAS	1.33	.02	.01	.02
2 (-.11) PositivePANAS + (-.09) NegativePANAS+ (.13) IAT-Treatment + (.01) IAT-MentallyIllPeople + (.10) Group	1.14	.04	.01	.02
3 (-.09) PositivePANAS + (-.07) NegativePANAS+ (.10) IAT-Treatment + (-.01) IAT-MentallyIllPeople + (.11)Group + (.11) IAT-TreatmentxGroup + (.07) IAT-MentallyIllPeoplexGroup	1.06	.05	.00	.01

Note. ATSPPH = Attitudes toward Seeking Psychological Treatment; IAT-Treatment=Implicit Association Test comparing *mental health treatment* with *shameful* and *respectable*; IAT-MI=Implicit Association Test comparing *mentally ill people* with *good* and *bad;* PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control).

*$p < .05$, **$p < .01$

Table 5
Hierarchical Linear Regression Analyses for Perception of Stigma Predicting Willingness to Seek Treatment

Criterion= Willingness to Seek Treatment Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Perception of Family Stigma as Predictor				
1 (.06) PositivePANAS + (.10) NegativePANAS	.87	.01	..00	.00
2 (.00) PositivePANAS + (.13) NegativePANAS + (.36**) Perception of Family stigma + (.13) Group	6.42**	.15	.13	.13
3 (.00) PositivePANAS + (.12) NegativePANAS+ (.37**) Perception of Family stigma + (-.38)Group + (.52)Perception of FamilyxGroup	5.77**	.16	.14	.01
Model with Perception of Friend Stigma as Predictor				
1 (.06) PositivePANAS + (.10) NegativePANAS	.87	.01	.00	.00
2 (.06) PositivePANAS + (.14) NegativePANAS + (.27**) Perception of Friend stigma + (.16) Group	4.15**	.10	.08	.08
3 (.06) PositivePANAS + (.14) NegativePANAS+ (.27**) Perception of Friend stigma + (-.09)Group + (.26)Perception of FriendxGroup	3.43**	.10	.07	.01

Note. PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control)

*$p < .05$, **$p < .01$

Table 6

Hierarchical Linear Regression Analyses for Perception of Stigma Predicting Interest in Treatment Information

Criterion= Interest in Treatment Information Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Perception of Family Stigma as Predictor				
1 (-.11) PositivePANAS + (-.10) NegativePANAS	1.63	.02	.01	.00
2 (-.11) PositivePANAS + (-.08) NegativePANAS + (.08) Perception of Family stigma + (.09) Group	1.32	.04	.01	.01
3 (-.11) PositivePANAS + (-.08) NegativePANAS+ (.08) Perception of Family stigma + (.11)Group + (-.02)Perception of FamilyxGroup	1.05	.04	.00	.01
Model with Perception of Friend Stigma as Predictor				
1 (-.11) PositivePANAS + (-.11) NegativePANAS	1.63	.02	.01	.00
2 (-.10) PositivePANAS + (-.09) NegativePANAS + (.04) Perception of Friend stigma + (.09) Group	1.15	.03	.00	.01
3 (-.10) PositivePANAS + (-.09) NegativePANAS+ (.04) Perception of Friend stigma + (.01)Group + (.09)Perception of FriendxGroup	.93	.03	.00	.01

Note. PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control)

*$p < .05$, **$p < .01$

Table 7

Hierarchical Linear Regression Analyses for Pre-Intervention Stigma Predicting Willingness to Seek Treatment

Criterion= Willingness to Seek Treatment Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Pre-Intervention Stigma toward Mental Illness as Predictor				
1 (.06) PositivePANAS + (.10) NegativePANAS	.90	.01	..00	.00
2 (.08) PositivePANAS + (.12) NegativePANAS + (.14) Pre-Stigma toward Mental Illness + (.14) Group	1.86	.05	.02	.02
3 (.08) PositivePANAS + (.12) NegativePANAS+ (.13) Pre-Stigma toward Mental Illness + (.36)Group + (-.22) Pre-Stigma toward Mental IllnessxGroup	1.57	.05	.02	.00
Model with Pre-Intervention Stigma toward Treatment as Predictor				
1 (.06) PositivePANAS + (.10) NegativePANAS	.90	.01	.00	.00
2 (.06) PositivePANAS + (.13) NegativePANAS + (.32**) Pre-Stigma toward Treatment + (.17*) Group	5.56**	.13	.11	.11
3 (.08) PositivePANAS + (.12) NegativePANAS+ (.28**) Pre-Stigma toward Treatment + (-.67)Group + (.84†) Pre-Stigma toward TreatmentxGroup	5.31**	.15	.12	.01

Note. PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control)

†p <.10, *p < .05, **p <.01

Table 8

Hierarchical Linear Regression Analyses for Pre-Intervention Stigma Predicting Interest in Treatment Information

Criterion= Interest in Treatment Information Predictor Variables (preceded by standardized beta coefficient)	Model *F*	R^2	*Adj* R^2	R^2 *change*
Model with Pre-Intervention Stigma toward Mental Illness as Predictor				
1 (-.12) PositivePANAS + (-.11) NegativePANAS	1.72	.02	.01	.00
2 (-.10) PositivePANAS + (-.09) NegativePANAS + (-.03) Pre-Stigma toward Mental Illness + (.07) Group	1.07	.03	.00	.01
3 (-.08) PositivePANAS + (-.06) NegativePANAS+ (-.05) Pre-Stigma toward Mental Illness + (1.16**)Group + (-1.11**) Pre-Stigma toward Mental IllnessxGroup	3.23**	.10	.07	.07
Model with Pre-Intervention Stigma toward Treatment as Predictor				
1 (-.12) PositivePANAS + (-.11) NegativePANAS	1.72	.02	.01	.00
2 (-.11) PositivePANAS + (-.09) NegativePANAS + (.04) Pre-Stigma toward Treatment + (.07) Group	1.09	.03	.00	.01
3 (-.11) PositivePANAS + (-.09) NegativePANAS+ (.06) Pre-Stigma toward Treatment + (.49)Group + (-.42) Pre-Stigma toward TreatmentxGroup	1.04	.04	.00	.00

Note. PANAS = Positive and Negative Affect Scale; Group = Intervention group (Experimental or Control)
*$p < .05$, **$p < .01$

Table 9

Correlations among # Items Correct and Stigma

	Stigma Measure	
IAT Blocks	CAMI Attitudes toward Mental Illness	ATSPPH Attitudes toward Treatment
IAT – Tx+Respectable # Items Correct	-.23 **	.19 *
IAT – Tx+Shameful # Items Correct	-.14 †	.20 *
IAT – MI+Good # Items Correct	-.21 **	.24 **
IAT – MI+Bad # Items Correct	-.17 *	.15 †

Note: * p<0.05, **p<0.01, † p<.10
N = 156

Table 10

Correlations among # Errors and Stigma

	Stigma Measure	
IAT Blocks	CAMI Attitudes toward Mental Illness	ATSPPH Attitudes toward Treatment
IAT – Tx+Respectable # Errors	.22 **	-.04
IAT – Tx+Shameful # Errors	.32 **	-.04
IAT – MI+Good # Errors	.32 **	-.12
IAT – MI+Bad # Errors	.27 **	.-.05

Note: * p<0.05, **p<0.01
N = 156

Table 11

Partial Correlations among Items Correct on Opposing Blocks

	Negative Descriptor Blocks	
	IAT – Treatment+Shameful	IAT – MentallyIll+Bad
Positive Descriptor Blocks	# Correct	# Correct
Control Variables:		
Processing Speed (# Correct on practice blocks)		
IAT – Treatment+Respectable # Correct	.49 **	.53 **
IAT – MentallyIll+Good # Correct	.35 **	.30 **
Control Variables:		
Intelligence/Advantage (SES and # honors classes taken)		
IAT – Treatment +Respectable # Correct	.70 **	.76 **
IAT – MentallyIll +Good # Correct	.63 **	.62 **

Note: * $p<0.05$, ** $p<0.01$
N = 156

Table 12

Partial Correlations among Number of Error on Opposing Blocks

	Negative Descriptor Blocks	
	IAT – Treatment+Shameful	IAT – MentallyIll+Bad
Positive Descriptor Blocks	# Errors	# Errors
Control Variables:		
Processing Speed (# Correct on practice blocks)		
IAT – Treatment+Respectable # Errors	.55 **	.56 **
IAT – MentallyIll +Good # Errors	.60 **	.60 **
Control Variables:		
Intelligence/Advantage (SES and # honors classes taken)		
IAT – Treatment +Respectable # Errors	.56 **	.52 **
IAT – MentallyIll +Good # Errors	.62 **	.58 **

Note: * $p<0.05$, ** $p<0.01$
N = 156

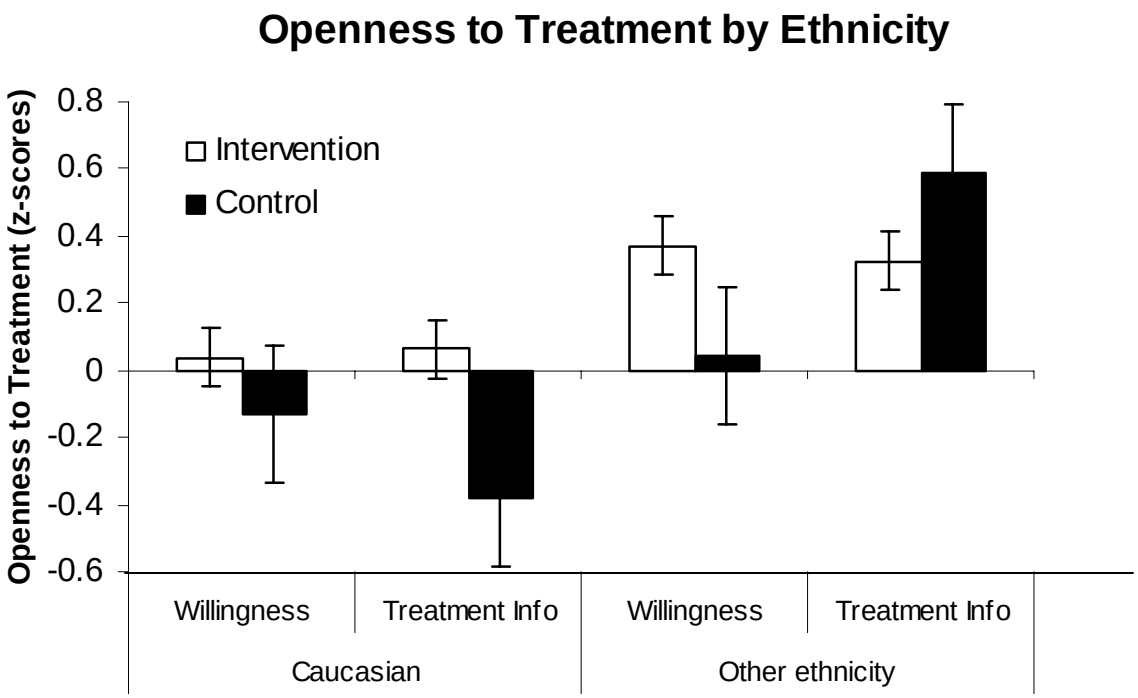


Figure 1. Mean Openness to Treatment scores (+SE) for Intervention (n = 80) and Control (n = 76) groups for Caucasian and Other ethnicity participants.

Appendix A: Analysis of IAT Effects

The implicit stigma measures were not significantly correlated with each other or with the explicit stigma measures, and did not predict openness to seeking mental health treatment. Given that the version of the IAT used in the current study (i.e., brief IAT using a single category target and administered in a paper-pencil format to adolescents) is novel and its psychometric properties are not well established, we decided to more closely examine the individual IAT tasks at the block level to try to understand what they are measuring.

