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EVALUATING THE SOCIAL ACCEPTABILITY OF PERSONS WITH HABIT
DISORDERS: THE EFFECTS OF TOPOGRAPHY,
FREQUENCY, AND GENDER MANIPULATION

by

Douglas W. Woods

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EVALUATING THE SOCIAL ACCEPTABILITY OF PERSONS WITH HABIT DISORDERS: THE EFFECTS OF TOPOGRAPHY, FREQUENCY, AND GENDER MANIPULATION

Douglas W. Woods, Ph.D.

Western Michigan University, 1999

Literature suggests that children who exhibit habit disorders are less socially acceptable than children who do not exhibit such disorders. This series of studies investigated the social acceptability of adults who exhibit habit disorders. In Studies 1 and 2, undergraduate students rated the social acceptability of individuals who exhibited motor tics, vocal tics, hairpulling, and no habit. Results showed that the individuals with no habit were more socially acceptable than the individuals who exhibited either motor tics, vocal tics, or hairpulling.

In Study 3, videotapes were created in which actors simulated motor tics, vocal tics, Tourette's Syndrome, and Trichotillomania. The behaviors were then rated as clinically valid portrayals of the behavior by mental health professionals.

Study 4 was conducted to test the psychometric properties of a measure of social acceptability (Social Acceptance Scale), and to examine the sequence effects of viewing individuals with habit disorders. Undergraduate participants rated (using the Social Acceptance Scale and another measure of social distance) videotapes of an individual (an actor on videotape from Study 3) who was simulating a motor tic

followed by an individual who was not exhibiting the habit behavior. One week later participants returned and rated the tapes again. Results showed adequate test-retest reliability and concurrent validity of the Social Acceptance Scale. Results also showed the presence of sequence effects, with individuals exhibiting motor tics being viewed more negatively when preceded by a person who did not exhibit habit behaviors.

Study 5 tested the effects of habit frequency, topography, and gender on the social acceptability of individuals with habit behaviors. Participants were randomly assigned to one of four habit conditions (motor tics, vocal tics, Tourette's Syndrome, and Trichotillomania). Each participant was then asked to view ten videotapes, with each videotape containing a different frequency by topography by gender of actor combination. Results showed that (a) high frequency habit behaviors were less acceptable than low frequency behaviors, (b) habit behaviors with severe topographies were less acceptable than behaviors with mild topographies, and (c) the motor tic condition was significantly more acceptable than the remaining conditions. Implications and directions for future research are discussed.

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INTRODUCTION

Habit disorders involve repetitive behaviors that serve no recognizable function, but may produce negative social consequences for the person who exhibits them (Woods & Miltenberger, 1996). Diagnoses of habit disorders include various tic disorders (Motor Tic, Vocal Tic, and Tourette's Syndrome) and Trichotillomania, which is classified as an impulse control disorder by the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; American Psychiatric Association, 1994).

As suggested above, significant negative social consequences often occur for individuals who exhibit habit disorders. Although negative social consequences are thought to be related to such disorders, and in fact, are required for diagnosis in DSM-IV (APA, 1994), the empirical support for the presence and magnitude of these negative social effects is limited. In this paper, a series of five studies are presented. Combined, they provide a comprehensive analysis of the effects of habit disorders on social acceptance attitudes.

Definitions and Diagnoses of Tic Disorders

"Tics are sudden, rapid, recurrent, nonrhythmic, stereotyped motor movements or vocalizations" (APA, 1994, p. 103). There are two broad categories of tics. Motor tics involve the contraction of a group of muscles resulting in a visible movement. Vocal tics involve the movement of the vocal or facial musculature

resulting in some auditory stimulus. Additional descriptors include simple and complex tics. Simple tics involve a behavior with a solitary topography (e.g., eye-blinking), whereas complex tics involve a chain of behaviors, each with a separate topography (e.g., walk three steps, hop, walk three more steps).

Depending on the types of tics and the length of time for which they have been present, a person could receive one of four tic diagnoses (Transient Tic Disorder, Chronic Motor Tic, Chronic Vocal Tic, and Tourette's Syndrome). All four diagnoses require that the tic causes "significant impairment in social, occupational, and other important areas of functioning" (APA, 1994, p. 103). Other shared requirements of the four tic disorder diagnoses include (a) onset before age 18 years, and (b) the ruling out of the physiological effects of substances.

The diagnosis of Transient Tic Disorder requires that an individual show one or more vocal and/or motor tics at multiple times throughout the day, "nearly every day for at least 4 weeks, but for no longer than twelve consecutive months" (APA, 1994; 105). Next, those receiving a diagnosis of Chronic Motor or Chronic Vocal Tics Disorder must exhibit "single or multiple motor or vocal tics...many times a day nearly every day or intermittently throughout a period of more than 1 year, and during this period, there is never a tic free period of at least three consecutive months" (APA, 1994, p. 103). In addition, these individuals must not have been diagnosed with Tourette's Disorder. Finally, individuals diagnosed with Tourette's Disorder exhibit both motor and at least one vocal tic almost daily for a period of at least one year with

no breaks of three consecutive months. Although the comorbidity of transient or chronic tic disorders with other psychiatric conditions is unclear, individuals with Tourette's Disorder often experience a number of comorbid psychiatric conditions. For example, 60% of children with Tourette's Disorder also have Attention Deficit/Hyperactivity Disorder and 50% of individuals with Tourette's Disorder meet diagnostic criteria for Obsessive-Compulsive Disorder (Peterson, 1996).

Definition and Diagnosis of Trichotillomania

Trichotillomania is commonly defined as chronic hairpulling (Woods, Miltenberger, & Flach, 1996a). Individuals qualifying for this diagnosis need to meet the following diagnostic criteria. First, they must exhibit "recurrent pulling out of one's hair resulting in noticeable hair loss." (APA, 1994, p. 621). Second, they must experience a sense of tension before pulling, followed by relief of that tension when pulling the hair from the head. In addition to the above criteria, the hair-pulling must not be better explained by another mental or medical condition, and must be causing "significant distress or impairment in social, occupational, or other areas of functioning," (APA, 1994, p. 621). Individuals with Trichotillomania are also at greater risk of developing anxiety, affective, addictive, and eating disorders when compared to the general population (Christenson, Mackenzie, & Mitchell, 1991).

Prevalence and Gender Ratios

Prevalence data for Transient Tic Disorder are not well established although estimates have placed the incidence as high as 25% of children (Peterson, Campise, & Azrin, 1994). Chronic Tic Disorder is estimated to occur in about 1% of the general population (Azrin & Nunn, 1977). Although it is believed that men experience more Transient and Chronic Tic Disorders, the true ratio of men to women with the disorder is not known (Bruun & Bruun, 1994).

Prevalence and gender ratios are clearer with Tourette's Disorder. The prevalence of the disorder is about .04-.05% of the population (APA, 1994), and it occurs more frequently in men than women by a ratio of approximately 3:1 (APA, 1994).

Although little is known about the prevalence of tic disorders, even less is known about the prevalence of specific tic topographies. Using self-report data and an operational definition of five or more occurrences per day, Woods et al. (1996a) found that 9.3% of college students reported neck twisting, 6.5% reported coughing or throat clearing, 5.2% reported repetitive grimacing, 1.6% reported excessive eye blinking, 2.4% repetitively stuck out their tongue, .8% reported arm jerking, .4% reported jaw popping, and .4% reported shoulder jerking. Although these data provide an estimate of the prevalence of varying tic topographies, their relevance to the problem of tic disorders is limited by their self-report nature and the discrepancy between the operational definitions used in this study and the diagnostic criteria used

in diagnoses.

The prevalence of Trichotillomania is also unclear. However, some studies estimate prevalence between 1 and 4% of the population (Graber & Arndt, 1993; Woods et al., 1996a). During childhood, Trichotillomania appears to be equally distributed across men and women, but this pattern changes in adulthood, when more women are likely to have the disorder (APA, 1994).

Defining Attitudes

As mentioned earlier, a common element in the habit disorder diagnoses discussed thus far is that the disorders must cause significant social impairment. Although "significant social impairment" is not well defined by the DSM-IV, the term may suggest such things as social censure and avoidance of a person with the diagnosis. The issue of social impairment is important because decreased positive social interactions could result in the individual learning and maintaining negative social/emotional behaviors such as loneliness (Asher & Wheeler, 1985), solitary off task behavior (Coie & Kupersmidt, 1983) and hyperactivity and aggression (Denham & Holt, 1993). Additionally, persons experiencing social impairment may be more likely to be fired from a job, have more trouble with the law, and have more psychiatric hospitalizations (Janes, Hesselbrock, Myers, & Penniman, 1979). Because it may be difficult to determine the extent to which a person directly experiences social impairment due to a habit disorder, an alternative strategy to

determine the negative social consequences produced by the presence of habit disorders needs to be considered. A possible alternative involves measuring the social acceptance attitudes of others toward persons with habit disorders.

In the realm of social psychology, there are a number of subspecialties relevant to social perception including likability, impression formation, stereotyping, and social acceptability (Hamilton & Sherman, 1996). Central to all of these topics is the issue of attitudes or beliefs. Before specifically discussing social acceptability, it would be useful to provide a summary sketch of the different theoretical frameworks from which attitudes have been explained.

Attitudes have been defined and conceptualized in three distinct ways. Traditionally, attitudes are defined as "individual mental processes which determine both the actual and potential responses of each person in the social world" (Allport, 1973, p. 23). Implicit in this definition are the assumptions that: (a) an attitude is a mental process, and (b) we behave because of our attitudes. In other words, our attitudes cause our behavior (Street, 1994). Additionally, the traditional conceptualization of attitudes often involves generalized affective verbal responses made to certain stimuli, such as "I like puppies" (Guerin, 1994).

The second definition/conceptualization of attitudes suggests that attitudes are a person's verbal report of their own tendency to approach or avoid certain parts of their environment (Bem, 1968). According to Bem's Self-Perception Theory (1970), an attitude is a report of what a person is doing. For example, if a person is eating a

hamburger and is asked if she likes hamburgers, she will observe her behavior of eating a hamburger and respond that she likes hamburgers. Although this theory has gained widespread acceptance (Guerin, 1994), it seems to have difficulty explaining certain attitude behavior incongruencies. For example, assume the person in the previous example was eating a hamburger but said "I think hamburgers are disgusting." The Self-Perception Theory would have incorrectly predicted that the individual liked hamburgers. An alternative to the first two approaches stems from behavior analytic theory, and seeks to address such discrepancies.

According to this theory, attitudes are a type of verbal behavior under the control of the same environmental variables that control our other verbal and nonverbal behavior (i.e., reinforcement from the verbal community). Thus, expressed attitudes do not measure underlying mental processes and are not simply descriptions of what we are doing (though they may be in some cases), but are products of the verbal community's reinforcing practices. As with all verbal behavior, an attitude could function as a tact, mand, intraverbal, or autoclitic (Guerin, 1994). Going further, attitudes are under the control of a number of variables at any one time, including the target stimulus, the speaker's previous learning history in the presence of the target stimulus and situation, as well as any relevant establishing operations or other stimuli. Instead of an attitude (either an overt or covert verbal statement) directly causing a behavior to occur, the behavior analytic approach suggests that an attitude is under the control of the same variables which produce the nonverbal

behavior. In addition, verbal behavior (e.g., an expressed attitude) may function as another variable in the environment controlling the nonverbal behavior. The expressed attitude (i.e., verbal statement) may function as an establishing operation, making another behavior more or less reinforcing. For example, a person could verbally express an attitude of low social acceptability toward a person with a disability, but in the presence of a person who frowns on mocking the disabled, the person with the negative attitude says nothing. In this case, the attitude increased the probability of a response occurring, but the behavior did not occur because of the discriminative presence of the other person.

Although the attitude may be controlled by the same environmental variables which control the nonverbal behavior, this is not always the case. If the attitude statement and actual nonverbal behavior are congruent (i.e., a person who likes puppies actually plays with puppies), then the same variables are thought to control the verbal (attitudes) and nonverbal behaviors. However, if there is a discrepancy between the attitude and the nonverbal behavior, then different sets of controlling variables may be in operation.

Defining Social Acceptability

As mentioned earlier, one topic covered in the social perception literature is the social acceptability of people with particular behavior problems. Social acceptability attitudes refer to the evaluative verbal statements of a perceiver which

pertain to, and are evoked by, the behavior of the perceived person. Socially acceptable behaviors have been defined as behaviors which, "within a given situation, prove effective or, in other words, maximize the probability of producing, maintaining, or enhancing positive effects for the interactor," (Foster & Ritchey, 1979, p.626). Thus, measurements of social acceptance should tap a wide variety of situations that could possibly affect the potential reinforcers to be received by the person being evaluated.