To examine this, Pearson correlation coefficients were calculated to explore the relationships among the individual IAT blocks. The number of items answered correctly on each block is thought to reflect the strength of that association (i.e., mentally ill people as good or bad; mental health treatment as respectable or shameful). Because the positive descriptor blocks (i.e., blocks pairing the target category with a positive descriptor: e.g., Mental Health Treatment + Respectable) and negative descriptor blocks (i.e., blocks paring the target category with a negative descriptor: e.g., Mental Health Treatment + Shameful) are presumably reflecting opposite implicit associations, we would expect the relationship between positive and negative descriptor blocks to be negative. Surprisingly, however, answering more items correctly on the positive descriptor block was associated with answering more items correctly on the negative descriptor block for both IAT-Mentally Ill People (r=.61, p<.001) and IAT-Treatment seeking (r=.70, p<.001). Similarly, number of errors on each block was positively related to number of errors on its opposing block, such that more errors on the positive descriptor block was associated

with more errors on the negative descriptor block for both IAT-Mentally Ill People (r=.59, p<.001) and IAT-Treatment seeking (r=.58, p<.001). These findings raise the possibility that a third variable that shares variance with both of the opposing descriptor blocks may account for the surprising positive relationship between accuracy of responding on the positive and negative descriptor blocks.

To try to understand why this pattern might have occurred and what the IAT blocks were measuring, we then examined whether there was a relationship between scores on individual IAT blocks and explicit stigma measures (attitudes as assessed by the ATSPPH and CAMI[6]; see Tables 9 and 10). We had hypothesized that higher scores on the positive descriptor IAT blocks (i.e., more items answered correctly and fewer errors) would correlate with more positive attitudes, while responding more accurately on the negative descriptor blocks would correlate with more negative attitudes. Surprisingly, however, not only was there a significant relationship between the number of correctly answered items on positive descriptor blocks and explicit stigma, but also between the number of correctly answered items on the opposing block (negative descriptor pairings) and explicit stigma. Thus, more correctly answered items on both the positive *and* the negative descriptor blocks were associated with more positive explicit mental illness-relevant attitudes. Further, more positive explicit attitudes toward mental illness (on the CAMI, but not on the ATSPPH) were significantly related to fewer errors on both the positive and the negative descriptor blocks. This pattern of findings raised

[6] Recall that high scores on the ATSPPH reflect more positive attitudes while high scores on the CAMI reflect more negative attitudes.

complicated questions about how the supposedly opposing IAT blocks were each reflecting mental illness evaluations (perhaps in similar ways).

To further try to understand the unexpected relationships between the opposing IAT blocks, we then considered the possible effects of alternate variables. Given the novelty of the IAT tasks, we had first asked participants to complete practice blocks that consisted of an IAT task unrelated to the test blocks (i.e., those assessing mental illness or treatment-seeking). Examining scores on the practice blocks therefore provides a proxy measure for processing speed in that these scores reflect number of correctly classified items independent of mental illness attitudes. Using this information, we then examined the effects of processing speed to consider whether speed of classifying items on any of the blocks was not necessarily tied to an evaluation of mental health per se, but was more a function of processing speed. By utilizing partial correlations, we examined the relationships between the opposing IAT blocks after partialing out the effects of the practice task (to reflect processing speed) to determine if this would weaken the unexpected significant positive relationships across IAT blocks. However, all relationships remained significant and positive (all $p<.001$), suggesting that processing speed does not explain the surprising relationship between opposing blocks (see Tables 11 and 12).

Given that processing speed did not explain the relationships, we then considered intelligence/advantage as a possible variable common to higher scores on opposing IAT blocks. Specifically, we examined demographic variables (i.e., reported SES and number of honors classes taken) as proxies for intelligence/advantage. We again analyzed the

relationships between IAT blocks (items correct and errors) while partialing out the effects of SES and Honors classes. As with processing speed, all relationships remained significant and positive (all $p<.001$), indicating that these demographic variables do not explain the positive relationship on opposing blocks (see Tables 11 and 12).

The meaning of these findings remains unclear. One explanation may be that these positive relationships on opposing IAT blocks reflect the strength of the activation of mental illness concepts. Perhaps individuals with positive explicit attitudes simply have numerous evaluations of mental illness that are easily accessible. Thus, it is not necessarily the case that those with positive explicit attitudes have implicit attitudes that are all positive, but rather that they have numerous good *and* bad associations about mental illness.

In order to test this prediction, we then considered whether there were differences in IAT block scores between intervention groups based on the idea that the Experimental group would have more accessible mental illness evaluations as a result of the intervention. Results of independent samples t-tests indicated significant differences between intervention groups such that the Experimental group answered more items correctly on the Treatment-Acceptable block, (t_{153}=.3.50, p=.001, d=.28), Mentally Ill-Bad block, (t_{152}=3.07, p=.003, d=.25), and the Mentally Ill-Good block, (t_{152}=2.64, p=.01, d=.21). However, there were no significant differences in the average error rate of the groups (all $p>.10$). Therefore, it is possible that the positive relationships across opposing IAT blocks may be partly understood as reflecting strength of activation of mental health topics or a type of priming effect. Because participants in the Experimental

group focused on issues related to mental health, these categories may have been more immediately accessible to this group, resulting in faster and more accurate responding on both positive and negative descriptor IAT blocks.

Appendix B: Change in Semantic Differential Items

To examine changes in stigma on the semantic differential items before and after the intervention, two separate ANCOVAs were conducted (one for change in attitudes toward mentally ill people and one for change in attitudes toward mental health treatment). In each analysis, intervention group was the between-subjects factor, time (pre- or post-intervention) was the within-subjects factor, and change in PANAS positive and negative affect were included as covariates. Again, it should be noted that the semantic differential items were very non-normally distributed so these analyses should be interpreted with caution.

In evaluating attitudes toward mentally ill people, there was a main effect of time, such that participants reported increased positive attitudes from pre-test (M=4.53, SD=1.4) to post-test (M=5.02, SD=1.23), $F_{(1, 149)}$=28.43 p<.001, η_p^2=.16. On the other hand, when evaluating attitudes toward mental health treatment, there was a main effect of time, such that participants reported decreased positive attitudes from pre-test (M=6.36, SD=1.19) to post-test (M=6.10, SD=1.29), $F_{(1, 149)}$=4.88, p=.03, η_p^2=.03. (It is important to note that although attitudes toward mental health treatment were less positive over time, all means were still above 6 out of a possible 7 – with 7 denoting the most positive attitude – and were therefore extremely positive even at post-test.) Further, there was a non-significant trend for the time by intervention interaction, $F_{(1, 149)}$=3.01, p=.09, η_p^2=.02. Follow-up paired samples t-tests for change in attitudes over time indicated that following the intervention, the Control group reported slightly more

negative attitudes toward mental health treatment, p=.003, while the attitudes of the Experimental group remained unchanged, p=.41.

We conducted similar analyses to examine changes in attitudes toward smoking on the semantic differential items before and after the intervention. Again, two separate repeated measures ANCOVAs were conducted (one for change in attitudes toward smoking as good versus bad and one for change in attitudes toward smoking as harmful versus harmless). In each analysis, intervention group was the between-subjects factor, time (pre- or post-intervention) was the within-subjects factor, and change in PANAS positive and negative affect were included as covariates.

In evaluating attitudes toward smoking as good versus bad, there was a main effect of time, such that participants reported more negative attitudes toward smoking as bad from pre-test (M=1.95, SD=1.48) to post-test (M=1.77, SD=1.32), $F_{(1, 149)}$=7.25 p=.01, η_p^2=.05. Further, there was a main effect of intervention, such that the Control group reported more negative attitudes (M=1.47, SD=.84) compared to the Experimental group (M=2.25, SD=1.62), $F_{(1, 149)}$=10.38 p=.002, η_p^2=.07. However, the time by intervention interaction was not significant, $F_{(1, 149)}$=.62 p=.43, η_p^2=.00. Similarly, when evaluating attitudes toward smoking as harmful versus harmless, there was a main effect of time, such that participants reported more negative attitudes toward smoking as harmful from pre-test (M=1.63, SD=1.19) to post-test (M=1.47, SD=.99), $F_{(1, 149)}$=4.12 p=.04, η_p^2=.03. Further, there was a main effect of intervention, such that the Control group reported more negative attitudes (M=1.30, SD=.71) compared to the Experimental

group (M=1.78, SD=1.22), $F_{(1, 149)}$=6.64 p=.01, η_p^2=.04. Finally, the time by intervention interaction was not significant, $F_{(1, 149)}$=1.39 p=.24, η_p^2=.01.

March 1, 2007

Dear Parent or Guardian,

I am currently a Clinical Psychology Graduate student at the University of Virginia. I am writing this letter to request permission for your son or daughter to participate in a brief study that I am conducting at the University of Virginia as part of my dissertation research. The study has been approved both by Billy Haun, the principal at Monticello High School, and by the Albemarle County School District.

My research is in close collaboration with my advisor, Dr. Bethany Teachman, a licensed clinical psychologist and professor of clinical psychology. For my dissertation, Dr. Teachman and I are exploring how adolescents respond to information specifically designed to have a positive impact on their attitudes toward health problems and their treatment. The purpose of the study is to provide factual information in response to common myths and misconceptions about health related behaviors.

In the study, your child would be asked to complete surveys about his or her demographic characteristics. In addition, your child will be asked to complete surveys asking about his or her thoughts and feelings regarding mental health and cigarette smoking. Trained members of the psychology research team from the University of Virginia will provide educational information in the form of a workshop *either* about mental health *or* about cigarette smoking. After the team provides the information, your child will then be asked to complete another set of surveys about his or her thoughts and feelings regarding these topics, and will be given information regarding available health treatments.

The study will take place during one class period at your child's school. If you do not consent to your child's participation, then he or she will go to a separate room and will work on class work. The information that your child gives in the study will be handled confidentially. The only exceptions to this guideline are if we learn of possible child abuse or danger to self or others. Your child's name will not be connected to the data in any way. Your child's name will not be used in any report

There are no anticipated risks to your child for participating in this study, though some children may experience temporary discomfort when asked to reflect upon mental health issues or cigarette smoking. There are no direct benefits to you or your child for their participation in this research study. However, your child will receive accurate information about mental health or cigarette treatment options, and the study may help us understand ways in which educational presentations have an impact on adolescents. Participation is completely voluntary and your child may withdraw at any point during the study. Participation in the study will not affect your child's status as a student in any way. The study has been approved by the Institutional Review Board at the University of Virginia. If you are willing to allow your child to participate, please sign the attached informed consent form and return it to your child's school. Thank you so much for your time and consideration.

If you have any questions please feel free to contact either Dr. Bethany Teachman (434-924-0676) or me (540-447-0513).

Sincerely,

Jena Saporito
Clinical Psychology Graduate Student

With the support of,

Billy Haun
Principal, Monticello High School

Informed Consent Agreement (Parental)
Project Title: Health Education

Please read this consent agreement carefully before you decide to allow your child to participate in the study.

Purpose of the research study:
The purpose of the study is to provide factual information in response to common myths and misconceptions about health related behaviors. In addition, we are hoping to better understand how adolescents respond to information specifically designed to have a positive impact on their attitudes toward health problems and their treatment.