Measuring Attitudes/Acceptability Toward Others

In this section, different types of attitude/acceptability measures will be discussed along with the strengths and weaknesses of each type

Questionnaire Format

Perhaps the most popular method of measuring evaluative verbal behavior towards others has been the questionnaire method (Gottlieb & Gottlieb, 1977). There have been two major types of questionnaires used to assess such behaviors; the semantic differential and summated Likert scales (Lippa, 1994). In the semantic differential technique, a new scale is constructed for each measured construct. Scales are constructed using a series of bipolar adjectives in which the person rates a target along a continuum established with the bipolar adjectives as anchor points (Lippa, 1994). For example, a subject could be asked to rate their attitudes towards a

minority person using the continuum of good/bad, ugly/beautiful, and smart/stupid. Typically, each bipolar pair would be analyzed separately, yielding a list of adjectives that is descriptive of a person's attitudes toward a specified target.

Another questionnaire measure typically used to measure attitudes towards others is the Likert scale (e.g., 1-7) measure. Researchers using this measure develop a scale of relevant questions created to tap a specific construct. The questions are answered on a Likert scale, and scores for all questions are then summed, yielding a total score that is meant to represent their overall attitude toward the evaluated person, object, or construct (Lippa, 1994).

The questionnaire method of attitude measurement has a number of strengths that has made it relatively attractive to attitude researchers (Kazdin, 1992). First, attitudes are typically considered a verbal construct, thus measurable by verbal means. Second, the questionnaire format is efficient, being relatively inexpensive and not time consuming. Third, it is possible to collect psychometric data on the measures, thus providing statistical support for properties such as reliability and validity.

However, there are weaknesses inherent in the questionnaire format (Kazdin, 1992). First, although it is possible to obtain psychometric data on social acceptance questionnaires, there appears to be surprisingly little development of general, psychometrically strong questionnaires measuring social acceptability of others. Psychometrically supported questionnaires have been developed to measure social

acceptability of specific populations such as homosexuals (Gentry, 1986), or the developmentally disabled (Calhoun, & Calhoun, 1993; Wisely & Morgan, 1981). However, there are few instruments which measure general social acceptability of others. Even the widely used semantic differential is more of a technique rather than a specific scale. Semantic differential techniques, as well as many Likert scales, often appear to be developed with only face validity for their intended purpose.

Peer Nomination Format

The second major method of measuring social acceptability towards others is the sociometric method of peer nomination. Research using this method of attitude measurement typically involves measuring the effects of peer attitudes on the behavior of other peers' behavior (Coie, Dodge, & Coppotelli, 1982). The peer nomination method, primarily used to measure social acceptability of children by their peers, requires children to list the three most popular children in the class as well as the three least popular children. From these nominations, three scores are calculated. The popular children are those receiving the most positive nominations. The rejected children are those receiving the most negative nominations, and the neglected children are those receiving the fewest nominations in either the positive or negative categories. Research has shown that peer evaluation into one of these categories predicts current and future behavior. For example, rejected children seem to exhibit more aggressive, disruptive, off task, and inattentive behavior while

popular children tend to exhibit more prosocial behaviors such as attentiveness and cooperation (Cantrell & Prinz, 1985; Deihman & Holt, 1993; Dodge, Coie, & Brakke, 1982; Green, Vosk, Forehand, & Beck, 1981; Milich, Landau, Kilby, & Whitten, 1982).

The peer nomination method is valuable in using peer attitudes toward others as a predictor of future and later behaviors. It is an excellent method to evaluate the correlation between attitudes toward peers and behavior. However, this method is limited in that it can only be used with children or groups of people who are familiar with each other, thus limiting its utility in different situations.

Behavioral Format

The behavioral measure of attitudes was the response by researchers to explain the discrepancy between verbal attitudes and nonverbal behavior. Such behavioral measures include the measurement of physiological responses to target stimuli and measurements of physical distances established by perceivers (Lippa, 1994).

The behavioral measurement is strong in that it is entirely overt and objective as opposed to the more covert and subjective reports of the questionnaire and peer nomination methods (Lippa, 1994). The weakness in this type of measure is that it is time consuming and expensive to implement, and that attitudes either go unmeasured (from the behavioral point of view) or are inferred (from the other two theoretical standpoints) from the observed behavior (Lippa, 1994).

Having discussed the measurement of attitudes/acceptability, focus will shift to the variables in the environment that have been demonstrated to produce an impact on the social acceptance attitude of the perceiver toward a target person. Specifically, the concepts of physical attractiveness, gender, topography, frequency, and the effects of habitual behaviors on the social acceptability of the person with the habit will be discussed.

Variables That Affect Attitudes/Social Acceptance

In the social psychology literature, there have been a number of variables found to influence a perceiver's social acceptance of others. In this section, three such influential variables will be discussed: the physical attractiveness of the individual, the gender of both the perceiver and the perceived, and the characteristics of behavior in which the perceived person is engaged.

Physical Attractiveness

Perhaps one of the most robust findings in social acceptance literature is that more attractive individuals are more socially acceptable. Typically, researchers investigating the effects of physical attractiveness on the social acceptability of others will briefly present a stimulus photograph of a person to a participant and then ask the participant to rate the person in the picture using one of the attitude measures described earlier (Ritts, Patterson, & Tubbs, 1992). Research is consistent in showing

that attractive individuals are rated as (a) more friendly, (b) more attentive, (c) more popular, and (d) more outgoing (Ritts et al., 1992).

Dion and Berscheid (1974) used a sociometric measure to obtain popularity ratings in young children (4 to 6 years old). Subsequently, adults rated the children on physical attractiveness. Results showed that the more attractive children showed greater popularity. Similar results were found in other age groups including elementary and high school students (Cavior & Dokecki, 1973), college students (Dion, Berscheid, & Walster, 1972; Miller, 1970), and infants as young as 2-3 months old (Langlois, Ritter, Roggman, & Vaughn, 1991; Langlois, Roggman, Casey, Ritter, Rieser-Danner, & Jenkins, 1987). In addition to physical attractiveness, vocal attractiveness (e.g., ratings of voice attractiveness) has been found to produce differing social acceptability ratings with individuals being more likely to socialize with individuals who had "attractive voices" (Miyake & Zuckerman, 1993).

The variable of attractiveness is important in the discussion of social acceptability of persons with habit disorders because it is possible that habit behavior results in decreased attractiveness which would then result in a lower social acceptability of the person with the habit disorder. An additional reason for reviewing the effects of attractiveness is that awareness of the relationship between attractiveness and social acceptability may prevent false conclusions about habit behaviors causing differences in social acceptability, when such differences could be a result of attractiveness.

Gender

The role of gender in the social acceptability literature is unclear. Researchers must not only consider the gender of the person to be rated, but must also concern themselves with the gender of the rater. In the social acceptability literature it appears that main effects of either the rater or the person being rated, are uninterpretable without knowledge of the other variable (Friedrich, Morgan, & Devine, 1996; Siperstein & Gottlieb, 1977; Wisely & Morgan, 1981)

What appears to be consistent is the suggestion that there is an interactive effect which results in children rating their same gender peer as more socially acceptable than the opposite gender peer (Bruininks, Rynders, & Gross, 1974; Friman, McPherson, Warzak, & Evans, 1993; Wisely & Morgan 1981). From this literature, it appears that any research evaluating the social acceptability of persons with habit disorders must include the variables of the rater's gender and the gender of the perceived person for the interpretative picture to be complete.

Behaviors

Different aspects of behavior also have an effect on the social acceptability of a person. Such variations of behavior include the topographical changes in behavior, frequency of behavior, and habitual behavior.

Topography

Few studies have evaluated the effects of behavioral topography on person perception. From the research that does exist, it appears that more salient negative behaviors result in a lower acceptability of the person exhibiting them.

In measuring first impressions of people with Parkinson's disease, Pentland, Pitcairn, Gray, and Riddle (1987) had participants (health professionals) view 1.5 minute silent segments of a person with Parkinson's disease engaging in an interview as well as a videotape of matched controls. The participants were asked to rate the social acceptability of the persons in the videotapes. The authors found that the Parkinson's patients were rated as much less acceptable.

A follow up study by Pitcairn, Clemie, Gray, and Pentland (1990) attempted to determine the cues responsible for the findings in the previous study. A post-hoc content analysis of the videotapes used in the previous study was conducted and showed that the number of smiles emitted by both groups was equal, but the topography was different between the two groups with the normal group showing more "normal" smiles and the Parkinson's group showing more "phoney" smiles. Additionally, the persons in the normal videotapes had faster and smoother movements and gestures than did the Parkinson's group. The authors concluded that the topography of the behavior exhibited by the Parkinson's patients may have been responsible for their poor social acceptance. However, since the topography of the smiles were not experimentally manipulated, definitive conclusions cannot be drawn.

This study suggests that topography of the behavior could affect the social acceptability ratings of a person engaging in a given behavior. Specifically, one could assume that a more noticeable topography would result in a more extreme social acceptability rating.

Frequency

According to Van Houten (1979), the frequency of potential target behaviors should be varied to determine the level at which the behavior becomes socially acceptable. Few studies have investigated the role of behavior frequency and its effects on social acceptance ratings.

Jones and Azrin (1969) evaluated speech naturalness (which could be considered a measure of acceptability) in a treatment for stuttering involving the manipulation of stimulus beat duration. Participants were required to speak during vibratory pulses of differing lengths of time ranging from .1 to 300 s. When the pulse was active, the participant was required to engage in speech, whereas when the pulse was ended, they were asked to stop speaking. Speech naturalness was judged by independent observers, and it was found that speech was rated as significantly more normal during the 2-3 s pulses. This suggests that speech segments of higher or lower frequency were rated as less acceptable. Thus, it may be possible that for other behaviors, varying levels of frequency could result in decreased acceptability.

Another study by Stang (1973) looked at effects of speech frequency on

ratings of impression formation. Participants were asked to listen to three types of readings including one with a small number of words, one with a medium number of words, and one with a high number of words. The three passages were each read across a span of 3-4 min. Results showed that the high and low word groups were rated as significantly less likable than the medium word groups. This would suggest that the frequency of the words influenced acceptability ratings. Combined, these two studies suggest that any variable manipulation (in this case, frequency) that results in a more noticeable or "salient" behavior will result in more extreme social acceptability ratings.

Habit Behaviors

A number of different variables can affect the attitudes of social acceptability, such as the frequency and topography of another person's behavior, the physical attractiveness or gender of the other person, and the gender of the rater. Another variable, the presence of noticeable behavior patterns such as habit disorders, may also influence social acceptability. As noted earlier, there are a number of individuals with various habit disorders including motor tic disorders, vocal tic disorders, Tourette's Syndrome, and Trichotillomania. Central to all of these disorders is the disruption in social functioning that a person with such a disorder may experience. By determining the effect that the presence of habit disorders has on the social acceptability of a person, the causes of the disruption in social functioning may be

better understood.

Few studies have systematically evaluated the social acceptability of persons with habit disorders. To date, only five such studies have been conducted (Finney, Rapoff, Hall, and Christopherson, 1983; Friedrich et al., 1996; Friman et al., 1993; Stokes, Bawden, Camfield, Backman, & Dooley, 1991; Woods, Miltenberger, and Lumley, 1996b).

Friman et al. (1993) evaluated the social acceptability of a 7-year-old boy, and a 7-year-old girl, both of whom sucked their thumb. The authors measured social acceptability using the ten item Social Acceptability Instrument. This Likert scale instrument was created using face valid questions taken from literature on peer acceptance and demonstrated an internal consistency of $\alpha=.93$. Forty first-grade students (20 boys, 20 girls) watched a total of four slides of the two thumbsucking children in different poses over the course of two weeks. During the first week, the student raters watched the boy in a thumbsucking pose, with the girl in the nonthumbsucking pose. A week later, these conditions were reversed, with the boy being posed as the non-thumbsucker, and the girl shown sucking her thumb. After viewing each slide, the children were asked to complete the Social Acceptability Instrument.

This study found that the child raters rated the same gender peer as more positive, and the children shown sucking their thumb as more negative. Friman et al. (1993) reported that the thumbsucking variable was not differentiated by girl raters

when a boy was the stimulus actor, but boy raters did rate the thumbsucking boy as less acceptable. However, when a girl was placed in the thumbsucking pose, she was rated much lower by girl and boy raters than the girl in the non-thumbsucking pose. These results suggest, that among children, simply viewing a person in a thumbsucking pose will result in lower social acceptability ratings of that person. However, the conclusions must be made cautiously because gender differences appeared to play a role in how acceptable a person was perceived to be, and the differences in social acceptability caused by gender has been unclear in previous research.

Another study evaluating the social acceptability of persons with tic disorders was conducted as part of a treatment study for children with motor tics (Finney et al., 1983). In this study, participants (blind to condition) were asked to rate the pre- and posttreatment distractiveness of behaviors seen in videotapes of children with motor tics. Results showed that pretreatment segments were rated as much more distracting than posttreatment tapes, suggesting that the decrease in tics observed in the study results in more socially acceptable behavior.