What your child will do in the study:
Your child will be asked to complete surveys about his/her demographic characteristics. In addition, your child will be asked to complete surveys asking about his/her thoughts and feelings regarding mental health problems and cigarette smoking. Trained members of the psychology research team from the University of Virginia will provide educational information in the form of a workshop *either* about mental health *or* about cigarette smoking. After the team provides the information, your child will then be asked to complete another set of surveys about his/her thoughts and feelings about mental/emotional health issues and cigarette smoking, as well as his/her personal experience with each, and will be given information regarding available health treatments. The study will take place during class at your child's school. If you do not consent to your child's participation, then he/she will go to a separate room in the media center and will work on class work.
Please note your child is not required to share any personal information or answer any items on questionnaires if he or she does not wish to do so. Your child will be told that he or she can skip any questions they wish.

Time required:
Your child will spend about 60 minutes participating in this study.

Risks:
There are no anticipated risks to your child, though some children may experience temporary discomfort when asked to reflect upon their personal experiences with mental health issues or cigarette smoking.

Benefits:
There are no direct benefits to you or your child for their participation in this research study. Your child will receive accurate information about mental health or cigarette treatment options, and the study may help us understand ways in which educational presentations have an impact on adolescents.

Confidentiality:
The information that your child gives in the study will be handled confidentially. The only exceptions to this guideline are if we learn of possible child abuse or danger to self or others. Your child's information will be assigned a code number. The list connecting

your child's name to this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your child's name will not be used in any report

Voluntary participation:
Your child's participation in the study is completely voluntary. Please note that your decision about your child's participation in the study will in no way affect their child's status as a student.

Right to withdraw from the study:
Your child can participate in this workshop even if he or she does not wish to complete the questionnaires. Your child has the right to withdraw from the study at any time without penalty.

How to withdraw from the study:
If your child wants to withdraw from the study at any time, he/she will be instructed to tell the experimenter and quietly leave the room and go to a separate room in the media center to work on class work. There is no penalty for withdrawing. Your child's data will be destroyed.

Payment:
Neither you nor your child will receive payment for participating in the study. However, we will donate school supplies to your school.

If you have questions about the study, contact:
Jena M. Saporito or Bethany Teachman, Ph.D., Department of Psychology, 102 Gilmer Hall, rm 207, PO Box 400400, University of Virginia, Charlottesville, VA 22904-4400 Telephone: (540) 447-0513

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D., Chair, Institutional Review Board for the Social and Behavioral Sciences, One Morton Drive, Suite 500, University of Virginia, P.O. Box 800392, Charlottesville, VA 22908-0392. Telephone: (434) 924-5999.

Agreement:
I agree to allow my child to participate in the research study described above.

Child's Name (please print): _____

Parent/Guardian's Name (please print): _____

Parent/Guardian's Signature: _____ **Date:** _____

You will receive a copy of this form for your records.

Informed Assent Agreement – Youth Version
Project Title: Health Education

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study:
We are conducting a research study that examines what teens your age think about health related behaviors such as mental health problems or cigarette smoking.

What you will do in the study:
First you will be asked to answer some questions about your background. You will also be asked to complete surveys asking about your thoughts and feelings regarding mental health problems and cigarette smoking. Next a group from the psychology research team at the University of Virginia will present a workshop and talk about *either* mental health *or* cigarette smoking. After this workshop, you will again be asked to complete surveys about your thoughts and feelings regarding mental/emotional health issues and cigarette smoking, as well as your personal experience with each. There are no right or wrong answers. You will then be given information about different types of treatment options. The study will take place during your regular class. If you do not agree to be in the study, then you will go to a different room in the media center and you will work on your class work.

Please note you are not required to share any personal information or answer any items on questionnaires if you do not wish to do so. You can skip any questions you want.

Time required:
The study will take place here at school and will take about 60 minutes.

Risks:
Sometimes research studies involve some risks. You might be uncomfortable answering some of the questions or reflecting on your personal experience with mental health issues or cigarette smoking. If you have any concerns or start to feel upset, you can skip the questions or tell me that you don't want to answer any more questions. You will not be penalized if you skip questions or decide to stop participating in the study.

Benefits:
There are no direct benefits to you for participating in this research study.

Confidentiality:
The information that you give in the study will be completely confidential. This means that your name will never be linked to the answers that you give. Your name will not be used in any report. I won't tell anyone the answers you give to these questions, not even your teachers or your parents. All of your responses will be kept completely secret. The only exceptions to this are if I am worried about danger to you or someone else.

Voluntary participation:
Your participation in the study is completely voluntary. You can decide whether or not you want to participate.

Right to withdraw from the study:
You may stop being in the study at any time, and may participate in the workshop even if you do not want to complete the questionnaires. If you decide to stop, no one will be angry or upset with you. It is up to you to decide if you want to answer these questions. You can decide in the middle that you don't want to answer any more questions.

How to withdraw from the study:
Just tell me that you don't want to answer any more questions and you can stop. You will then go to a different room in the media center and work on your schoolwork. There is no penalty for withdrawing. Your data will be destroyed.

Payment:
You will receive no payment for participating in the study. However, we will donate school supplies to your school.

If you have questions about the study, contact:
You may talk to the interviewer if you have any questions during the study or contact:
Jena M. Saporito or Bethany Teachman, Ph.D., Department of Psychology, 102 Gilmer Hall, rm 207, PO Box 400400, University of Virginia, Charlottesville, VA 22904-4400
Telephone: (540) 447-0513

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D., Chair, Institutional Review Board for the Social and Behavioral Sciences, One Morton Drive, Suite 500, University of Virginia, P.O. Box 800392, Charlottesville, VA 22908-0392. Telephone: (434) 924-5999.

Agreement:
I agree to participate in the research study described above.

Name (please print): _____

Signature: _____ **Date:** _____

Informed Consent Agreement
Project Title: Health Education

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study:
We are conducting a research study that examines what young adults your age think about health related behaviors such as mental health problems or cigarette smoking.

What you will do in the study:
You will complete a series of questionnaires asking about your thoughts and feelings regarding mental health problemses and cigarette smoking. Next a group from the psychology research team will present a workshop and talk about *either* mental health *or* cigarette smoking. After this information, you will again be asked to complete surveys about your thoughts and feelings regarding these topics. You will then be given information about different types of treatment options.

Please feel free to ask the experimenter any questions about the procedures, although some questions about the purpose of the study might be deferred until after you have finished.

Time required: The total experiment will require approximately one hour.

Risks: You may experience temporary discomfort when asked to reflect upon mental health problems or smoking behaviors.

Benefits: There are no direct benefits to you for participating in the study. The study may help us understand people's thoughts and attitudes toward various issues in mental healthcare.

Confidentiality: The information that you give in the study will be handled confidentially. The only exceptions to this guideline are if we learn of possible child abuse or danger to self or others. Your information will be assigned a code number. The list connecting your name to this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty. Your data will be destroyed if you withdraw from the study, and you will still receive full credit for the experiment.

How to withdraw from the study: If you want to withdraw from the study, tell the experimenter and leave the room. You will be debriefed if you withdraw from the study. There is no penalty for withdrawing. You will still receive full credit for the experiment. Your data will be destroyed.

Payment: You will receive either $7 payment or course credit for one experiment hour for participating in each part of the study (one credit hour in total).

If you have questions about the study, contact:
Bethany Teachman, Ph.D. or Jena Saporito, Department of Psychology, PO Box 400400, 102 Gilmer Hall, rm. 207, University of Virginia, Charlottesville, VA 22903. Telephone: (434) 924-0676.

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D., Chair, Institutional Review Board for the Social and Behavioral Sciences, One Morton Drive, Suite 500, University of Virginia, P.O. Box 800392, Charlottesville, VA 22908-0392. Telephone: (434) 924-5999.

Agreement:
I agree to participate in the research study described above.

Signature: _____ Date: _____
You will receive a copy of this form for your records.

Debriefing: Health Education (Youth version)

Thank you for participating in our study. We are currently investigating an intervention designed to reduce the stigma associated with seeking help for different health and emotional concerns. Often, people experiencing difficulties do not seek out help from health care professionals. The purpose of the present study is to examine ways in which we can decrease the stigma associated with seeking treatment.

In particular, we hypothesize that people who receive information that addresses commonly held misconceptions about health issues and seeking treatment will report less negative attitudes associated with seeking help, and will be more likely to seek help if they feel it would be beneficial. In this study, we examined people's opinions and attitudes toward various areas of health, including seeking mental health treatment. The questionnaires you completed allowed us to examine your "explicit attitudes", which are those attitudes and beliefs that you express directly and that you are aware of. In addition, we also had you complete a category task (called an "Implicit Association Test"; IAT) that will allow us to look at your "implicit attitudes" toward seeking treatment. By "implicit attitudes", we mean attitudes that are outside of your conscious control or intention. The IAT measures implicit attitudes by asking you to complete a categorization task while you pair two concepts (e.g. *seeking treatment* and *acceptable* or *seeking treatment* and *unacceptable*). The idea is that the more strongly associated the two concepts are in memory, the more quickly you will be able to categorize words into those paired categories.

If you feel especially concerned about your own mood or emotional difficulties, please feel free to phone our lab (434-924-0676) and speak to one of the investigators about options for counseling. Alternatively, you could also phone the Mary D. Ainsworth Psychological Clinic in the psychology department (434-982-4737).

Once again, thank you for participating in our study. If you have any further questions regarding any aspects of this research, please feel free to contact Jena Saporito, Department of Psychology, PO Box 400400, 102 Gilmer Hall, rm. 331D at (434) 982-5586 or Prof. Bethany Teachman, Department of Psychology, PO Box 400400,102 Gilmer Hall, rm. 207 at (434) 924-0676. In addition, if you have any concerns about any aspect of the experiment, you may contact Pryor Hale, Chair, Institutional Review Board for the Social and Behavioral Sciences, 400 Ray C. Hunt Drive, Suite 360, Room 4, University of Virginia, P.O. Box 800392, Charlottesville, VA 22908-0392. Telephone: (434) 243-2915.

.

If you are interested in learning more about stigma or treatment for emotional difficulties, see:

- Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist, 59 (7),* 614-625.
- Sheffield, J.K., Fiorenze, E., & Sofronoff, K. (2004). Adolescents' willingness to seek psychological help: promoting and preventing factors. *Journal of Youth and Adolescence, 33 (6),* 495-507.

Debriefing: Health Education (College version)

Thank you for participating in our study. We are currently investigating an intervention designed to reduce the stigma associated with seeking help for different health and emotional concerns. Often, people experiencing difficulties do not seek out help from health care professionals. The purpose of the present study is to examine ways in which we can decrease the stigma associated with seeking treatment.

In particular, we hypothesize that people who receive information that addresses commonly held misconceptions about health issues and seeking treatment will report less negative attitudes associated with seeking help, and will be more likely to seek help if they feel it would be beneficial. In this study, we examined people's opinions and attitudes toward various areas of health, including seeking mental health treatment. The questionnaires you completed allowed us to examine your "explicit attitudes", which are those attitudes and beliefs that you express directly and that you are aware of. In addition, we also had you complete a category task (called an "Implicit Association Test"; IAT) that will allow us to look at your "implicit attitudes" toward seeking treatment. By "implicit attitudes", we mean attitudes that are outside of your conscious control or intention. The IAT measures implicit attitudes by asking you to complete a categorization task while you pair two concepts (e.g. *seeking treatment* and *acceptable* or *seeking treatment* and *unacceptable*). The idea is that the more strongly associated the two concepts are in memory, the more quickly you will be able to categorize words into those paired categories.

If you feel especially concerned about your own mood or emotional difficulties, please feel free to phone our lab (434-924-0676) and speak to one of the investigators about options for counseling. Alternatively, you could also phone the UVA Counseling and Psychological Services (434-243-5556) or the Mary D. Ainsworth Psychological Clinic in the psychology department (434-982-4737).