Another treatment study that evaluated the social acceptability of persons with tic disorders was conducted by Woods et al. (1996b). In this study, the authors asked independent observers to rate pre- and posttreatment segments of behavior from children with motor tics. Results showed that the observers rated the child's behaviors as more noticeable and less natural prior to treatment when compared to

posttreatment. This study, as well as the study by Finney et al. (1983), is limited because of the uncontrolled nature of the social acceptability assessments. Although these studies offer good case study data, they do not allow us to draw conclusions about the variables responsible for the low social acceptability ratings.

Friedrich et al. (1996) evaluated the social acceptability of a person with a tic disorder. In this study, a fourth grade child actor was asked to simultaneously simulate a number motor tics including neck jerks, shoulder jerks, and arm jerks across two conditions. In one condition, the child simulated the tics and provided an introduction of himself. In a second condition, the child simulated the tics, provided an introduction of himself, and provided a brief explanation of his tics. A third condition was also created, which had the child actor simply provide a brief description of himself.

Participants (153 third- and fifth-grade children) were randomly assigned to one of the three conditions, and asked to complete three attitude measures after viewing the videotape segment. The three measures included the Adjective Checklist (used to measure attitudes toward the handicapped), the Activity Preference Scale (used to measure behavioral intentions toward the child in the videotape), and the Foley Questionnaire (also a measure of behavioral intention).

Results showed that the child actor was rated more positively on the Adjective Checklist when exhibiting no tics than in either of the conditions in which tics were exhibited. There were no differences on measures of behavioral intention between the

three conditions, suggesting that the children did not intend to behave differently with the child exhibiting the tics than they would have if the child had not been exhibiting the tics. These results again lend support to the idea that children with motor tics and perhaps other habit disorders are viewed as less socially acceptable, at least on attitudinal measures.

The final study investigating the negative social impact caused by the presence of habit disorders was conducted by Stokes et al. (1991) who investigated the adverse social effects experienced by children with Tourette's Syndrome. In this study, the classroom peers of children with Tourette's Syndrome were asked to complete a sociometric instrument (Pupil Evaluation Inventory) which required them to evaluate their classmates on three factors; aggression, withdrawal, and likability. Results showed that the children with Tourette's Syndrome were seen as more withdrawn and less popular than their same gender peers without Tourette's Syndrome. However, the Tourette's Syndrome children were rated no different on the aggression factor than their same gender peers without Tourette's Syndrome. In addition, it was discovered that the frequency and severity of Tourette's Syndrome as measured by a standardized clinician rating scale did not predict the negative social effects experienced by the child.

Although these studies all suggest that the presence of habit disorders results in decreased social acceptability of the person exhibiting the disorder, they have common features which may limit their conclusions. First, all studies evaluated the

social acceptability of children, thus limiting conclusions that can be made with respect to adults. Second, only three of the five studies evaluated the children in actual social situations, thus limiting the generalizability of the findings (Finney et al., 1983; Stokes et al., 1991; Woods et al., 1996). Third, only one of the studies (Stokes et al., 1991) mentioned the effects of frequency or severity on the social acceptance of the person. Although Stokes et al. (1991) did not demonstrate a relationship between Tourette's Syndrome frequency and severity and social acceptability, a number of factors limit their conclusions. First, the frequency and severity were not systematically manipulated with frequency and severity being measured by a clinical rating scale. Second, no attempt was made to control for the effects the child may have experienced as a result of having engaged in a higher frequency or more severe tic at an earlier time. It is quite possible that the negative social effects measured by the study were a result of an earlier, more frequent and severe, tic. Thus, until frequency and topography levels can be systematically manipulated, it will be difficult to draw firm conclusions about the effects of these variables on the social acceptance of individuals who exhibit habit disorders.

Determining whether or not social acceptability varies on a continuum as a function of the frequency and topography of the habit behaviors or whether it is more analagous to a dichotomous variable that changes to a certain level when habit behaviors are present, regardless of the topography and frequency of the habit, has important clinical implications. If the mere presence of habit behaviors, no matter

how infrequent or how mild the topography, results in significant decreases in social acceptability, then the complete elimination of the behavior will need to be the focus of clinical treatment. However, if social acceptability is influenced by habit disorders occurring on a continuum from low to high frequency or mild to severe topography then mere reductions in habit frequency or topography (not complete elimination) may be sufficient to eliminate negative social effects experienced by individuals with habit disorders.

Purpose of Proposed Research

The present study is a combination of research conducted to investigate the effects of a number of variables relevant to the social acceptability of persons with habit disorders. Studies 1 and 2 investigate the social acceptability of adults with motor tics, vocal tics, and chronic hairpulling of stable frequency and topography. The limitations of these two studies serve as the basis for the remaining three studies.

As noted earlier, the variables of frequency, topography, and gender can influence social acceptability. However, these variables (except gender) have never been experimentally manipulated with respect to habit disorders. Studies Three, Four, and Five were conducted to (a) establish test-retest reliability and concurrent validity of the measure used in Study 1 (Social Acceptance Scale), (b) determine whether the frequency of the habit behavior has an effect on social acceptance ratings, (c) determine the effect of habit severity on the social acceptance ratings of

perceivers, (d) determine the interactive effects of gender on the perceivers acceptance ratings of the person with the habit disorder, and (e) determine if a sequence effect occurs when watching persons with habits and no habits back to back

STUDY 1

Purpose of Study 1

The purpose of Studies 1 and 2 was to establish the social acceptability of individuals exhibiting three types of habit disorders – motor tics, vocal tics, and chronic hairpulling – when compared to a person exhibiting no habit behavior. In order to conclude that differences in social acceptability were due to the presence of a habit behavior and not physical or vocal attractiveness, Study 1 was conducted to assure that the four individuals exhibiting the habit disorders in Study 2 were not statistically different in physical or vocal attractiveness.

Method

Subjects

Five undergraduate and graduate students (4 women, 1 man) from a large midwestern university were recruited to participate in this study.

Materials

Initial Attractiveness and Speech Normalcy Videotape (IASNV)

This videotape consisted of four male actors ranging in age from 19 to 25

introducing themselves by name, age, and hobbies/interests. Each actor spoke separately for approximately 10 s in the same surroundings.

Initial Attractiveness and Speech Normalcy Scale (IASNS) .

Using a 7-point Likert scale, this two-item scale (see Appendix A) measured ratings of general attractiveness and ratings of general speech normalcy. The first question asked respondents to rate general attractiveness with one being very unattractive and seven being very attractive. The second question asked respondents to rate speech normalcy, with one representing very normal speech and seven being very abnormal speech.

Procedure

After watching one of the actors in the IASNV introduce themselves, the tape was stopped, and the participants were asked to rate the attractiveness and speech normalcy of the actor using the IASNS. This procedure was continued until all four actors had been rated.

Results

A repeated measures analysis of variance was conducted for each item in the IASNS. The ratings of the actors (See Table 1) did not differ from each other in terms of attractiveness, $F(3,12) = 1.56, p > .05$, or speech normalcy, $F(3, 12) = .39$,

$p > .05$, when they were not engaging in their respective habit behaviors.

Table 1
Mean Attractiveness and Speech Normalcy Ratings

Scale	<u>Actors' Condition</u>			
	No Habit	Motor	Vocal	Hairpulling
Attractiveness				
<u>M</u> (N=5)	3.6	3.4	2.8	3.2
<u>SD</u>	1.5	1.3	1.1	.8
Speech Normalcy				
<u>M</u> (N=5)	1.6	1.4	1.2	1.4
<u>SD</u>	.6	.6	.5	.6

Discussion

This study established that the actors used in Study 2 did not differ in perceived attractiveness or speech normalcy. With these conclusions, it is unlikely that differences in social acceptability found between the actors in Study 2 can be attributed to physical or vocal attractiveness.

STUDY 2

Purpose of Study 2

The purpose of this study was to compare the social acceptability of individuals exhibiting one of three different habit disorders (motor tics, vocal tics, and hairpulling) to an individual exhibiting no habit behavior. Results of this study will determine if the presence of a habit disorder at a fixed frequency and topography will result in decreased social acceptability of a person.

Method

Subjects

One hundred three undergraduate students (69 women, 34 men) with a mean age of 20.8 yrs ($SD = 5.25$) were recruited for participation from two midwestern universities. They were offered course extra credit or eligibility for a \$25 dollar drawing for participation in the study.

Materials

Social Acceptance Scale (SAS)

This 15-item scale (see Appendix B), created by the author, measures the

social acceptability of persons with habit disorders. Participants rate the person with the habit on a 7-point Likert scale for each question with the lower numbers suggesting a more negative evaluation of the person, and higher numbers suggesting a more positive evaluation. Nine of the 15 items are reverse coded in an attempt to prevent response bias. The sum of all 15 items is then calculated to yield a total acceptability score ranging from 15-105, with higher scores indicating greater acceptability. The SAS, based on an instrument developed by Friman et al. (1993), was developed using face valid questions thought to tap the construct of social acceptability. Internal consistency was calculated with the present data set and produced a Cronbach's alpha of .88. Previous research suggests that the measure has predictive validity in job hiring situations (Long, Woods, Miltenberger, Fuqua, & Boudjouk, in press).

Habit Videotapes I

These four videotapes contained the four actors described in Study 1. Each actor acted out one of four habit conditions while role playing a 2.5 minute job interview with the researcher. The camera was focused entirely on the actor, and each habit was presented on a separate videotape. The actors followed the same script during the job interview so the content of the interview would not vary.

In the Motor Tic video, the actor simulated a facial tic that consisted of opening his mouth widely and pulling back the corners of the mouth in a rapid

fashion. The simulated tic occurred an average of 12 times per minute during the videotape. In the Vocal Tic video, the actor simulated a vocal tic that consisted of a low guttural throat clearing. This behavior occurred an average of 15 times per minute during the videotape. In the Hairpulling video, the actor grabbed and tugged handfuls of hair from the top of his head with his right hand. This behavior occurred during 82.5% (124 out of the 150 second videotape) of the videotape. In the Normal videotape condition, the actor did not engage in any habit behaviors.

Procedure

Individually or in groups of 2-4 persons, participants were shown each of the four habit videotapes. After viewing each videotape, the participants were asked to complete the SAS as it pertained to the person in the videotape they had just viewed. The position of the Normal videotape was counterbalanced (the normal videotape occurred equally in the first, second, third, and fourth viewing positions), and the presentation of the other three was randomly selected. When participants were run in groups they were placed around the room so they could not view the responses of the other participants. Participants were not instructed to stay quiet throughout the viewing of the videotapes. However, observation during these sessions suggested that participants were not typically engaging in conversation with each other or commenting on the videotapes. Participants' questions regarding the behaviors seen in the videotapes were not answered until the end of the study.

Results

A 2x4 mixed ANOVA with one between subjects factor (participant gender), and one within subjects factor (ratings on SAS for four habit groups) was conducted. There was no main effect for gender, and the group by gender interaction was not significant. A main effect was found for the within subjects factor of habit group (See Table 2), $F(3,303) = 24.13, p < .01$. Games-Howell post-hoc tests showed (See Table 3) that the participants rated the actor in the normal condition higher than the actor in the motor tic condition, the actor in the hairpulling condition, and the actor in the vocal tic condition. The ratings of the actors in the motor and vocal tic and hairpulling conditions did not differ.

Table 2

Mean Social Acceptance Scale Ratings Across Conditions

	<u>Condition</u>			
	No Habit	Motor	Vocal	Hairpulling
<u>M</u>	66.9	56.3	55.8	52.1
<u>SD</u>	15.3	13.7	11.7	13.3

Table 3

Results of the Games-Howell Comparisons On SAS Data for Habit Condition

	No Habit (66.9)	Motor (56.3)	Vocal (55.8)	Hairpulling (52.1)
No Habit (66.9)	----	10.6*	11.1*	14.8*
Motor (56.3)		----	0.5	4.2
Vocal (55.8)			----	3.7

* significant difference between the group means (seen in parentheses) at $p < .05$

Discussion

In this study participants rated the actors in the habit conditions as significantly less socially acceptable than the actor in the non-habit condition. As determined in Study 1, these results cannot be explained by differences in the baseline attractiveness or speech normalcy of the actors.

Results from Study 2 show that the individual who exhibited the levels of habit frequency and topography used in this study were rated as less socially acceptable than the individual who did not exhibit such habits. The results from this study are consistent with predictions derived from previous research conducted with children (i.e., Friedrich et al., 1996; Friman et al., 1993). Thus, it appears that habit disorders have a negative impact on the social acceptance attitudes of adults toward

other adults with these disorders.

Although this study provides preliminary evidence of the detrimental social effects of habit behaviors on the social perception of a person in a job interview situation, there are a number of modifications necessary in the research design to make the results more useful. First, it was unclear as to what variable was responsible for the negative social perception. Perhaps it was the frequency of the behavior, or perhaps the topography. Second, the habits were not rated by professionals to be valid habit behaviors. Perhaps, these behaviors were not representative of actual habit behaviors. Third, the behaviors occurred in a job interview situation. If the behavior occurred in a less socially important situation, perhaps the social impact would not have been as severe. Fourth, the group of stimulus actors did not include females, and thus the interactive effects of participant and actor gender could not be assessed. Fifth, although the actors were statistically equal in physical attractiveness and speech normalcy, it is possible that an unnamed variable was responsible for the differences in social acceptability. Until an actor is used as his or her own control, all possible confounding variables cannot be eliminated. Sixth, the measure used as the dependent variable had limited psychometric properties, thus limiting the conclusions that can be made in this study. For example, should the SAS demonstrate poor test-retest reliability, the results found in this study may not be replicated due to simple measurement error. Likewise, in the absence of validity data, the test may not even be measuring the construct of social acceptability.

The final limitation of this study involved the possible discrepancy between statistically significant and clinically significant differences. Though the results demonstrated statistically significant differences in the ratings between the "no habit" condition and the three remaining habit conditions, the clinical significance of the findings were not measured. It is possible that statistically significant differences between the ratings of different conditions on the SAS would produce no meaningful effects on the individual experiencing the habit disorder.

The next series of studies addressed the concerns brought about in the first two studies. First, the remaining studies all included habits rated by professionals to be valid representations of habit behaviors. Second, tests were conducted for sequence effects of a habit condition being preceded and followed by a normal condition. In addition, test- retest reliability and concurrent validity data were obtained for the Social Acceptance Scale. Third, habit topography and frequency were manipulated in terms of high/low frequency and mild/severe topography. Fourth, male and female actors were used for each condition. Fifth, only one actor and one actress simulated the behaviors associated with all of the habit conditions across each of the four habit classes (motor tic, vocal tic, Tourette's Syndrome, and Trichotillomania). These design alterations resulted in more meaningful comparisons between the habit conditions and habit classes. Finally, the behaviors were role played in a less socially important, but perhaps more common environment.

STUDY 3

Purpose of Study 3

The purpose of the next three studies was to determine the effects of manipulating the frequency and topography of the habit behavior and the gender of the person with the habit on the social acceptability of the person. In addition, an attempt was made to obtain more psychometric data on the SAS, and to determine the presence of sequence effects when viewing individuals with and without habit behaviors. As mentioned earlier, a weakness of Study 2 was the failure to obtain clinical validation of the habits portrayed in the videotapes which were rated by the participants. The purpose of Study 3 was to establish the clinical validity of the habit behaviors demonstrated in the stimulus videos used in Studies 4 and 5. Establishing the clinical validity of the behaviors will allow more valid conclusions to be drawn from the results.

Method

Subjects

Five Master's and Ph.D. level clinical psychologists were recruited to evaluate the clinical validity of the habit behaviors exhibited by the actors in Study 5. All of the raters had seen a person with a motor tic in a professional setting and all five had

treated a person with a motor tic. Four of the five raters had seen a person with a vocal tic in a professional setting and two had treated a person with a vocal tic. All of the raters had seen a person with Tourette's Syndrome in a professional setting and four had treated a person with Tourette's Syndrome. Finally, all of the raters had seen a person with Trichotillomania in a professional setting and three had treated a person with Trichotillomania.

Materials

Habit Validity Questionnaire

This questionnaire (see Appendix C), created by the author, was given to participants to assess the validity of the habits presented in the Habit Validation Videotapes (described below).

Habit Validation Videotapes

For each actor (one man, one woman) 30 s samples were randomly selected for each of the four types of habits from the Habit Videotapes (described in Study 5 below).

Procedure

The participants were asked to watch each of the eight Habit Validation Videotapes (motor tics, vocal tics, TS, and hairpulling across both actors) presented in

a random order. Before viewing each habit, participants were told of the target behavior in the videotape and were told that they would be rating the accuracy of the actors portrayal of the habit. After each videotape, the participants completed a Habit Validity Questionnaire.

Results/Discussion

The scores of the questions on the Habit Validity Questionnaire are summed and reported in terms of means and standard deviations (see Table 4). Videotapes with a mean "range of topography" rating (answer to question 3 on Habit Validity Questionnaire) of three or lower were used in Studies 4 and 5 as valid portrayals of the behavior.

As can be seen in Table 4, the participants rated all behaviors exhibited by both of the actors within the range of common topographies for the behavior. In addition, the participants viewed the behaviors as resembling DSM-IV disorders (see Table 5).

Finally, Table 6 presents data to suggest that the participants thought the behaviors portrayed by the actors warranted clinical attention. Combined, the results from Study 3 suggest that the habit behaviors portrayed by the actors were clinically valid portrayals of actual habit behaviors. These findings address the concerns in Studies 1 and 2 which suggested that the results may not be generalizable to those truly experiencing habit disorders because the portrayals may have been inaccurate.

In Studies 4 and 5, habits portrayed in the stimulus tapes can be considered accurate and valid portrayals of habit disorders. Thus, results based on these portrayals will be generalizable to individuals exhibiting similar topographies.

Table 4

Means and Standard Deviations of Ratings for Question 3 ("... within the range of common topographies...?") of the Habit Validity Questionnaire

	Trichotillomania	Motor Tic	Vocal Tic	Tourette
Male Actor	2.4	1.8	1.6	2.0
<u>SD</u>	.89	.84	.89	.00
Female Actor	3.0	2.6	1.8	2.2
<u>SD</u>	.89	.89	.84	1.3

Note. Judgments were made on a 5-point scale (1 = well within range, 5 = not at all in the range).

Table 5

Professional Raters Evaluation of DSM-IV Validity of the Habit Behaviors (answer to question 5, "...topography of the behavior in the videotape match DSM-IV criteria..." on Habit Validity Questionnaire)

	Trichotillomania	Motor Tic	Vocal Tic	Tourette
<u>Male Actor</u>				
Matches DSM-IV	4	5	5	5
Does not Match DSM-IV	1	0	0	0
<u>Female Actor</u>				
Matches DSM-IV	4	4	5	5
Does not Match DSM-IV	1	1	0	0

Table 6

Professional Raters Answers to Question 4 ("... is the behavior exhibited...severe enough to warrant professional treatment?") on the Habit Validity Scale

	Trichotillomania	Motor Tic	Vocal Tic	Tourette
Male Actor	3.8	4.0	4.3	4.2
<u>SD</u>	.84	1.0	1.1	.84

Table 6-Continued

	Trichotillomania	Motor Tic	Vocal Tic	Tourette
Female Actor	2.6	3.2	4.4	4.2
<u>SD</u>	.55	1.3	.89	1.1

Note. Judgments were made on a 5-point scale (1= not needed, 5 = definitely needed).

STUDY 4

Purpose of Study 4

The purpose of Study 4 was to determine the test-retest reliability and concurrent validity of the Social Acceptance Scale and to determine the existence of sequence effects in the evaluation of persons with habit disorders. Establishing additional psychometric properties of the SAS will allow more meaningful conclusions to be drawn from the results. Although the presence of sequence effects will not affect the interpretation of the results of Study 5, determining if sequence effects occur may be of clinical utility.

Method

Subjects

Sixty-nine undergraduate psychology majors (19 men, 50 women) were recruited from Western Michigan University. Participants had a mean age of 20.7 years (range = 18 to 33). Participants were randomly assigned to one of two groups. Group 1 had 10 men and 24 women while Group 2 had 9 men and 26 women.

Materials

Social Acceptance Scale

This scale was the same as described above in Study 2.

Tolerance Scale

This 6-item scale (see Appendix D) created by the first author, but based on a format originally developed by Yamamoto and Dizney (1967) was used to measure perceiver attitudes towards the actors in the stimulus tapes. Participants completing this questionnaire were asked to answer six yes/no questions measuring verbal reports of social acceptance. For each "no" response given, the item was scored as one point. Thus, if the participant answered "no" to all questions, he or she would have a Tolerance Scale score of six, indicating very high social acceptance of the rated person. The Tolerance Scale has demonstrated excellent test-retest reliability ($r=.96$), and good discriminant validity by showing that individuals with mental illness were significantly less acceptable (as measured by the Tolerance Scale) than "normally healthy" individuals (Yamamoto & Dizney, 1967).

Habit Videotapes

The videotapes (as described below in Study 5) of the male actor in the high frequency/high severity motor tic condition and the "no habit" condition were used in

this study.

Procedure

Participants in Group 1 viewed the "no habit" videotape first, followed by the high frequency/high severity motor tic videotape. After viewing each tape, the participants completed the SAS and the Tolerance Scale. Participants in Group 2 viewed the high frequency/high severity motor tic videotape first, followed by the "no habit" videotape. Again, after viewing each tape, the participants completed the SAS and Tolerance Scale. Sixty-three participants returned for retesting one week later at which time they watched the videotapes in reverse order from their initial viewing order. Thus, during retesting, Group 1 participants viewed the high frequency/high severity tic tape followed by the "no habit" videotape. Likewise, during retesting Group 2 participants watched the "no habit" tape followed by the motor tic tape. After the second viewing of each videotape segment, the participants were again asked to complete the SAS.

Results

A 2 (group) by 2 (condition viewed) mixed ANOVA was conducted to test for sequence effects. Results (see Figure 1) showed a significant main effect of group, $F(1, 67)=19.59, p<.01$, indicating that Group 1 ratings ($M=56.76, SD=13.07$) were significantly lower than the ratings of Group 2 ($M=70.57, SD=12.84$). Results also

showed a significant main effect of condition viewed, $F(1, 67) = 56.7, p < .01$, indicating that the motor tic condition ($M=58.46, SD=13.07$) was rated significantly lower than the "no habit" condition ($M=69.07, SD=15.26$). The group by condition viewed interaction was not significant, $F(1, 67) = .40, ns$.

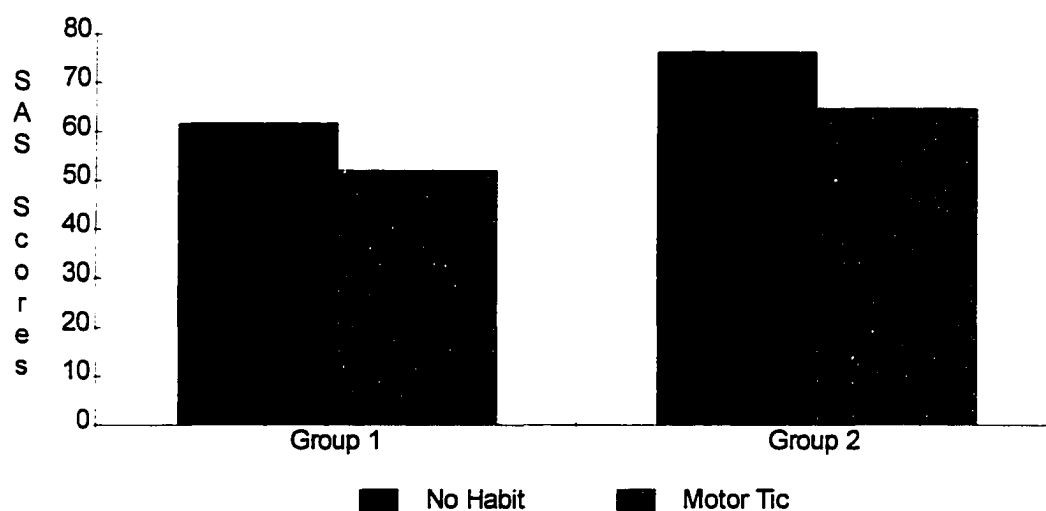


Figure 1. SAS Scores Across Groups in the Test of Sequence Effects.

Test-retest reliabilities of the SAS were calculated by finding the Pearson correlation between the total SAS scores during the first and second trials. A separate reliability coefficient was calculated for the SAS under each condition ("no habit" and Motor Tic). The 1-week test-retest reliability for the "no habit" condition was $r(63) = .72, p < .01$, and the 1-week test-retest reliability for the motor tic condition was $r(63) = .87, p < .01$.

Concurrent validity was determined by calculating the Pearson correlation between the total SAS scores and the Tolerance Scale scores for each of the two

conditions. In the "no habit" condition there was a significant positive correlation between the SAS and the Tolerance Scale, $r(63) = .63, p < .01$. In the motor tic condition there was also a significant positive correlation between the SAS and the Tolerance Scale, $r(63) = .70, p < .01$.