Once again, thank you for participating in our study. If you have any further questions regarding any aspects of this research, please feel free to contact Jena Saporito, Department of Psychology, PO Box 400400, 102 Gilmer Hall, rm. 202 at (434) 982-5586 or Prof. Bethany Teachman, Department of Psychology, PO Box 400400,102 Gilmer Hall, rm. 207 at (434) 924-0676. In addition, if you have any concerns about any aspect of the experiment, you may contact Pryor Hale, Chair, Institutional Review Board for the Social and Behavioral Sciences, 400 Ray C. Hunt Drive, Suite 360, Room 4, University of Virginia, P.O. Box 800392, Charlottesville, VA 22908-0392. Telephone: (434) 243-2915.

If you are interested in learning more about stigma or treatment for emotional difficulties, see:

- Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist, 59 (7),* 614-625.
- Sheffield, J.K., Fiorenze, E., & Sofronoff, K. (2004). Adolescents' willingness to seek psychological help: promoting and preventing factors. *Journal of Youth and Adolescence, 33 (6),* 495-507.

Participant #: _____

Date: _____

PANAS

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you ***currently*** feel that way. Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

_____ashamed	_____ scared
_____attentive	_____ enthusiastic
_____nervous	_____distressed
_____ strong	_____active
_____ irritable	_____determined
_____ inspired	_____excited
_____ afraid	_____hostile
_____alert	_____interested
_____upset	_____ guilty
_____ proud	_____ jittery

Participant #: _____

Date: _____

Semantic Differential Scales

Please circle the number that best indicates your feelings about the following items:

1. I feel mentally ill people are:

Bad			Neutral			Good
1	2	3	4	5	6	7

2. I feel seeking treatment for a mental illness is:

Shameful			Neutral			Respectable
1	2	3	4	5	6	7

3. I feel smoking tobacco is:

Bad			Neutral			Good
1	2	3	4	5	6	7

4. I feel smoking tobacco is:

Harmful			Neutral			Harmless
1	2	3	4	5	6	7

Participant #: _____

Date: _____

CAMI - SR

Please note the degree to which you agree with each of the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The mentally ill should not be given any responsibility.	1	2	3	4	5
2. The mentally ill should be isolated from the rest of the community.	1	2	3	4	5
3. A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fully recovered.	1	2	3	4	5
4. I would not want to live next door to someone who has been mentally ill.	1	2	3	4	5
5. Anyone with a history of mental problems should be excluded from taking public office.	1	2	3	4	5
6. The mentally ill should not be denied their individual rights.	1	2	3	4	5
7. Mental patients should be encouraged to assume the responsibilities of normal life.	1	2	3	4	5
8. No one has the right to exclude the mentally ill from their neighborhood.	1	2	3	4	5
9. The mentally ill are far less of a danger than most people suppose.	1	2	3	4	5
10. Most women who were once patients in a mental hospital can be trusted as babysitters.	1	2	3	4	5

Participant #: _____
Date: _____

ATSPPH

Below are a number of statements pertaining to psychology and mental health issues. Read each statement carefully and indicate your agreement with each statement.

	Disagree	Partly Disagree	Partly Agree	Agree
1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	0	1	2	3
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.	0	1	2	3
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.	0	1	2	3
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears *without* resorting to professional help.	0	1	2	3
5. I would want to get psychological help if I were worried or upset for a long period of time.	0	1	2	3
6. I might want to have psychological counseling in the future.	0	1	2	3
7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.	0	1	2	3
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.	0	1	2	3
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.	0	1	2	3
10. Personal and emotional troubles, like many things, tend to work out by themselves.	0	1	2	3

Categories	
Flowers	**Bad**
DAFFODIL	nasty
DAISY	terrible
ROSE	awful
TULIP	horrible

Flowers **Bad**
wonderful
GRASS
nasty
DAISY
joyful
TULIP
terrible
RICE
great
DAFFODIL
horrible
SHRUB
excellent
DAISY
awful
TULIP
great
GRASS

Flowers **Bad**
DAFFODIL
excellent
ROSE
awful
GRASS
joyful
DAISY
horrible
RICE
nasty
SHRUB
wonderful
DAFFODIL
excellent
TULIP
horrible
RICE
nasty

Categories	
Flowers	**Good**
DAFFODIL	excellent
DAISY	joyful
ROSE	wonderful
TULIP	great

Flowers	**Flowers**
Good	**Good**
wonderful	DAFFODIL
GRASS	excellent
nasty	TULIP
DAISY	terrible
joyful	GRASS
TULIP	joyful
terrible	DAISY
RICE	horrible
excellent	RICE
DAFFODIL	nasty
horrible	SHRUB
SHRUB	wonderful
excellent	DAFFODIL
DAISY	excellent
awful	ROSE
TULIP	horrible
great	DAISY
GRASS	nasty

Categories	
Mental Health Treatment	**Shameful**
COUNSELING	Scandalous
PSYCHIATRY	Disgraceful
PSYCHOLOGY	Dishonorable
THERAPY	Embarrassing

Mental Health Treatment Shameful	**Mental Health Treatment Shameful**
scandalous	PSYCHIATRY
PLUMBING	acceptable
proper	PSYCHOLOGY
OPTOMETRY	appropriate
disgraceful	THERAPY
COUNSELING	proper
acceptable	COUNSELING
PSYCHIATRY	Good
dishonorable	DENTISTRY
DENTISTRY	scandalous
appropriate	PLUMBING
MASSAGE	dishonorable
good	OPTOMETRY
THERAPY	disgraceful
embarrassing	COUNSELING
PLUMBING	appropriate
disgraceful	MASSAGE
PSYCHOLOGY	dishonorable

Categories	
Mental Health Treatment	**Respectable**
COUNSELING	Proper
PSYCHIATRY	Good
PSYCHOLOGY	Appropriate
THERAPY	Acceptable

Mental Health Treatment Respectable	**Mental Health Treatment Respectable**
appropriate	PSYCHOLOGY
PLUMBING	Acceptable
proper	OPTOMETRY
OPTOMETRY	Appropriate
acceptable	THERAPY
PSYCHOLOGY	Scandalous
appropriate	COUNSELING
THERAPY	good
scandalous	PLUMBING
COUNSELING	Proper
dishonorable	PSYCHIATRY
DENTISTRY	Disgraceful
good	MASSAGE
MASSAGE	Dishonorable
disgraceful	THERAPY
DENTISTRY	Acceptable
proper	COUNSELING
COUNSELING	Appropriate

Categories	
Mentally Ill People	**Bad**
DEPRESSED	Horrible
SCHIZOPHRENIC	Nasty
ANXIOUS	Terrible
ANOREXIC	Awful

Mentally Ill People Bad	**Mentally Ill People Bad**
nasty	DEPRESSED
PARALYZED	Great
wonderful	ANXIOUS
ASTHMATIC	Wonderful
awful	SCHIZOPHRENIC
CANCEROUS	Joyful
great	ANOREXIC
ANOREXIC	Great
joyful	ASTHMATIC
ANXIOUS	Awful
excellent	DIABETIC
DIABETIC	Terrible
horrible	PARALYZED
SCHIZOPHRENIC	Nasty
terrible	ANOREXIC
CANCEROUS	Excellent
excellent	ANXIOUS
CANCEROUS	Great

Categories	
Mentally Ill People	**Good**
DEPRESSED	excellent
SCHIZOPHRENIC	joyful
ANXIOUS	wonderful
ANOREXIC	great

Mentally Ill People **Good**	**Mentally Ill People** **Good**
excellent	ANXIOUS
CANCEROUS	wonderful
wonderful	ANOREXIC
PARALYZED	joyful
nasty	PARALYZED
ANXIOUS	awful
joyful	DIABETIC
ANOREXIC	excellent
great	ASTHMATIC
SCHIZOPHRENIC	great
terrible	SCHIZOPHRENIC
ASTHMATIC	terrible
nasty	DIABETIC
DIABETIC	excellent
awful	CANCEROUS
CANCEROUS	joyful
nasty	ANXIOUS
PARALYZED	wonderful

Participant #: _____

Date: _____

Willingness to Seek Treatment

1. *If you were struggling with an emotional difficulty or mental illness*, how likely would you be to seek treatment with a mental health professional (i.e. a psychologist, psychiatrist, or physician)?

Not at all likely			Neutral			Very Likely
1	2	3	4	5	6	7

How **helpful** do you think the following would be in treating mental illness?

2. Psychiatric Medication

Not at all helpful			Neutral			Very Helpful
1	2	3	4	5	6	7

3. Talk Therapy (e.g. with a counselor, psychologist, etc)

Not at all helpful			Neutral			Very Helpful
1	2	3	4	5	6	7

Assuming the following were ***free*** and ***available***, how likely would you be to contact/use any of the following to help with your mental illness?

4. Psychiatric Medication

Would definitely not use			Neutral			Would definitely use
1	2	3	4	5	6	7

5. Talk Therapy

Would definitely not use			Neutral			Would definitely use
1	2	3	4	5	6	7

Participant #: _____

Date: _____

Treatment information

Please check "Yes" or "No" to indicate whether you would be interested in more information about the following topics for yourself, family members, or friends.

Treatment information:

Accessing a therapist in your area	Yes _____	No_____
Accessing a psychiatrist or someone to prescribe psychiatric medications	Yes _____	No_____
Resources to quit smoking tobacco	Yes _____	No_____

Mental Health information:

Anxiety Disorders	Yes _____	No_____
Mood Disorders, such as Depression	Yes _____	No_____
Eating Disorders	Yes _____	No_____
Attention Deficit Hyperactivity Disorder (ADHD)	Yes _____	No_____

Other mental illnesses you would like more information about (please list them to the right): _____

_____

_____

Participant #: _____

Date: _____

Smoking Intentions Questionnaire

Instructions: Please answer each of the questions below about your future smoking behaviors. Remember that your responses will be kept private. No one will know what you write.

1. **Do you think that you will smoke a cigarette soon?**

1	2	3	4
Definitely Yes			Definitely Not

2. **Do you think you will smoke a cigarette in the next year?**

1	2	3	4
Definitely Yes			Definitely Not

3. **Do you think that in the future you might experiment with cigarettes?**

1	2	3	4
Definitely Yes			Definitely Not

4. **If one of your best friends were to offer you a cigarette, would you smoke it?**

1	2	3	4
Definitely Yes			Definitely Not

Participant #: _____

Date: _____

Demographics

1. Age:_____

2. Grade:_____

3. Gender: Male Female

4. Race/Ethnicity:
   ___ Caucasian/white
   ___ African-American
   ___ Hispanic
   ___ Asian/ Pacific Islander
   ___ American Indian/ Alaska native
   ___ Other

5. Are you currently taking (or have you taken) any Honors or Advanced courses? Yes No
   5a. *If yes*, how many advanced classes have you taken?: _____

6. What is the average family income of your parents? (please check one)

   ___ less than $10,000 ($0 - $192 a week)
   ___ $10,000 - $19,999 ($193 to $385 a week)
   ___ $20,000 - $29,999 ($386 to $577 a week)
   ___ $30,000 - $39,999 ($578 to $769 a week)
   ___ $40,000 - $59,999 ($770 to $1154 a week)
   ___ $40,000 - $59,999 ($770 to $1154 a week)
   ___ $60,000 - $99,999 ($1155 to $1923 a week)
   ___ $100,000 to $199,999 ($1924 to $3845 a week)
   ___ $200,000 or more ($3846 or more a week)

7. How comfortable and open is your group of friends in talking about and sharing personal or emotional information?

Not at all open or comfortable			Neutral			Very open or comfortable
1	2	3	4	5	6	7

8. How often do you and your friends talk about emotional difficulties or problems?

Not at all or Never			Neutral			Very often
1	2	3	4	5	6	7

9. If you were to struggle with a mental illness, how do you think your family would feel about you seeking treatment?

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7

10. If you were to struggle with a mental illness, how do you think your friends would feel about you seeking treatment?

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7

11. Are you currently, or have you ever struggled with moderate to severe mental or emotional difficulties (e.g. depression, panic attacks, anxiety, fighting a lot with family or friends, problems in school, etc) that lasted a minimum of several weeks and interfered with your daily life? Yes No

IF yes:

a. Is this a past or current difficulty? (please circle one) Past Current

b. At what age did this begin? _____

c. Have you ever gotten help for mental or emotional difficulties from any of the following?

(Please check all that apply)

___ Psychiatrist
___ Psychologist
___ School counselor
___ General practitioner (e.g. family doctor)
___ Teacher
___ Other (please specify): _____
___ Family member
___ Friend
___ Religious Leader
___ Coach
___ Self-help book

IF yes:

d. Are you *currently* meeting with a mental health professional or taking medication for mental or emotional difficulties, or was this in the *past*? Past Current

e. How helpful do/did you find the treatment?

Not at all helpful			Neutral			Very Helpful
1	2	3	4	5	6	7

f. Have you ever been given a diagnosis by a mental health professional? Yes No

IF yes, **what was the diagnosis?** _____

12. Has a close friend or relative ever struggled with a moderate to severe mental or emotional difficulty (e.g. depression, panic attacks, anxiety, fighting a lot with family or friends, problems in school, etc) that lasted a minimum of several weeks and interfered with their daily life? Yes No

IF yes:

a. How close would you say you are to this person? (If this applies to more than one person, choose the person you are closest to)

Not at all close			Somewhat close			Very Close
1	2	3	4	5	6	7

b. Has he/she ever talked to a mental health professional (e.g. psychologist, psychiatrist, counselor) or taken medication for help with their difficulties? Yes No Not sure

c. Approximately how many friends or relatives do you know that have struggled with a moderate to severe mental or emotional difficulty? _____

Getting Help: Locate Services

If unsure where to go for help, talk to someone you trust who has experience in mental health—for example, a doctor, nurse, social worker, or religious counselor. Ask their advice on where to seek treatment. If there is a university nearby, its department of psychiatry or psychology may offer treatment options. Otherwise, check the Yellow Pages under "mental health," "health," "social services," "suicide prevention," "crisis intervention services," "hotlines," "hospitals," or "physicians" for phone numbers and addresses. In times of crisis, the emergency room doctor at a hospital may be able to provide temporary help for a mental health problem, and will be able to tell you where and how to get further help.

Listed below are the types of people and places that will make a referral to, or provide services.

- Family doctors
- Mental health specialists (psychiatrists, psychologists, social workers, or mental health counselors)
- Religious leaders/counselors
- Community mental health centers
- Social service agencies
- Private clinics and facilities

Additional Resources for Getting Information and Assistance:

- Locate Mental Health Services in Your Area : http://mentalhealth.samhsa.gov/databases/
- General Resource List: http://www.nimh.nih.gov/healthinformation/resourcelist.cfm
- For more information regarding treatment:
  - **Mental Health Association:** http://www.mhav.org/
    - 513 Stewart St # J, Charlottesville, VA; (434) 977-4673
  - **Mental Health Network: http:** //www.southernhealth.com/content/items/4172/UVA.MH.05-06.pdf
    - List of mental health providers in your area
  - **Region Ten Community Services Board**: http://www.regionten.org/
    - 800 Preston Ave, Charlottesville, VA; (434) 972-1800
  - **Blue Ridge Behavioral Health Care**: http://www.brbh.org/assess_serv.htm
    - The Burrell Center, 611 McDowell Avenue, Roanoke, VA 24016; (540) 343-3007
  - **Specific treatment providers:**
    - Joseph Allen: 434-982-4727
    - Claudia Allen: 434-971-4747
    - Joe Kayser: 434-977-3289
    - Michelle Damiani: 434-984-4444
    - Lon Shackelford: 434-971-9611
    - Barbara Troncoso: 434-975-3510
    - Dr. Lewis Weber and Associates: 434-971-9809
    - Family Stress Clinic (Dave Waters) at University of Virginia: 434-924-0211

Modified from: http://www.nimh.nih.gov/healthinformation/gettinghelp.cfm

Going to a Therapist

What Are Some Reasons That Teens Go to Therapists?

Sometimes people who are trying as hard as they can to get through a rough time, such as family troubles or problems in school, find that they just can't cope by themselves. They may be feeling sad, angry, or overwhelmed by what's been happening — and need help sorting out their feelings, finding solutions to their problems, or just feeling better. That's when therapy can help.

Here are just a few examples of situations in which therapy can help someone work through problems:

- Working with a therapist can help someone overcome depression, anxiety, painful shyness, or an eating disorder.
- Working with a therapist can help a person who cuts or self-injures.
- Psychotherapy can help someone manage an attention problem or a learning problem.
- People in therapy can learn to deal with the emotional side of a weight problem or a chronic illness.
- Psychotherapy can help someone whose parents are going through a separation or divorce to sort through the many feelings these changes bring.
- Therapy can help someone who has experienced a trauma, a difficult loss, or the death of someone close.
- Working with a therapist can help a family troubled by too much fighting or anger, or one struggling with alcoholism or other addiction problem.
- Therapy can help teens sort out common problems such as peer pressure, and it can help build self-confidence and development of friendship skills.
- Therapy can offer someone support through a difficult time.
- Therapy can help people manage their anger or to learn to get along better with others.

Making the decision to seek help for a problem can be hard at first. It may be your idea to go to therapy because of a problem you're having that you want to get help with. Other times, parents or teachers might bring up the idea first because they have noticed that someone they care about is dealing with a difficult situation, is losing weight, or seems unusually sad, worried, angry, or upset. Some people in this situation might welcome the idea or even feel relieved. Others might feel criticized or might not be sure about getting help at first.

Sometimes people are told by teachers or parents that they *have* to go see a therapist — because they have been behaving in ways that are unacceptable, self-destructive, dangerous, or worrisome. When therapy is someone else's idea at first, a person may feel like resisting the whole idea. But learning a bit more about what therapy involves and what to expect can help make it seem like a good thing after all.

What Is Therapy?

Therapy is the treatment of a disorder or illness. But the word "therapy" is most often used to mean **psychotherapy** (sometimes called "talk therapy") — the psychological treatment of emotional and behavioral problems. Psychotherapy is a process that's a lot like learning. Through therapy, people learn about themselves. They discover ways to overcome troubling feelings or behaviors, develop inner strengths or skills, or make changes in themselves or their situations.

A psychotherapist (therapist for short) is a person who has been professionally trained to help people with their emotional and behavioral problems. Psychiatrists, psychologists, social workers, counselors, and school psychologists are the titles of some of the licensed professionals who work

as therapists. The letters following a therapist's name (for example, MD, PhD, EdD, MA, LCSW, LPC) refer to the particular education and degree that therapist has received.

Some therapists specialize in working with a certain age group or on a particular type of problem. Other therapists treat a mix of ages and issues. Some therapists work in hospitals, clinics, or counseling centers. Others work in schools or in psychotherapy offices.

What Do Therapists Do?

Through talking, listening, and observing, a therapist is able to evaluate the problem situation that needs attention and care. In doing so, the therapist can help a person figure out what's been making him or her so unhappy and how to get things going on a better track.

It might take a few meetings with a therapist before a person decides to talk openly. Trust is the most important ingredient in therapy — after all, therapy involves being open and honest with someone and talking about sensitive topics like feelings, ideas, relationships, problems, disappointments, and hopes. A therapist is trained to be patient with people who need to take their own time talking about themselves and their situation.

Most of the time, a person meets with a therapist one on one, which is known as **individual therapy**. Sometimes, though, a therapist might work with a family (called **family therapy**) or a group of people who all are dealing with similar issues (called **group therapy** or a **support group**). Family therapy gives family members a chance to talk together with a therapist about problems that involve them all. Group therapy and support groups help people give and receive support and learn from each other and their therapist by discussing the issues they have in common.

What Happens During Therapy?

If you see a therapist, he or she will talk with you about your feelings, thoughts, relationships, and important values. At the beginning, therapy sessions are focused on discussing what you'd like to work on and setting goals. Some of the goals people in therapy may set include things like:

- improving self-esteem and gaining confidence
- feeling less depressed or less anxious
- doing better with friends or schoolwork
- learning to relate without arguing and managing anger
- making healthier choices (for example, about relationships or eating) and ending self-defeating behaviors

During the first visit, your therapist will probably ask you to talk a bit about yourself. This helps the therapist understand you better. The therapist will ask about the problems, concerns, and symptoms that you're having.

After one or two sessions, the therapist will probably explain his or her understanding of your situation, how therapy could help, and what the process will involve. Together, you and your therapist will decide on the goals for therapy and how frequently to meet. This may be once a week, every other week, or once a month.

Once the therapist has a full understanding of your situation, he or she might teach you new skills or help you to think about a situation in a new way. For example, therapists can help people develop better relationship skills or coping skills, including ways to build confidence, express feelings, or manage anger.

How Private Is It?

Therapists respect the privacy of their clients, and they keep things they're told confidential. A

therapist won't tell anyone else — including parents — about what a person discusses in his or her sessions unless that person gives permission. The only exception is if therapists believe their clients may harm themselves or others. If the issue of privacy and confidentiality worries you, be sure to ask your therapist about it during your first meeting. It's important to feel comfortable with your therapist so you can talk openly about your situation.

Does It Mean I'm Crazy (or a Freak)?

No. In fact, many people in your class have probably seen a therapist at some point - just like students often see tutors or coaches for extra help with schoolwork or sports. Getting help with an emotional problem is the same as getting help with a medical problem like asthma or diabetes.

There's nothing wrong with asking for help when you're faced with problems you can't solve alone. In fact, it's just the opposite. It takes a lot of courage and maturity to look for solutions to problems instead of ignoring or hiding them and allowing them to become worse. If you think that therapy could help you with a problem, ask an adult you trust — like a parent, school counselor, or doctor — to help you find a therapist.

A few adults still resist the idea of therapy because they don't fully understand it or have outdated ideas about it. A couple of generations ago, people didn't know as much about the mind or the mind-body connection as they do today, and people were left to struggle with their problems on their own. It used to be that therapy was only available to those with the most serious mental health problems, but that's no longer the case.

Therapy is helpful to people of all ages and with problems that range from mild to much more serious. Some people still hold onto old beliefs about therapy, such as thinking that teens "will grow out of" their problems. If the adults in your life don't seem open to talking about therapy, mention your concerns to a school counselor, coach, or doctor.

You don't have to hide the fact that you're going to a therapist, but you also don't have to tell anyone if you'd prefer not to. Some people find that talking to a few close friends about their therapy helps them to work out their problems and feel like they're not alone. Other people choose not to tell anyone, especially if they feel that others won't understand. Either way, it's a personal decision.

What Can a Person Get Out of Therapy?

What someone gets out of therapy depends on why that person is there. For example, some people go to therapy to solve a specific problem, others want to begin making better choices, and others want to start to heal from a loss or a difficult life situation.

Therapy can help people discover more about themselves. Those who work with therapists might learn about motivations that lead them to behave in certain ways or about inner strengths they have. Maybe you'll learn new coping skills, develop more patience, or learn to like yourself better. Maybe you'll learn new ways to handle problems that come up or new ways to handle yourself in tough situations.