Discussion

The purpose of Study 4 was to determine the test-retest reliability and concurrent validity of the SAS as a measure of social acceptability. In addition, an attempt was made to determine the effects of viewing sequence on social acceptability ratings. Though the level of acceptable test-retest reliability for attitude measures is unclear, Helmstadter (1964) suggests that a test-retest reliability of .79 is quite common. Results of Study 4 found test-retest reliability in the .72 to .87 range, indicating that the SAS is a reliable measure of social acceptability. In addition, the significant correlations between the SAS and the Tolerance Scale, an established measure of social acceptability, indicate that the SAS is also a valid measure of social acceptability. Although the preliminary data are supportive of the use of the SAS as a measure of social acceptability, further work needs to be done to determine if it is possible to predict socially relevant behavior (i.e., quality and style of social interaction or choices for employment or affiliation) from the verbal behavior measured by the SAS.

In addition to examining the psychometric properties of the SAS, an attempt

was made to determine the effects of viewing sequence on ratings of social acceptability. Results showed that participants who watched the "no habit" condition followed by the motor tic condition gave the actors lower ratings in both conditions relative to participants who rated the motor tic condition followed by the "no habit" condition. These results indicate the effects of viewing sequence on ratings of social acceptability as they suggest that upon an initial viewing of a person, individuals rate others as somewhat acceptable; however, subsequent viewing of that person behaving differently will affect our social perceptions of the person. This phenomenon, assigning a neutral rating that is then altered as more information becomes available, is known in cognitive psychology as the anchoring and adjustment heuristic of decision making (Matlin, 1989).

In the current study, both groups rated the actor in first condition viewed as relatively neutral (Group 1 viewed the "no-habit" condition, while Group 2 viewed the tic condition). However, with additional information provided by the second tape, participant ratings were altered. In the case of Group 1, the addition of the second videotape (the Motor Tic condition) included stimuli (presumably the tics) which evoked negative verbal behavior (i.e., lower ratings on SAS). However, in the case of Group 2, the lack of formerly aversive stimuli (the tics present in the first tape Group 2 viewed), resulted in a more positive adjustment when viewing the second tape (the no-habit condition). Thus, while the viewing sequence did not influence the overall pattern of higher acceptability for the "no-habit" condition, the viewing sequence did

affect the relative magnitude of the acceptability scores.

The results of this study have important clinical implications. In exhibiting the effects of sequence, it appears that the negative social effects resulting from tic occurrence can be ameliorated by decreasing the tic behaviors. In this study, participants who viewed the motor tic condition followed by the normal condition rated the participant as more acceptable during the normal condition after having been exposed to the person exhibiting the motor tic. This suggests that the stigmatizing effect of tic occurrence during early impression formation may be reducible by decreasing or eliminating tic occurrence in later interactions with the individual.

Although Study 4 suggests that an initial impression of someone with a tic can be altered by later interactions in which the tic is not present, this conclusion can not be made with certainty. It is quite possible that the person acting as an evaluator will seek to actively avoid the individual in subsequent interactions and thus, will not be exposed to the new information (i.e., the person being tic-free) that may alter the person's perceptions of the individual with the tic disorder. Likewise, although this study suggests that initial impressions of someone who does not exhibit a tic can be altered by later seeing the individual engage in a tic, this may not occur for a number of reasons. First, it is possible that during the initial interaction with the person, the individual creating the first impression may come under the control of other interpersonal variables such that the presence or absence of a tic becomes a weaker variable in the control of social behavior involved in interacting with the person who

exhibits the tic. Second, the introduction of tic behaviors after the initial "no-habit" meeting may occur at a level that is undetectable to the person making the initial impression. It is possible that habit behaviors occurring at a specific low frequency or a mild topography do not add sufficient stimuli to the environment, which then produce the negative verbal behavior (i.e., attitudes).

In Study 2 it was demonstrated that the mere presence of a habit behavior at a set frequency could yield lower social acceptability ratings when compared to a "no-habit" condition. In Study 4, it was demonstrated that eliminating a habit behavior after a person had been engaging in the behavior could improve the social acceptability of the person. The next step involves combining these two lines of research. In Study 5, an attempt is made to determine the effects of frequency and topography on the social acceptability of individuals who exhibit habit behaviors. Study 5 seeks to determine the variables responsible for altering the social acceptability ratings of individuals who exhibit habit behaviors.

STUDY 5

Purpose of Study 5

The purpose of this study was to determine the effects of viewing habit conditions of differing topography, frequency, gender of the actor and gender of the rater on the social acceptability of the person with the habit.

Method

Subjects

One hundred twenty undergraduate psychology students (34 men, 86 women) were recruited from Western Michigan University. The mean age of the participants was $M=21.5$ years (range = 18 to 42). The participants were equally divided into one of four groups ($n=30$ per group) based on the habit condition they viewed (Motor Tic, Vocal Tic, Tourette's Syndrome, and Hairpulling).

Materials

Preliminary Questionnaire

This questionnaire, created by the author (see Appendix E), asked participants about their contact with tic or habit disorders. The participants were asked if they had

a nervous habit or motor tic, how often it occurred, and if a relative or close friend had a severe nervous habit or tic problem.

Social Acceptance Scale

This scale was the same as described in Study 2.

Tolerance Scale

This scale was the same as described in Study 4.

Habit Videotapes 5 (HV5)

One male actor and one female actress each acted out four habit classes (motor tics, vocal tics, Tourette's Disorder, and hairpulling) while waiting in line to buy tickets for an entertainment event. During the 2 minute videotaped segments, the actors were seen talking to a person who was off-camera. In each habit class portrayed in the videotapes, the two actors acted out five different habit conditions consisting of various topography/frequency combinations (low frequency/mild topography, high frequency/mild topography, low frequency/severe topography, and high frequency/severe topography) as well as a condition in which the two actors acted out a "no frequency/no topography" condition. This condition was the control or "**no-habit**" condition. The frequencies used in the habit conditions were developed by taking baseline tic rates from a subject in a study by Woods et al.

(1996b) and doubling the baseline tic rate for the high frequency tic condition, and determining half of the baseline tic rate for the low frequency condition.

The **motor tic** was defined as a rapid jerk of the arms toward the chest. In the low frequency/mild topography condition, the tic began with the hands approximately 1 in. from the body, and occurred at a rate of 1.5 tics per minute. In the low frequency/severe topography condition, the tic began with the hands at least 5 in. from the body (thereby producing a more forceful tic) while the rate stayed the same at 1.5 tics per min. In the high frequency/mild topography condition, the tic again began 1 in. from the body, but the behavior occurred 6 times per min. Finally, in the high frequency/severe topography condition, the tic began 5 in. away from the body and occurred 6 times per min.

The **vocal tic** was defined as a low, guttural, grunting sound. In the low frequency/mild topography condition, the tic was at a low volume and occurred at a rate of 2 tics per min. In the low frequency/severe topography condition, the tic was at a high volume while the rate stayed the same at 2 tics per min. In the high frequency/mild topography condition, the tic occurred at a low severity, but the behavior occurred 12 times per min. Finally, in the high frequency/severe topography condition, the tic was at a high volume and occurred 12 times per min.

The **Tourette's Disorder (TD)** condition was defined as a rapid jerk of the arms toward the chest and a low guttural grunting sound. In the low frequency/mild topography condition, the motor tic began with the hands approximately 1 in. from

the body and the vocal tic occurred at a low volume. Both behaviors occurred at a rate of 2 tics per min. In the low frequency/severe topography condition, the motor tic began with the hands at least 5 in. from the body (thereby producing a more forceful tic) and the vocal tic occurred at a high volume. However, the rate stayed the same at 2 tics per min. In the high frequency/mild topography condition, the motor tic began 1 in. from the body and vocal tic occurred at a low volume, but the behaviors each occurred 12 times per min. Finally, in the high frequency/severe topography condition, the motor tic began 5 in. away from the body and the vocal tic was at high volume. In this condition, the tics each occurred 12 times per min.

Hairpulling was defined as twisting and tugging hair from the side of the head with either hand using the thumb and forefinger. In the low frequency/mild topography condition, the pulling occurred with only the right hand for 10% of the 2 min session. In the low frequency/severe topography condition, the pulling was done with both hands at the same time while the percentage of time engaging in the behavior remained the same. In the high frequency/mild topography condition, the hairpulling occurred with only one hand, but the behavior occurred during 80% of the 2 min session. Finally, in the high frequency/severe topography condition, the hairpulling included both hands and occurred during 80% of the 2 min session. Thus, for each habit class (motor tics, vocal tics, Tourette's Disorder, and hairpulling), there were ten videotapes constructed. With the male actor, four of the videotapes consisted of the frequency/topography combinations and one tape was the "no-habit"

condition. Five other tapes included the female actor with 4 of those 5 portraying the frequency/topography combinations and one portraying the "no-habit" condition.

Procedure

After obtaining informed consent and completing a Preliminary Questionnaire, each participant was randomly assigned to a single habit class (motor tic, vocal tic, Tourette's Disorder, hairpulling). The participants were then asked to watch a series of habit videotapes featuring both the male and female actors portraying the 4 frequency/topography combinations and the "no-habit" conditions. The "no habit" conditions (both male and female actors) were always shown first (the order of presentation of the "no-habit" condition between the male and female actors was counterbalanced) as they were the basis of comparison for the rest of the subject's acceptability ratings. The order of the remaining 8 (4 female, 4 male) frequency/topography conditions were presented in a random fashion. After viewing each of the 10 segments (2 no-habits, 8 frequency/topography), the participants were asked to complete the Social Acceptance Scale and Tolerance Scale. The class of habit did not change for each subject. Thus, each participant viewed 10 different tape conditions. Four tapes depicting a single habit, one each at low frequency/mild topography, low frequency/severe topography, high frequency/mild topography, high frequency/severe topography for a male actor and four similar tapes for the same habit depicted by a female actress were viewed. In addition, two "no-habit" (one of same

male actor, one of same female actress) tapes were viewed. A total of 10 Social Acceptability Scales and 10 Tolerance Scales were completed.

Results

To determine the sample's familiarity with habit disorders, data from the Preliminary Questionnaire were calculated. As can be seen in Table 7, participants did not report a great deal of direct experience with individuals experiencing tic disorders or trichotillomania. Almost half of the participants knew someone with a noticeable nervous habit, but fewer than 20% of the sample reported having a habit that occurred more than five times per day.

Table 7

Percentage of Participants Endorsing Items on the Preliminary Questionnaire

	<u>YES</u>	<u>NO</u>
Friends/Relatives with Tourettes?	5.0	95.0
Friends/Relatives who chronically pull their hair?	4.2	95.8
Friends/Relatives with nervous habits?	42.0	58.0
Do you have Tourette's Syndrome?	0.0	100.0
Do you chronically pull your hair?	0.0	100.0
Do you have a nervous habit?	16.0	84.0

Despite the lack of direct experience with the disorders, participants seemed to have some, albeit limited, knowledge of them. When asked about their knowledge of Tourette's Disorder, participants reported an average knowledge rating of $\bar{M}=2.69$, $\underline{SD}=.99$) with a score of 1 corresponding with virtually no knowledge of Tourette's and 5 representing "quite a bit" of knowledge about the disorder. Participants seemed to have less knowledge about trichotillomania with the mean knowledge rating being $\bar{M}=1.97$, $\underline{SD}=1.04$ using the same scale.

For both SAS and Tolerance Scale data, separate 2 (gender of participant) x 4 (habit condition) x 2 (gender of actor) x 2 (frequency) x 2 (topography) mixed ANCOVA's were conducted. For the SAS and Tolerance Scale data respectively, the ratings of the no-habit conditions for each gender (of actor) were averaged, and this average was used as a covariate. Thus, when analyzing SAS data, a covariate was used based on the average of the "no-habit" male and female SAS ratings. Likewise, when analyzing Tolerance Scale data, a covariate was used based on the average of the "no-habit" male and female Tolerance Scale ratings.

SAS Findings

A significant main effect was found for gender of actor, $F(1, 112) = 51.3$, $p < .01$, indicating that the female actor ($\bar{M}=57.75$, $\underline{SD}=12.8$) was rated higher than the male actor ($\bar{M}=52.1$, $\underline{SD}=14.2$) across habit conditions (see Figure 2).

A significant main effect was also found for frequency indicating that low

frequency habit behaviors were rated as more socially acceptable ($M=57.69$, $SD=12.7$) than high frequency habit behaviors ($M=52.15$, $SD=13.7$), $F(1,112) = 99.3$, $p < .01$ (See Figure 3).



Figure 2. SAS Scores for Ratings of Male And Female Actors.

In addition to the significant main effects, one interaction was significant. The full five factor interaction was significant, $F(3,112) = 2.69$, $p < .05$, but was not interpreted. No other interactions were significant.

A main effect was also found for topography demonstrating that mild topography behaviors ($M=56.0$, $SD=12.7$) were rated as more acceptable than severe topography behaviors ($M=53.8$, $SD=13.6$), $F(1, 112) = 19.5$, $p < .01$ (See Figure 4).

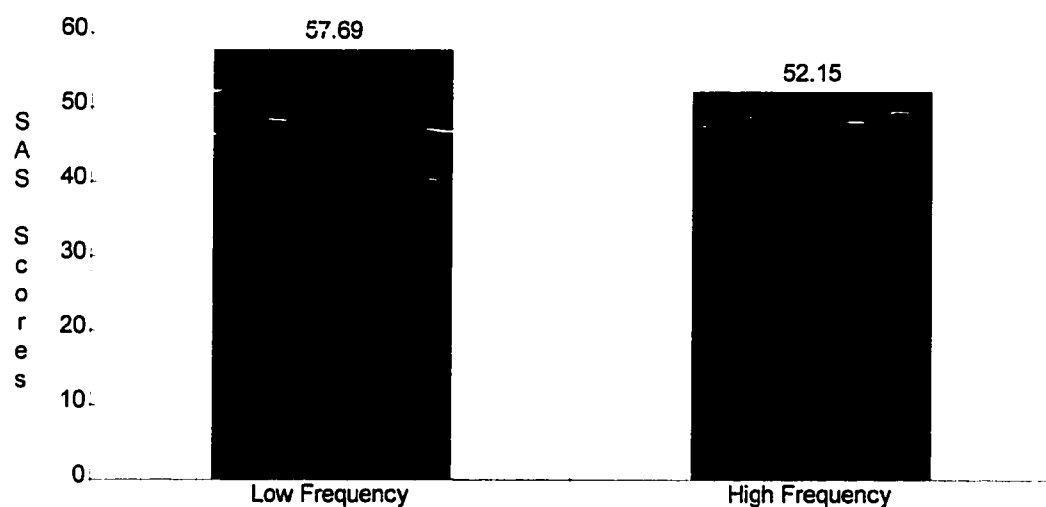


Figure 3. SAS Scores for Low and High Frequencies of Habit Behavior.

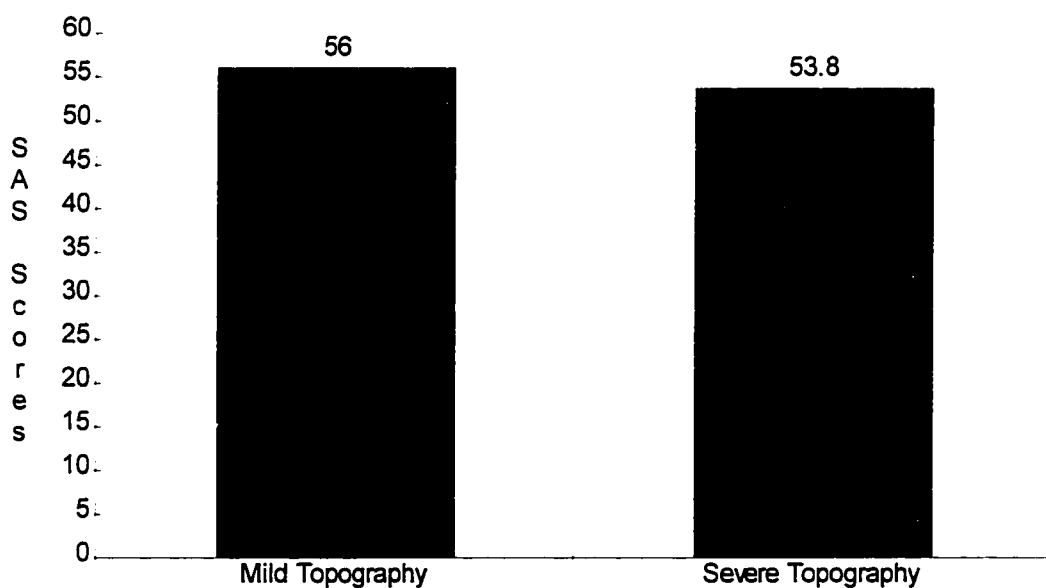


Figure 4. SAS Scores for Mild and Severe Topographies of Habit Behavior.

Finally, a significant main effect was found for habit condition (see Figure 5), $F(3, 111) = 5.05, p < .05$. Post-hoc Tukey HSD tests were conducted (see Table 8)

and showed that the motor tic condition was rated significantly higher than the vocal tic, Tourette's Disorder, and hairpulling conditions. The vocal tic, Tourette's Disorder, and hairpulling conditions did not significantly differ from each other. The main effect of participant gender was not significant $F(1,111) = 0, p > .05$.

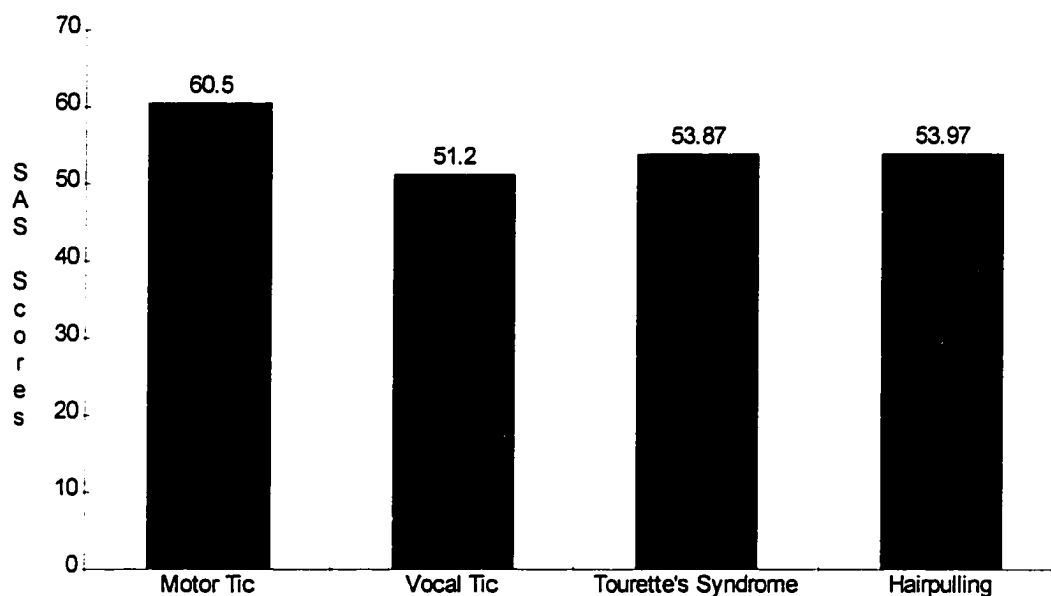


Figure 5. SAS Scores Across Habit Type.

Tolerance Scale Findings

Analysis of the Tolerance Scale data yielded findings similar to those found in the analysis of the SAS data. There was a significant main effect of actor gender (See Figure 6), $F(1, 112) = 20, p < .01$, with participants wanting to socially engage the male actor ($M=2.56, SD=1.64$) significantly less than the female actor ($M=3.12, SD=1.68$).

Table 8

Results of Tukey HSD Post Hoc Comparisons on SAS Data for Habit Condition

	Motor (60.5)	Vocal (51.2)	Tourette's (53.87)	Hairpulling (53.97)
Motor (60.5)	----	9.3*	6.63*	6.53*
Vocal (51.2)		----	2.67	2.77
Tourette's (53.87)			----	0.10
Hairpulling (53.97)				----

* significant difference between the group means (seen in parentheses) at $p < .05$

There was also a significant main effect of habit frequency (See Figure 7), $F(1, 112) = 56.4$, $p < .01$, with participants being less likely to socially engage those exhibiting high frequency habits ($M=2.46$, $SD=1.65$) than those with low frequency habit behaviors ($M=3.21$, $SD=1.66$).

The main effect for habit topography (See Figure 8) was also found, $F(1, 112) = 19.69$, $p < .01$. A comparison of means showed that participants were less likely to socially engage individuals who exhibited severe habit topographies ($M=2.69$, $SD=1.66$) than individuals who exhibited mild habit topographies ($M=2.98$, $SD=1.58$).

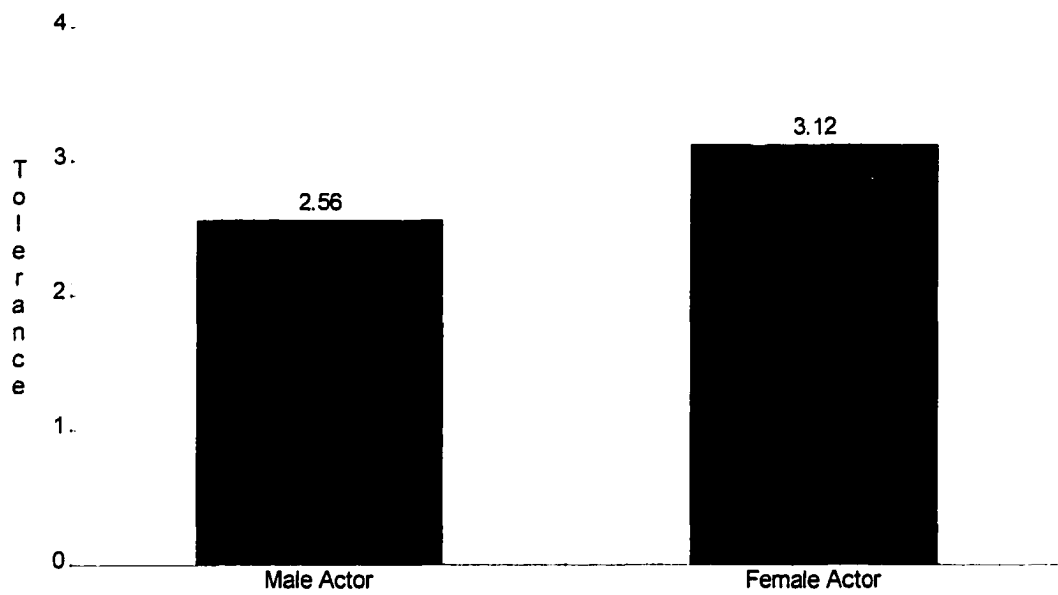


Figure 6. Mean Tolerance Scale Scores of Male and Female Actors.

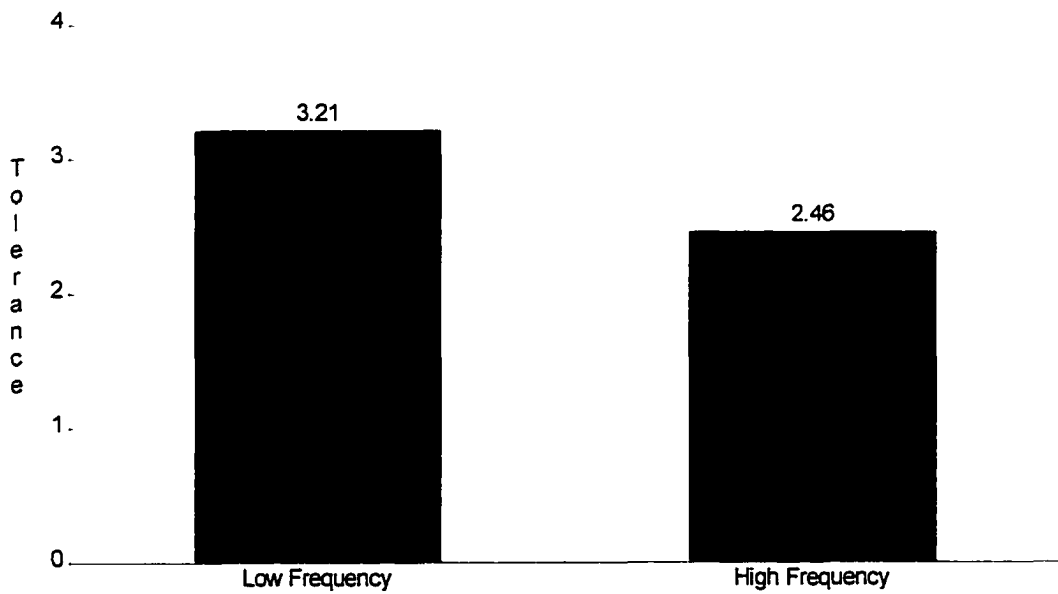


Figure 7. Mean Tolerance Scale Scores for Low and High Frequency Habit Behaviors.