People who work with therapists often find that they learn a lot about themselves and that therapy can help them grow and mature. Lots of people discover that the tools they learn in therapy when they're young help them cope with all kinds of difficult situations when they're older.

Nemours FOUNDATION

Modified from: http://www.kidshealth.org/teen/your_mind/feeling_sad/therapist.html

MEDICATIONS

Anyone can develop a mental illness—you, a family member, a friend, or a neighbor. Some disorders are mild; others are serious and long-lasting. These conditions can be diagnosed and treated. Most people can live better lives after treatment. And psychotherapeutic medications are an increasingly important element in the successful treatment of mental illness.

Psychotherapeutic medications also may make other kinds of treatment more effective. Someone who is too depressed to talk, for instance, may have difficulty communicating during psychotherapy or counseling, but the right medication may improve symptoms so the person can respond. For many patients, a combination of psychotherapy and medication can be an effective method of treatment.

RELIEF FROM SYMPTOMS

Just as aspirin can reduce a fever without curing the infection that causes it, psychotherapeutic medications act by controlling symptoms. Psychotherapeutic medications do not cure mental illness, but in many cases, they can help a person function despite some continuing mental pain and difficulty coping with problems. For example, antidepressants can lift the dark, heavy moods of depression. The degree of response—ranging from a little relief of symptoms to complete relief—depends on a variety of factors related to the individual and the disorder being treated.

How long someone must take a psychotherapeutic medication depends on the individual and the disorder. Many depressed and anxious people may need medication for a single period—perhaps for several months—and then never need it again. People with conditions such as schizophrenia or bipolar disorder (also known as manic-depressive illness), or those whose depression or anxiety is chronic or recurrent, may have to take medication indefinitely.

Like any medication, psychotherapeutic medications do not produce the same effect in everyone. Some people may respond better to one medication than another. Some may need larger dosages than others do. Some have side effects, and others do not. Age, sex, body size, body chemistry, physical illnesses and their treatments, diet, and habits such as smoking are some of the factors that can influence a medication's effect.

QUESTIONS FOR YOUR DOCTOR

You and your family can help your doctor find the right medications for you. The doctor needs to know your medical history, other medications being taken, and life plans such as hoping to have a baby. After taking the medication for a short time, you should tell the doctor about favorable results as well as side effects. The Food and Drug Administration (FDA) and professional organizations recommend that the patient or a family member ask the following questions when a medication is prescribed:

- What is the name of the medication, and what is it supposed to do?
- How and when do I take it, and when do I stop taking it?
- What foods, drinks, or other medications should I avoid while taking the prescribed medication?
- Should it be taken with food or on an empty stomach?
- What are the side effects, and what should I do if they occur?

Modified from: http://www.nimh.nih.gov/publicat/medicate.cfm

The Nation's Voice on Mental Illness
page modified from **http://www.nami.org/**
1-800-950-NAMI; info@nami.org

Mental illnesses include such disorders as schizophrenia, schizoaffective disorder, bipolar disorder, major depressive disorder, obsessive-compulsive disorder, panic and other severe anxiety disorders, autism and pervasive developmental disorders, attention deficit/hyperactivity disorder, borderline personality disorder, and other severe and persistent mental illnesses that affect the brain.

These disorders can profoundly disrupt a person's thinking, feeling, moods, ability to relate to others and capacity for coping with the demands of life.

Mental illnesses can affect persons of any age, race, religion, or income. Mental illnesses are not the result of personal weakness, lack of character, or poor upbringing.

Mental illnesses are treatable. Most people with serious mental illness need medication to help control symptoms, but also rely on supportive counseling, self-help groups, assistance with housing, vocational rehabilitation, income assistance and other community services in order to achieve their highest level of recovery.

Here are some important facts about mental illness and recovery:

- Mental illnesses cannot be overcome through "will power" and are not related to a person's "character" or intelligence.
- Mental disorders fall along a continuum of severity. The most serious and disabling conditions affect five to ten million adults (2.6 – 5.4%) and three to five million children ages five to seventeen (5 – 9%) in the United States.
- Mental disorders are the leading cause of disability (lost years of productive life) in the North America, Europe and, increasingly, in the world. By 2020, Major Depressive illness will be the leading cause of disability in the world for women and children.
- Mental illnesses strike individuals in the prime of their lives, often during adolescence and young adulthood. All ages are susceptible, but the young and the old are especially vulnerable.
- Without treatment the consequences of mental illness for the individual and society are staggering: unnecessary disability, unemployment, substance abuse, homelessness,

inappropriate incarceration, suicide and wasted lives; The economic cost of untreated mental illness is more than 100 billion dollars each year in the United States.

- The best treatments for serious mental illnesses today are highly effective; between 70 and 90 percent of individuals have significant reduction of symptoms and improved quality of life with a combination of pharmacological and psychosocial treatments and supports;
- Early identification and treatment is of vital importance; by getting people the treatment they need early, recovery is accelerated and the brain is protected from further harm related to the course of illness.
- Stigma erodes confidence that mental disorders are real, treatable health conditions. We have allowed stigma and a now unwarranted sense of hopelessness to erect attitudinal, structural and financial barriers to effective treatment and recovery. It is time to take these barriers down.

Anxiety Disorders

Anxiety disorders are real, serious and treatable. Experts believe that anxiety disorders are caused by a combination of biological and environmental factors, much like other disorders, such as heart disease and diabetes.

Anxiety disorders are the most common psychiatric illnesses affecting both children and adults.

- Anxiety disorders may develop from a complex set of risk factors, including genetics, brain chemistry, personality, and life events.
- An estimated 40 million adult Americans suffer from anxiety disorders.
- Anxiety disorders are highly treatable, yet only about one-third of those suffering from an anxiety disorder receive treatment.

Anxiety disorders are categorized as:

- Generalized Anxiety Disorder (GAD). GAD is characterized by excessive, unrealistic worry that lasts six months or more; in adults, the anxiety may focus on issues such as health, money, or career. In addition to chronic worry, GAD symptoms include trembling, muscular aches, insomnia, abdominal upsets, dizziness, and irritability.
- Obsessive-Compulsive Disorder (OCD). In OCD, individuals are plagued by persistent, recurring thoughts (obsessions) that reflect exaggerated anxiety or fears; typical obsessions include worry about being contaminated or fears of behaving improperly or acting violently. The obsessions may lead an individual to perform a ritual or routine (compulsions)-such as washing hands, repeating phrases or hoarding-to relieve the anxiety caused by the obsession.
- Panic Disorder. People with panic disorder suffer severe attacks of panic-which may make them feel like they are having a heart attack or are going crazy-for no apparent reason. Symptoms include heart palpitations, chest pain or discomfort, sweating, trembling, tingling sensations, feeling of choking, fear of dying, fear of losing control, and feelings of unreality. Panic disorder often occurs with agoraphobia, in which people are afraid of having a panic attack in a place from which escape would be difficult, so they avoid these places.
- Posttraumatic Stress Disorder (PTSD). PTSD can follow an exposure to a traumatic event such as a sexual or physical assault, witnessing a death, the unexpected death of a loved one, or natural disaster. There are three main symptoms associated with PTSD: "reliving" of the traumatic event (such as flashbacks and nightmares); avoidance behaviors (such as avoiding places related to the trauma) and emotional numbing (detachment from others); and physiological arousal such difficulty sleeping, irritability or poor concentration.

- Social Anxiety Disorder (Social Phobia). Social Anxiety Disorder (SAD) is characterized by extreme anxiety about being judged by others or behaving in a way that might cause embarrassment or ridicule. This intense anxiety may lead to avoidance behavior. Physical symptoms associated with this disorder include heart palpitations, faintness, blushing and profuse sweating.
- Specific phobias. People with specific phobias suffer from an intense fear reaction to a specific object or situation (such as spiders, dogs, or heights); the level of fear is usually inappropriate to the situation, and is recognized by the sufferer as being irrational. This inordinate fear can lead to the avoidance of common, everyday situations.

The vast majority of people with an anxiety disorder can be helped with professional care. Success of treatment varies with the individual. Some people may respond to treatment after a few months, while others may take a year or more. Treatment is sometimes complicated by the fact that people very often have more than one anxiety disorder, or suffer from depression or substance abuse. This is why treatment must be tailored to the individual. Although treatment is individualized, there are several standard approaches that have proven to be effective. Therapists will use one, or a combination of these therapies.

Modified from: *http://www.adaa.org/GettingHelp/BriefOverview.asp*

The Nation's Voice on Mental Illness
page modified from **http://www.nami.org/**
1-800-950-NAMI; info@nami.org

Major Depression

What is major depression?

Major depression is a serious medical illness affecting 9.9 million American adults, or approximately 5 percent of the adult population in a given year. Unlike normal emotional experiences of sadness, loss, or passing mood states, major depression is persistent and can significantly interfere with an individual's thoughts, behavior, mood, activity, and physical health. Among all medical illnesses, major depression is the leading cause of disability in the U.S. and many other developed countries.

More than twice as many women (6.7 million) as men (3.2 million) suffer from major depressive disorder each year. Major depression can occur at any age including childhood, the teenage years and adulthood. All ethnic, racial and socioeconomic groups suffer from depression. About three-fourths of those who experience a first episode of depression will have at least one other episode in their lives. Some individuals may have several episodes in the course of a year. If untreated, episodes commonly last anywhere from six months to a year. Left untreated, depression can lead to suicide.

Major depression, also known as clinical depression or unipolar depression, is only one type of depressive disorder. Other depressive disorders include dysthymia (chronic, less severe depression) and bipolar depression (the depressed phase of bipolar disorder or manic depression). People who have bipolar disorder experience both depression and mania. Mania involves abnormally and persistently elevated mood or irritability, elevated self-esteem, and excessive energy, thoughts, and talking.

What are the symptoms of major depression?

The onset of the first episode of major depression may not be obvious if it is gradual or mild. The symptoms of major depression characteristically represent a significant change from how a person functioned before the illness. The symptoms of depression include:

- persistently sad or irritable mood
- pronounced changes in sleep, appetite, and energy
- difficulty thinking, concentrating, and remembering
- physical slowing or agitation
- lack of interest in or pleasure from activities that were once enjoyed
- feelings of guilt, worthlessness, hopelessness, and emptiness

- recurrent thoughts of death or suicide
- persistent physical symptoms that do not respond to treatment, such as headaches, digestive disorders, and chronic pain

When several of these symptoms of depressive disorder occur at the same time, last longer than two weeks, and interfere with ordinary functioning, professional treatment is needed.

What are the causes of major depression?

There is no single cause of major depression. Psychological, biological, and environmental factors may all contribute to its development. Whatever the specific causes of depression, scientific research has firmly established that major depression is a biological brain disorder.

Norepinephrine, serotonin, and dopamine are three neurotransmitters (chemical messengers that transmit electrical signals between brain cells) thought to be involved with major depression. Scientists believe that if there is a chemical imbalance in these neurotransmitters, then clinical states of depression result. Antidepressant medications work by increasing the availability of neurotransmitters or by changing the sensitivity of the receptors for these chemical messengers.

Scientists have also found evidence of a genetic predisposition to major depression. There is an increased risk for developing depression when there is a family history of the illness. Not everyone with a genetic predisposition develops depression, but some people probably have a biological make-up that leaves them particularly vulnerable to developing depression. Life events, such as the death of a loved one, a major loss or change, chronic stress, and alcohol and drug abuse, may trigger episodes of depression. Some illnesses such as heart disease and cancer and some medications may also trigger depressive episodes. It is also important to note that many depressive episodes occur spontaneously and are not triggered by a life crisis, physical illness, or other risks.

How is major depression treated?