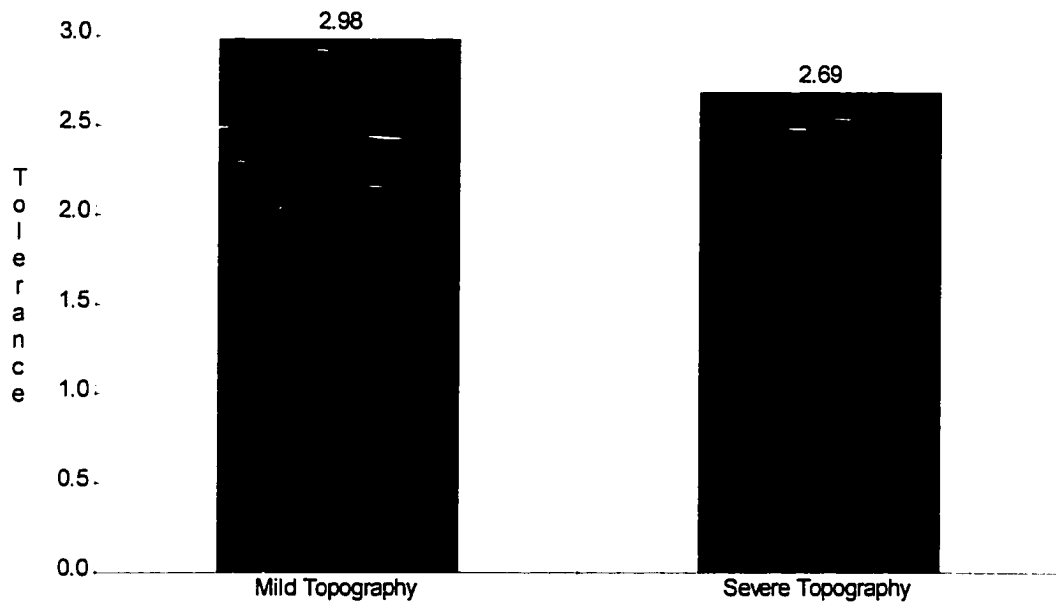


Figure 8. Mean Tolerance Scale Scores for Mild and Severe Topographies of Habit Behaviors.

A final main effect was found for habit group (see Figure 9), $F(3, 111) = 9.63$, $p < .01$. Post hoc comparisons were conducted using Tukey's HSD Test to control for familywise error (see Table 9). The comparisons showed that the motor tic condition was again rated significantly higher than the remaining three habit conditions. Likewise, the hairpulling condition was significantly higher than the vocal tic condition. The remaining conditions did not differ. The main effect for participant gender was not significant, $F(1, 111) = .65$, $p > .05$.

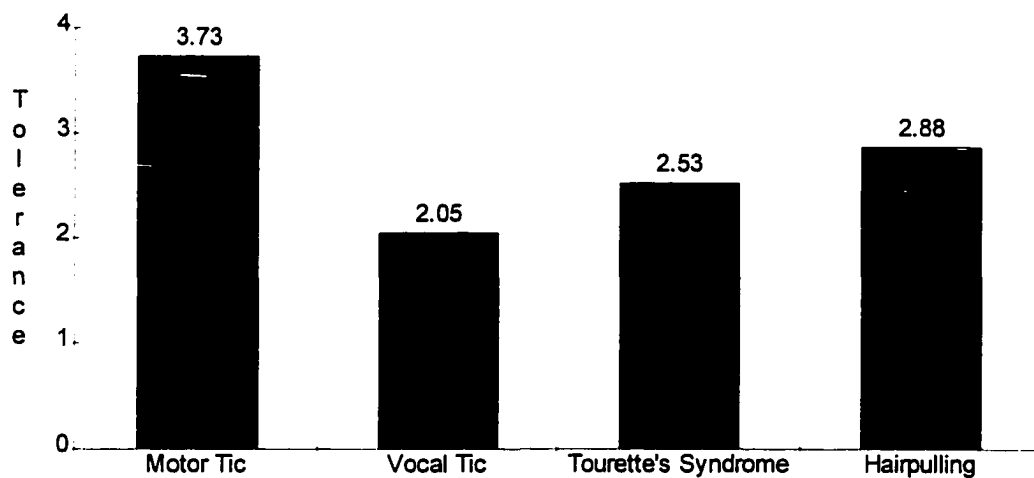


Figure 9. Mean Tolerance Scale Scores for Different Habit Types.

Table 9

Results of Tukey HSD Post Hoc Comparisons on Tolerance Scale Data for Habit Condition

	Motor	Vocal	Tourette's	Hairpulling
	(3.73)	(2.05)	(2.53)	(2.88)
Motor (3.73)	----	1.68*	1.20*	0.85*
Vocal (2.05)		----	0.48	0.83*
Tourette's (2.53)			----	0.35
Hairpulling (2.88)				----

* significant difference between the group means (seen in parentheses) at $p < .05$

In addition to the number of significant main effects, there were also a number

of significant interactions. As seen in Figure 10, the Gender of Participant by Gender of Actor interaction was significant, $F(1, 112) = 11.8, p < .01$, indicating that male and female participants differed in the way they rated the male and female actor. A follow-up analysis of simple effects was then conducted to further explain the interaction. Results showed that the male and female actors were not seen as significantly different among male participants, $F(1, 112) = .04, p > .05$. However, among female participants, the male actor was rated lower on the Tolerance Scale ($M=2.46, SD=1.61$) than the female actor ($M=3.21, SD=1.75$), $F(1, 112) = 14.25, p < .01$.

A second interaction (seen in Figure 11) between the habit group and habit frequency was also significant $F(3, 112) = 4.2, p < .01$, indicating that low and high frequency habits were rated differently across groups. Again, analyses of the simple

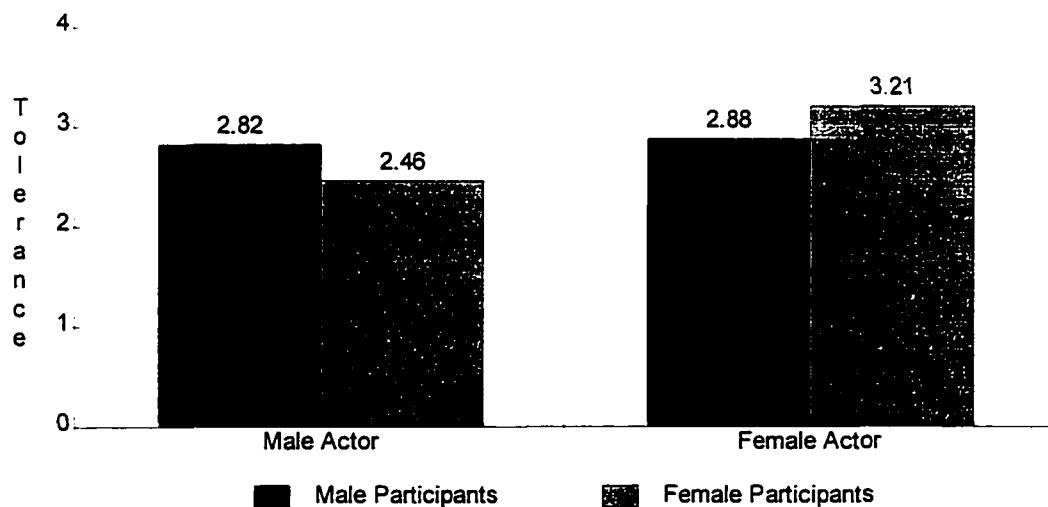


Figure 10. Tolerance Scale Scores Across Actor and Participant Gender.

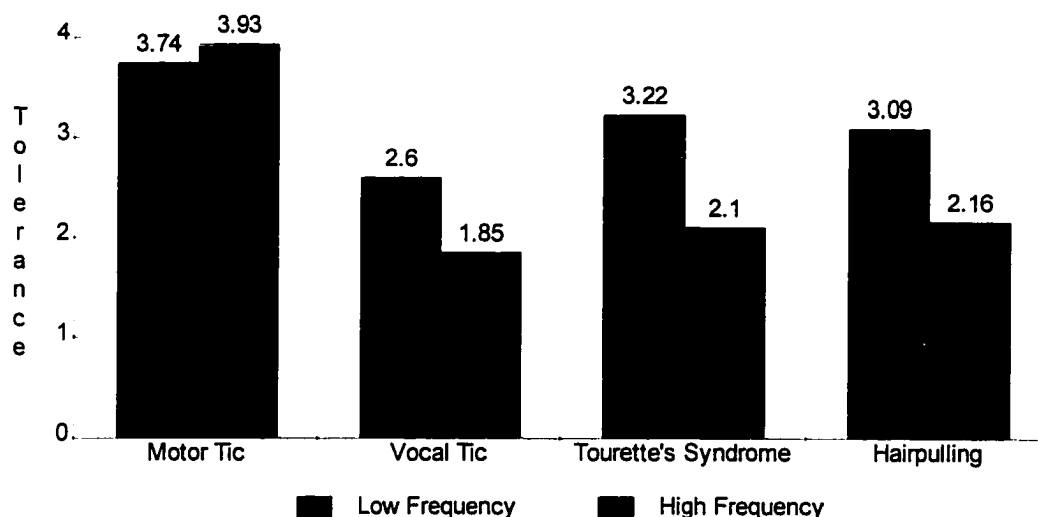


Figure 11. Tolerance Scale Scores Across Frequency and Habit Condition.

main effects were conducted. The low frequency condition was rated significantly higher than the high frequency condition for participants in the vocal tic condition, $F(1,112) = 5.45$, $p < .01$, Tourette's Syndrome condition, $F(1,112) = 12.24$, $p < .01$, and the hairpulling condition, $F(1,112) = 8.43$, $p < .01$. However, there was no difference between the two frequency conditions for participants in the motor tic condition, $F(1,112) = .35$, $p > .05$.

The gender of participant by habit group by habit frequency by habit topography was also significant $F(3,112) = 3.41$, $p < .05$, but was not interpreted.

Discussion

In Study 5, a number of variables were found to affect the social acceptability of individuals with habit disorders. To provide a context for discussing these effects,

it was necessary to determine the familiarity the sample had with the habit disorders portrayed in this study. It appears that the sample had relatively little contact with individuals who had Tourette's Disorder or chronic hairpulling. In addition, the sample was relatively uninformed of the disorders. From these results, it can be assumed that the general population is also unfamiliar with Tourette's Disorder and Trichotillomania. This information may be useful in the development of interventions to educate the public about habit disorders in an effort to mitigate negative social perceptions. Indeed, one study has attempted to evaluate the effects of educating individuals about Tourette's Disorder as a way to lessen the negative social perceptions about people exhibiting Tourette's symptoms (Friedrich et al., 1996). However, when a child displaying tic symptoms provided information about the symptoms, the acceptability of the individual was not increased when contrasted with a child who displayed similar symptoms and supplied no information. Despite these results, future research should continue to evaluate the effects of public education or alternative interventions (e.g., exposure) in reducing the stigmatization that may result from the exhibition of tic and other habit disorders.

The main purpose of Study 5 was to determine the social impact of gender, frequency, topography, and habit type on the social acceptability of individuals exhibiting habit behaviors. With both measures of social acceptability (SAS and Tolerance Scale), results showed that the male actor was less acceptable than the female actor. Although these results suggest that males with habit disorders are less

socially acceptable than females with habit disorders, such interpretations must be made with caution, as only one female and one male actor were used in this study. Such findings may not apply to the entire population of men and women who experience habit disorders.

Despite the gender effect seen for the actors, the gender of the participants variable was not a causal factor in social acceptability of persons with habit disorders as measured by either instrument. Although these results should not suggest that the gender of participant never plays a role in the social acceptability of persons with habit disorders, it does suggest that interventions used to improve social acceptability of persons with habit disorders need not differentially focus on men or women in society. In addition, this lack of participant gender effect may only hold true for young adults whereas the effects of a perceiver's gender may play a role as the perceiver becomes younger (Friman et al., 1993). Future research needs to determine the role of gender effects in the social perception of individuals with habit disorders.

Although the gender of the perceiver does not appear to be important across habit conditions, and the gender of the perceived person does appear to play an important role in how individuals with habit disorders are perceived, when the two variables are combined, results can be affected. Results of the Tolerance Scale data showed that men did not differ in their likelihood to socially engage men and women with habit disorders. However, women did differ and were more likely to socially engage the woman who exhibited the habit disorder. These results suggest that men

with habit disorders may have more trouble socializing with members of the opposite gender than women who exhibit habit disorders.

As was expected from previous research on the variables that affect attitudes, stimuli which are highly salient produced more noticeable changes in the social acceptability ratings of individuals with habit disorder. In this study, the high frequency exhibition of habit behaviors produced lower ratings on both acceptability measures than low frequency exhibitions, and mild topography habits yielded higher social acceptability ratings on both measures than severe topography habits.

These findings are important for a number of reasons. First, this is the first study to conduct parametric testing of the effect of habit frequency and topography on the social acceptability of individuals with habit disorders. Second, the demonstration that reductions in habit frequency and severity of habit topography can yield increases in social acceptability ratings should be welcomed by practitioners who treat such habit disorders. This study suggests that practitioners should focus on reducing the frequency of the habit behaviors as well as altering the topography of the behavior in an effort to make it less noticeable.

Although the effects of habit frequency and topography are fairly straightforward; more salient behaviors result in lower acceptability ratings, the mediating effect of habit frequency on social acceptability differs across habit condition as measured by the Tolerance Scale. In this study, the frequency effect described above (lower is more acceptable than higher) did not occur for the motor tic

condition but did occur in the vocal tic, Tourette's Disorder, and hairpulling conditions. These results suggest that for at least some types of habits, the frequency of the behavior may not be an important variable in determining social acceptability. Caution should be taken though in applying these findings to the entire class of motor tics. The response class labeled "motor tics" contains a number of differing topographies, and it is quite possible that a topography other than the one tested in this study would yield different results.

The final part of this analysis involves the differential social acceptability obtained across the various response classes of habit disorders. On both the SAS and Tolerance scale, the motor tic condition was rated as significantly more acceptable than the remaining conditions. This finding can be interpreted in two ways. First, it may be the case that the response class labeled motor tics is simply more socially acceptable than the other response classes tested. If this is the case, treatment of motor tics should not be as heavily emphasized as the treatment of vocal tics, Tourette's Disorder, or trichotillomania.

Although this is possible, a second explanation may be more likely. As stated earlier, the arm jerks used to test the motor tic condition were only one of a multitude of possible topographies seen in the response class labeled "motor tics." It is possible that different topographies would yield more negative social acceptability ratings.

GENERAL DISCUSSION

This series of studies answered a number of questions in the area of social acceptability of persons with habit disorders. First, the previous research on the social acceptability of individuals with habit disorders was extended to include two habit topographies which had not been examined. An analysis of vocal tics and hairpulling suggested that these behaviors will also yield negative effects on social acceptability. These findings are in line with previous research that has demonstrated that thumb sucking (Friman et al., 1993), motor tics (Friedrich et al., 1996), and Tourette's Disorder (Stokes et al., 1991) also produce negative effects on social acceptability. A second finding of this study was the extension of habit acceptability literature to adult populations. Previous research has been conducted with children and the generalizability of the findings to adult populations had been unknown. This study suggests that college-age adults also view individuals with habit disorders in a negative way.

A third finding of this study involved the preliminary development of a psychometrically acceptable instrument used to measure social acceptability. Data suggested that the instrument had adequate temporal stability, good internal consistency, and concurrent validity. Although the use of the SAS as a measure of social acceptability appears promising, much psychometric research remains to be done. Future research should attempt to determine the underlying factor structure of

the instrument as well as obtaining further validity indicators. Specifically, future research needs to address the clinical validity of the relatively small differences between the conditions used in this study. Though statistically significant, it remains to be seen if these differences would translate into persons with slightly lower SAS scores being treated differently than those with higher SAS scores. A study using a forced choice paradigm may be useful in determining this effect. In such a study, a person with a habit and a person exhibiting no habit could be presented to another person. This person could then choose to socialize with either person. With this paradigm, it is quite possible that the peer with slightly lower SAS scores would be chosen much less for actual socialization. In addition, a behavioral measure may be useful to determine other direct social consequences such as time spent in conversation with an individual exhibiting a habit disorder.

The analysis of sequence effects was the fourth finding and allowed conclusions to be made regarding the comparisons between persons with and without habits. It was discovered that in rating individuals with habits, participants appear to use an "anchor and adjustment" strategy. Initially, participants rate an unfamiliar stimulus in a relatively neutral manner. However, when given additional information about the person, their attitudes change. Individuals who initially exhibited no tic behavior were rated as less acceptable when they exhibited a tic at a later time. Likewise, individuals who were initially rated after being viewed engaging in a tic benefited from the effect, being rated higher when seen not engaging in the behavior.

The clinical implications of these findings, though discussed earlier, should be further examined in future research. Likewise, these data have important methodological implications for future research in the area. Researchers should be aware that the sequence of habit presentation can result in higher or lower acceptability scores depending on the order in which the conditions are viewed.

The fifth finding involved the manipulation of habit frequency and topography. It was discovered that behaviors occurring at higher frequencies or more severe topographies resulted in more damaging social effects. Clinically, these findings suggest that decreasing habit frequency as well as altering the topography of the behavior would yield the greatest improvement in social functioning. Indeed, most popular interventions used to control tic disorders (negative practice and habit reversal) focus on decreasing the frequency of the behavior and do not focus on the topography (Peterson, Campise & Azrin, 1994). Through various parametric analyses, future research should attempt to determine levels of habitual behavior at which the clinician would want to initiate treatment. Additionally, future research should attempt to determine a level of clinical significance for habit occurrence. It may be possible that a certain level of habit occurrence is acceptable and that any treatment that reaches this level has eliminated the negative social effects produced by the behavior.

In this study, a number of variables have been addressed, all with one underlying goal; to determine how seemingly benign behaviors like quick muscle

movements or pulling on one's hair can have wide ranging implications. Typically, individuals who present for treatment in a clinical setting have not come for the treatment of a habit disorder (Elliott, Miltenberger, Kaster-Bundgaard, & Lumley, 1996). Often they will be coming for another problem and will also be experiencing a habit disorder. In such cases, clinicians may focus on the client's "main" problem to the point that they ignore the habit behavior because it appears relatively harmless or is considered not severe enough to warrant treatment. In such cases, it would be wise for the clinician to consider the impact (overt or covert) that the habit behavior may be having on the client. It is possible that the negative social effects evoked by the exhibition of the habit disorder could be exacerbating the clients presenting problem. Although the present series of studies is simply one step in determining the overall effects of habit occurrence on social acceptability, it is an important step, and suggests that the topic should continue to be investigated.

Appendix A

Initial Attractiveness and Speech Normalcy Scale

IASNS

Please answer the following questions regarding the person in the tape you just viewed.

1. How attractive was the person in the videotape?

1 2 3 4 5 6 7

very unattractive

very attractive

2. How normal was the person's voice?

1 2 3 4 5 6 7

very normal

very abnormal

Appendix B
Social Acceptance Scale

SAS

Please complete the following questionnaire based on the person in the videotape you just watched.

1. How much do you think you would want this person in a class with you?

1	2	3	4	5	6	7
very much						not at all
2. How much do you think you would want to sit next to this person in class?

1	2	3	4	5	6	7
not at all						very much
3. How smart do you think this person is?

1	2	3	4	5	6	7
very smart						not smart at all
4. How much do you think you would want this person as your friend?

1	2	3	4	5	6	7
not at all						very much
5. How much would you want this person to live next door to you?

1	2	3	4	5	6	7
very much						not at all
6. How fun do you think this person is?

1	2	3	4	5	6	7
not at all fun						very fun
7. How happy do you think this person is?

1	2	3	4	5	6	7
very happy						not happy at all
8. How attractive do you think this person is?

1	2	3	4	5	6	7
not at all attractive						very attractive
9. How much do you think you would like this person?

1	2	3	4	5	6	7
very much						not at all

Appendix B-Continued

10. How much do you think you would want to socialize with this person?

1	2	3	4	5	6	7
not at all					very much	

11. How natural did you think this person looked?

1	2	3	4	5	6	7
very natural					very unnatural	

12. I thought this person was...

1	2	3	4	5	6	7
not handicapped					handicapped	

13. How relaxed did you think this person looked?

1	2	3	4	5	6	7
very relaxed					very tense	

14. How approachable did you think this person looked?

1	2	3	4	5	6	7
not at all approachable					very approachable	

15. How comfortable did you think this person looked?

1	2	3	4	5	6	7
very comfortable					very uncomfortable	

Appendix C
Habit Validity Questionnaire

For each of the numbered segments, please complete the following questions. However, for questions 1 and 2, please answer only the questions relevant to the particular disorder shown in each videotape.

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Appendix D
Tolerance Scale

Tolerance Scale

DIRECTIONS: Please check "yes" or "no" for each of the following questions as they pertain to the person in the videotape you just watched. Please be completely honest in your responses. All responses will be confidential.

_____ Yes _____ No Would you dislike having someone like this as a classmate?

_____ Yes _____ No Would you dislike having someone like this in a sorority or fraternity to which you belonged?

_____ Yes _____ No Would you dislike having someone like this be your co-worker?

_____ Yes _____ No Would you dislike having someone like this as a roommate?

_____ Yes _____ No Would you dislike having someone like this for a date (if same sex as you, would you dislike an opposite-sex sibling dating this person)?

_____ Yes _____ No Would you dislike marrying someone like this (if of same sex, would you object to your opposite-sex sibling marrying someone like this)?

Appendix E
Preliminary Questionnaire

Preliminary Questionnaire

PARTICIPANT NUMBER _____ PRESENTATION ORDER _____

Please answer the following questions as truthfully as you can.

1. Do you have any friends or relatives with Tourette's Syndrome? YES NO
2. Do you have any friends or relatives who chronically pull their hair? YES NO
3. Do you have any friends or relatives with noticeable nervous habits (repetitive behaviors that occur more than 5 times per day)? YES NO
4. Do you have Tourette's Syndrome? YES NO
4b. If yes, please estimate the number of tics you have per day _____.
5. Do you chronically pull your hair? YES NO
5b. If yes, please estimate the number of times per day you pull _____.
6. Do you have a noticeable nervous habit (a repetitive behavior that occurs more than 5 times per day)? YES NO

6a. If yes, please list the nervous habits you have, and an estimate of the number of times per day each habit occurs.

_____	# per day _____
_____	# per day _____
_____	# per day _____

7. How much knowledge do you have about Tourette's Syndrome?

1	2	3	4	5
Not a thing		heard of it		know quite a bit

8. How much knowledge do you have about trichotillomania (hairpulling disorder)?

1	2	3	4	5
Not a thing		heard of it		know quite a bit

Appendix F

Protocol Clearance From the Human Subjects Institutional Review Board

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008 389

WESTERN MICHIGAN UNIVERSITY

Date: 11 March 1997

To: Wayne Fuqua, Principal Investigator
Douglas Woods, Student Investigator

From: Richard Wright, Chair

A handwritten signature in cursive script that reads "Richard A. Wright".

Re: HSIRB Project Number 97-03-01

This letter will serve as confirmation that your research project entitled "Assessing Physical and Vocal Attractiveness" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 8 March 1998

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899
616 387-8293

WESTERN MICHIGAN UNIVERSITY

To: Dr. R. Wayne Fuqua
Douglas W. Woods

From: Richard A. Wright, Chair *Richard A. Wright*
Human Subjects Institutional Review Board

Subject: HSIRB Project # 96-08-16

Date: August 30, 1996

This is to inform you that your project entitled "Assessing the Influence of Habit Behaviors on the Viewer's Attitudes and Perceptions," has been approved under the expedited category of research. This approval is based upon your proposal as presented to the HSIRB, and you may utilize human subjects only in accord with this approved proposal.

Your project is approved for a period of one year from the above date. If you should revise any procedures relative to human subjects or materials, you must resubmit those changes for review in order to retain approval. Should any untoward incidents or unanticipated adverse reactions occur with the subjects in the process of this study, you must suspend the study and notify me immediately. The HSIRB will then determine whether or not the study may continue.

Please be reminded that all research involving human subjects must be accomplished in full accord with the policies and procedures of Western Michigan University, as well as all applicable local, state, and federal laws and regulations. Any deviation from those policies, procedures, laws or regulations may cause immediate termination of approval for this project.

Thank you for your cooperation. If you have any questions, please do not hesitate to contact me.

Project Expiration Date: August 30, 1997

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: 11 March 1997

To: Wayne Fuqua, Principal Investigator
Douglas Woods, Student Investigator

From: Richard Wright, Chair

A handwritten signature in cursive script that reads "Richard A. Wright".

Re: HSIRB Project Number 97-03-02

This letter will serve as confirmation that your research project entitled "Assessing the Validity of Habit Behaviors" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 8 March 1998

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-3225

WESTERN MICHIGAN UNIVERSITY

Date: 11 March 1997

To: Wayne Fuqua, Principal Investigator
Douglas Woods, Student Investigator

From: Richard Wright, Chair

A handwritten signature in cursive script that reads "Richard A. Wright".

Re: HSIRB Project Number 97-03-03

This letter will serve as confirmation that your research project entitled "Assessing Sequence Effects on Attitudes and Perceptions of Persons with Habit Behaviors" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 8 March 1998

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-38

WESTERN MICHIGAN UNIVERSITY

Date: 11 March 1997

To: Wayne Fuqua, Principal Investigator
Douglas Woods, Student Investigator

From: Richard Wright, Chair

A handwritten signature in cursive script that reads "Richard A. Wright".

Re: HSIRB Project Number 97-03-04

This letter will serve as confirmation that your research project entitled "Assessing the Influence of Habit Behaviors on the Viewer's Attitudes and Perceptions" has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 8 March 1998

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