Although major depression can be a devastating illness, it is highly treatable. Between 80 and 90 percent of those suffering from serious depression can be effectively treated and return to their normal daily activities and feelings. Many types of treatment are available, and the type chosen depends on the individual and the severity and patterns of his or her illness. There are three basic types of treatment for depression: medications, psychotherapy, and electroconvulsive therapy (ECT). They may be used singly or in combination.

- ***Medication.*** The first antidepressant medications were introduced in the 1950s. Research has shown that imbalances in neurotransmitters like serotonin, dopamine, and norepinephrine can be corrected with antidepressants. Four groups of antidepressant medications are most often prescribed for depression.
- ***Psychotherapy.*** There are several types of psychotherapy that have been shown to be effective for depression including cognitive-behavioral therapy (CBT) and

interpersonal therapy (IPT). Research has shown that mild to moderate depression can often be treated successfully with either of these therapies used alone. However, severe depression appears more likely to respond to a combination of psychotherapy and medication.

- ***Electroconvulsive therapy (ECT).*** ECT is a highly effective treatment for severe depressive episodes. In situations where medication, psychotherapy, and a combination of the two prove ineffective, or work too slowly to relieve severe symptoms such as psychosis or thoughts of suicide, ECT may be considered. ECT may also be considered for those who for one reason or another cannot take antidepressant medications.

National Institute of Mental Health

modified from: http://www.nimh.nih.gov/publicat/eatingdisorders.cfm

Eating Disorders: Facts About Eating Disorders and the Search for Solutions

Eating is controlled by many factors, including appetite, food availability, family, peer, and cultural practices, and attempts at voluntary control. Dieting to a body weight leaner than needed for health is highly promoted by current fashion trends, sales campaigns for special foods, and in some activities and professions. *Eating disorders* involve serious disturbances in eating behavior, such as extreme and unhealthy reduction of food intake or severe overeating, as well as feelings of distress or extreme concern about body shape or weight. Eating disorders are not due to a failure of will or behavior; rather, they are real, treatable medical illnesses in which certain maladaptive patterns of eating take on a life of their own. The main types of eating disorders are anorexia nervosa and bulimia nervosa.[1] A third type, binge-eating disorder, has been suggested but has not yet been approved as a formal psychiatric diagnosis.[2] Eating disorders frequently develop during adolescence or early adulthood, but some reports indicate their onset can occur during childhood or later in adulthood.[3]

Eating disorders frequently co-occur with other psychiatric disorders such as depression, substance abuse, and anxiety disorders.[1] In addition, people who suffer from eating disorders can experience a wide range of physical health complications, including serious heart conditions and kidney failure which may lead to death. Recognition of eating disorders as real and treatable diseases, therefore, is critically important. Females are much more likely than males to develop an eating disorder. Only an estimated 5 to 15 percent of people with anorexia or bulimia[4] and an estimated 35 percent of those with binge-eating disorder[5] are male.

Anorexia Nervosa

An estimated 0.5 to 3.7 percent of females suffer from anorexia nervosa in their lifetime.[1] Symptoms of anorexia nervosa include:

- Resistance to maintaining body weight at or above a minimally normal weight for age and height
- Intense fear of gaining weight or becoming fat, even though underweight
- Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight
- Infrequent or absent menstrual periods (in females who have reached puberty)

People with this disorder see themselves as overweight even though they are dangerously thin. The process of eating becomes an obsession. Unusual eating habits develop, such as avoiding food and meals, picking out a few foods and eating these in small quantities, or carefully weighing and portioning food. People with anorexia may repeatedly check their body weight, and many engage in other techniques to control their weight, such as intense and compulsive exercise, or purging by means of vomiting and abuse of laxatives, enemas, and diuretics. Girls with anorexia often experience a delayed onset of their first menstrual period.

The course and outcome of anorexia nervosa vary across individuals: some fully recover after a single episode; some have a fluctuating pattern of weight gain and relapse; and others experience a chronically deteriorating course of illness over many years. The mortality rate among people with anorexia has been estimated at 0.56 percent per year, or approximately 5.6 percent per decade, which is about 12 times higher than the annual death rate due to all causes of death among females ages 15-24 in the general population.[6] The most common causes of death are complications of the disorder, such as cardiac arrest or electrolyte imbalance, and suicide.

Bulimia Nervosa

An estimated 1.1 percent to 4.2 percent of females have bulimia nervosa in their lifetime.1 Symptoms of bulimia nervosa include:

- Recurrent episodes of binge eating, characterized by eating an excessive amount of food within a discrete period of time and by a sense of lack of control over eating during the episode
- Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting or misuse of laxatives, diuretics, enemas, or other medications (purging); fasting; or excessive exercise
- The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for 3 months
- Self-evaluation is unduly influenced by body shape and weight

Because purging or other compensatory behavior follows the binge-eating episodes, people with bulimia usually weigh within the normal range for their age and height. However, like individuals with anorexia, they may fear gaining weight, desire to lose weight, and feel intensely dissatisfied with their bodies. People with bulimia often perform the behaviors in secrecy, feeling disgusted and ashamed when they binge, yet relieved once they purge.

Binge-Eating Disorder

Community surveys have estimated that between 2 percent and 5 percent of Americans experience binge-eating disorder in a 6-month period.5,7 Symptoms of binge-eating disorder include:

- Recurrent episodes of binge eating, characterized by eating an excessive amount of food within a discrete period of time and by a sense of lack of control over eating during the episode
- The binge-eating episodes are associated with at least 3 of the following: eating much more rapidly than normal; eating until feeling uncomfortably full; eating large amounts of food when not feeling physically hungry; eating alone because of being embarrassed by how much one is eating; feeling disgusted with oneself, depressed, or very guilty after overeating
- Marked distress about the binge-eating behavior
- The binge eating occurs, on average, at least 2 days a week for 6 months
- The binge eating is not associated with the regular use of inappropriate compensatory behaviors (e.g., purging, fasting, excessive exercise)

People with binge-eating disorder experience frequent episodes of out-of-control eating, with the same binge-eating symptoms as those with bulimia. The main difference is that individuals with binge-eating disorder do not purge their bodies of excess calories. Therefore, many with the disorder are overweight for their age and height. Feelings of self-disgust and shame associated with this illness can lead to bingeing again, creating a cycle of binge eating.

Treatment Strategies

Eating disorders can be treated and a healthy weight restored. The sooner these disorders are diagnosed and treated, the better the outcomes are likely to be. Because of their complexity, eating disorders require a comprehensive treatment plan involving medical care and monitoring, psychosocial interventions, nutritional counseling and, when appropriate, medication management. At the time of diagnosis, the clinician must determine whether the person is in immediate danger and requires hospitalization.

Treatment of anorexia calls for a specific program that involves three main phases: (1) restoring weight lost to severe dieting and purging; (2) treating psychological disturbances such as distortion of body image, low self-esteem, and interpersonal conflicts; and (3) achieving long-term remission and rehabilitation, or full recovery. Early diagnosis and treatment increases the treatment success rate. Use of psychotropic medication in people with anorexia should be considered *only* after weight gain has been established. Certain selective serotonin reuptake inhibitors (SSRIs) have been shown to be helpful for weight maintenance and for resolving mood and anxiety symptoms associated with anorexia. The acute management of severe weight loss is usually provided in an inpatient hospital setting, where feeding plans address the person's medical and nutritional needs. In some cases, intravenous feeding is recommended. Once malnutrition has been corrected and weight gain has begun, psychotherapy (often cognitive-behavioral or interpersonal psychotherapy) can help people with anorexia overcome low self-esteem and address distorted thought and behavior patterns. Families are sometimes included in the therapeutic process.

The primary goal of treatment for bulimia is to reduce or eliminate binge eating and purging behavior. To this end, nutritional rehabilitation, psychosocial intervention, and medication management strategies are often employed. Establishment of a pattern of regular, non-binge meals, improvement of attitudes related to the eating disorder, encouragement of healthy but not excessive exercise, and resolution of co-occurring conditions such as mood or anxiety disorders are among the specific aims of these strategies. Individual psychotherapy (especially cognitive-behavioral or interpersonal psychotherapy), group psychotherapy that uses a cognitive-behavioral approach, and family or marital therapy have been reported to be effective. Psychotropic medications, primarily antidepressants such as the selective serotonin reuptake inhibitors (SSRIs), have been found helpful for people with bulimia, particularly those with significant symptoms of depression or anxiety, or those who have not responded adequately to psychosocial treatment alone. These medications also may help prevent relapse. The treatment goals and strategies for binge-eating disorder are similar to those for bulimia, and studies are currently evaluating the effectiveness of various interventions.

Attention Deficit Hyperactivity Disorder (ADHD): Information for Teens

Attention Deficit Hyperactivity Disorder (commonly abbreviated ADHD) is one of the most common learning and behavior problems affecting young people. It can interfere with someone's ability to concentrate, follow directions, organize work, remain quiet or still for long periods, and control impulsive behavior. People who have ADHD are often very smart and creative but can have difficulty with schoolwork, social relationships, and behaving appropriately in class or in other group situations.

Luckily there are very effective treatments for ADHD that enable children, teens, and adults to enjoy their work, have happy relationships with friends and family, and achieve their best at whatever they choose to do.

What Is ADHD?

ADHD is *not* caused by a bad attitude or by being lazy. It is a neurological disorder that affects how the brain takes in and uses information. There does not appear to be a single cause of ADHD. Many cases are linked to genetic factors. In other words, there may be other family members (parents, grandparents, aunts, or uncles) who also have ADHD. Other factors that have been linked to symptoms include trauma before or during birth, head injuries, substance abuse by parents during pregnancy, or lead poisoning. Many people with ADHD also have learning disabilities and sometimes other behavior problems (acting out or rule-breaking). However, for many youngsters ADHD is a stand-alone problem.

Types of ADHD

There are generally considered to be three kinds of ADHD:

- *Inattentive:* Some people have problems primarily with inattention (including distractibility, forgetfulness, and organization problems).
- *Impulsive/hyperactive:* Other people have problems primarily with impulsivity and overactivity (including feelings of restlessness, difficulty sitting still, and a tendency to say or do things without thinking).
- *Combined inattention and impulsivity/hyperactivity:* This is the most common form of ADHD.

Symptoms of ADHD

The American Psychiatric Association has defined ADHD as consisting of a set of 18 possible symptoms, half falling in the inattentive area and half in the hyperactive/impulsive area. The symptoms are described in a book the association publishes, called *Diagnostic and Statistical Manual of Mental Disorders* (4th edition) or the *DSM-IV*. The characteristics included in this definition are described as follows.

Inattention. In this category, the person often:

- Fails to give close attention to details or makes careless mistakes in schoolwork, work,

or other activities.
- Has difficulty sustaining attention in tasks or play activities.
- Does not seem to listen to when spoken to directly.
- Does not follow through on instruction and fails to finish schoolwork, chores or duties in the workplace.
- Has difficulties organizing tasks and activities.
- Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).
- Loses things necessary for tasks or activities (school assignments, pencils).
- Is easily distracted.
- Is forgetful in daily activities.

Hyperactivity. In this category, the person often:

- Fidgets with hands or feet or squirms in the seat.
- Leaves the seat in classroom or in other situations in which remaining seated is expected.
- Runs about or climbs about in situations in which it is inappropriate (in adolescents or adults, this may be limited to subjective feelings of restlessness).
- Has difficulty playing or engaging in leisure activities quietly.
- Is on the go or acts as if driven by a motor.
- Talks excessively.

Impulsivity. In this category, the person often:

- Blurts out answers to questions before the questions have been completed.
- Has difficulty awaiting his or her turn.
- Interrupts or intrudes on others (butts into conversations or games).

Development of Symptoms

You do not have to possess *all* these characteristics to be diagnosed as having ADHD. It is expected that a majority of the symptoms (six of nine symptoms) associated with inattention or hyperactivity/impulsivity or both will be present. It is also presumed that these characteristics did not just occur in late childhood or adolescence but were present from before the age of 7 (although some experts believe that some of the inattention characteristics may not show up until later).

Girls may exhibit fewer of these characteristics than boys and still be considered to have ADHD, but there is still more research to be done on gender differences in ADHD. Most people with ADHD have it their whole lives, although their symptoms may change with age (hyperactivity may lessen as they get older).

How Does ADHD Affect Me?

ADHD can affect life at school and home. The impact of this disorder may be different in

different settings and under different circumstances.

In school. Usually, ADHD affects school performance more than anything else. It can make it difficult for you to pay attention in class, remember to write down, complete, or hand in assignments, or to do work in a timely or efficient manner. You may often find long-term assignments particularly difficult because you tend to procrastinate, have trouble breaking down large tasks into subtasks, and find it hard to estimate accurately how long it will take to complete specific tasks.

If you have the hyperactive/impulsive kind of ADHD, you probably have trouble sitting through classes or long exams. You also may get in trouble for talking too much or for blurting things out in class. At home, you may find it hard to sit down and get through your homework. Paying attention to assigned reading (particularly when it doesn't interest you) is especially difficult. You probably are easily drawn away from tasks that you consider tedious (like studying for tests), especially if there are other things you would rather be doing (such as playing video games, Instant Messaging, surfing the web, or hanging out with friends).

At home. Kids with ADHD often get in trouble with their parents because of problems with homework or poor report card grades. Like many kids with ADHD, you may hear often from your parents (and teachers, for that matter) that you are "Not working up to your potential." Less kindly, parents or other relatives may even accuse you of being lazy or of not caring. In fact, kids with ADHD often *do* care about how they are doing in school, but they find school and homework so effortful that their caring does not translate into productive action. Kids with ADHD also get in trouble with parents because they frequently lose or misplace things (school books, sports equipment, clothing), have messy bedrooms, or fail to complete chores when asked (either because they don't remember to do them or they find them as tedious as homework).

With friends. Some kids with ADHD also have social problems. Their activity level and impulsivity can make it difficult for them to make or keep friends because they can't sit still long enough to carry on a meaningful conversation or because they say rude or silly things without thinking. Teenagers with ADHD may also engage in risky behavior because they have difficulty anticipating consequences. For instance, they are more likely to get in car accidents and they are at greater risk for problems with misuse of substances or practicing unsafe sex.

Modified from: http://www.naspcenter.org/kids/adhd.html

Tips for Teens: The Truth About Tobacco

Slang -- Cigarettes: Smokes, Cigs, Butts. Smokeless Tobacco: Chew, Dip, Spit Tobacco, Snuff

Get the Facts...

Tobacco damages your health. Smoking is the most common cause of lung cancer. Smoking is also a leading cause of cancer of the mouth, throat, bladder, pancreas, and kidney. Smokeless tobacco can cause mouth cancer, tooth loss, and other health problems.

Tobacco affects your body's development. Smoking is particularly harmful for teens because your body is still growing and changing. The 200 known poisons in cigarette smoke affect your normal development and can cause life-threatening diseases, such as chronic bronchitis, heart disease, and stroke.

Tobacco is addictive. Cigarettes contain nicotine-a powerfully addictive substance. Three-quarters of young people who use tobacco daily continue to do so because they find it hard to quit.

Tobacco can kill you. Smoking is the leading preventable cause of death in this country. More than 400,000 Americans die from tobacco-related causes each year, and most of them began using tobacco before the age of 18.

Before You Risk It...

Know the law. It is illegal for anyone under 18 to buy cigarettes, smokeless tobacco, or tobacco-related products.

Stay Informed. Addiction to tobacco is hard to control. More than 90 percent of teens who use tobacco daily experience at least one symptom of withdrawal when they try to quit.

Keep your edge. The poisons in cigarettes can affect your appearance. Smoking can dry your skin out and cause wrinkles. Some research even relates smoking to premature gray hair and hair loss.

Be aware. It can be hard to play sports if you use tobacco. Smoking causes shortness of breath and dizziness, and chewing tobacco causes dehydration.

Think of others. Smoking puts the health of your friends and family at risk. Approximately 3,000 nonsmokers die of lung cancer each year from breathing other peoples' smoke.

Get the facts. Each day more than 3,000 people under age 18 become regular smokers. That's more than 1 million teens per year. Roughly one-third of them will eventually die from a tobacco-related disease.

Look around you. Even though a lot of teens use tobacco, most don't. According to a 1998 study, less than 20 percent of teens are regular smokers. In fact, 64 percent of 12- to 17-year-olds have never even tried a cigarette.

How can you tell if a friend is using tobacco? Sometimes it's tough to tell. But there are signs you can look for. If your friend has one or more of the following signs, he or she may be regularly using tobacco:

- Wheezing
- Coughing
- Bad breath
- Smelly hair and clothes
- Yellow-stained teeth and fingers
- Frequent colds
- Decreased senses of smell and taste
- Difficulty keeping up with sports and athletic activities
- Bleeding gums (smokeless tobacco)
- Frequent mouth sores (smokeless tobacco)

What can you do to help someone who is using tobacco? Be a real friend. Encourage your friend to quit. For information and referrals, call the National Clearinghouse for Alcohol and Drug Information at 800-729-6686.

Q. Doesn't smoking help you relax?
A. No. Smoking can actually increase feelings of stress and nervousness. Break the cycle: Use drug-free strategies to calm your nerves like exercise and talking to your friends.

Q. Isn't smokeless tobacco safer to use than cigarettes?
A. No. There is no safe form of tobacco. Smokeless tobacco can cause mouth, cheek, throat, and stomach cancer. Smokeless tobacco users are 50 times more likely to get oral cancer than non-users. Those smokeless tobacco users who don't develop some type of cancer are still likely to have signs of use, like stained teeth, bad breath, and mouth sores.

Q. Isn't smoking sexy?
A. Only if you think bad breath, smelly hair, yellow fingers, and coughing are sexy. Advertisements often portray smoking as glamorous and sophisticated, but think carefully about who created these ads and why.

Talk to a live human being free

Call 1-800-QUIT NOW for free support with a trained counselor, who will talk to you whether you are ready to quit or just thinking about it. This number will forward to your State's tobacco cessation program, which offers live phone support in your area. When you call, a friendly staff person will offer a choice of free services, including self-help materials, a referral list of other programs in your community, and one-one-counseling over the phone.

There is also the National Cancer Institute's Smoking Quitline, 1-877-44U-Quit, offering proactive counseling by trained personnel.

Try a free meeting

If joining a small group of other quitters appeals to you, then try a Nicotine Anonymous meeting. It's likely there's one near you where you live. It's a 12-step program based on AA; they're nonprofit and free. Ask directory assistance to get the number for a local Nicotine Anonymous chapter, or call the national line at (800) 642-0666. You can also check their website. (A for-profit company trademarked "Smokers' Anonymous" -- so you want the FREE program -- Nicotine Anonymous).

Modified from: http://www.notobacco.org/

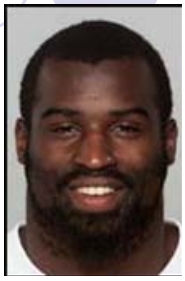
Presentation Slides

What do these celebrities have in common?

Mary-Kate Olson

Jim Carrey

Brooke Shields



Ricky Williams

Victoria Beckham
(Posh Spice)

Paula Abdul

1.

MENTAL ILLNESS: Common Myths and Misconceptions

What is it?

What to do?

2.

Knowledge is Power

The Truth about Mental Illness

3.

What might people think when they hear "Mental Illness"?

4.

Types of Disorders

- Mood Disorders (e.g. Depression, Bipolar Disorder)
- Anxiety Disorders
- Schizophrenia-type Disorders
- Eating Disorders
- Personality Disorders
- Attention Deficit Hyperactivity Disorder (ADHD)

5.

Depression

- More than just feeling sad
- Interferes with your daily life
- Difficulty concentrating or making decisions

6.

Anxiety

- Excessive anxiety and avoidance interfere with functioning
- Types of Anxiety disorders:
  - *Panic disorder and agoraphobia*
  - *Obsessive-compulsive disorder*
  - *Post traumatic stress disorder*
  - *Generalized anxiety disorder*
  - *Social anxiety*
  - *Specific phobias*

7.

Eating Disorders

- Intense fear of gaining weight or becoming fat
- Distorted body image
- Extreme weight loss (in anorexia)
- Repeated episodes of binge eating, during which person feels they have no control
- Repeated behaviors to prevent weight gain (vomiting, laxatives, fasting, excessive exercise)

8.

Prevalence and Statistics

- **Depression:**
  - **10 million U.S. adults**
  - **4.5 million children and adolescents**
  - **Suicide: 3rd leading cause of death for people age 15-24;**
- **Anxiety disorders: most common class of mental disorder**
  - **19.1 million U.S. adults**
  - **13 million children and adolescents**
- **Eating Disorders:**
  - **8 million people in the U.S.**
    - **more common among adolescents and young adults**
  - **Prevalence has increased significantly in the last 30-40 years**
  - **10% of sufferers die from starvation, suicide, or medical complications**
- **Up to 80% of people respond to treatment**

9.

The Reality of Mental Illness

- **Mental illnesses are <u>real</u>.**
- **Mental illnesses are the <u>result of a number of factors</u>:**
  - **difficult life experiences**
  - **the way people think about things**
  - **biological or chemical imbalances**
  - **genetic predisposition**

10.

Mental Illness Facts:

- **Mental illnesses often strike individuals during adolescence and young adulthood.**
- **1 out of 5 children and adolescents in the U.S. struggles with a mental illness.**
- **Untreated mental illness → missed work, school, time with family/friends.**

11.

What might people think about people who seek mental health treatment?

What effect might this have on people?

12.

VIDEO

13.

Treatment Facts:

• Treatments for mental illnesses are highly effective - between 70 – 90%

•More than 54 million Americans have a mental disorder in any given year. BUT, fewer than 8 million seek treatment

• Up to 80% of children and adolescents do not receive treatment

14.

So…What is Treatment?

- Types of treatment:
  - Medication
    - Psychiatrist
    - Family Doctor
  - Therapy
    - Psychologist
    - School Counselor
    - Social Worker
    - Religious leader

15.

How to Find Treatment…

- Recommendation by friends, family, etc.
- Family Doctor
- School Psychologist
- Internet (check source)

16.

How to Support People Seeking Treatment…

- Offer information about finding treatment
- Ask how they're doing – don't just ignore their difficulties
- Offer to go with them to talk to someone
- Watch how you talk about mental illness

17.

Perceptions of Stigma

- "If ***you*** found out a close friend was struggling with an emotional or mental problem, how do you think this would affect the way you feel about him or her?"
- "If ***someone else*** found out…?"

18.

Wrap-up

- Mental illness is not rare (1 in 5 children and teens)
  - You are not alone, and there is nothing wrong with you
- Too many people don't get help because they are embarrassed or worried about stigma
- Lots of treatment options available
- Current treatments are very effective in reducing symptoms
- Support people struggling with a mental illness

19.

Categories	
Flowers	**Bad**
Daffodil	Nasty
Daisy	Terrible
Rose	Awful
Tulip	Horrible

Flowers	**Flowers**
Bad	**Bad**
wonderful	Daffodil
Roach	excellent
nasty	Tulip
Daisy	terrible
joyful	Roach
Tulip	joyful
terrible	Daisy
Mosquito	horrible
excellent	Mosquito

20.