Social acceptance of adolescents with Tourette syndrome

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Sixty college students from two Biopsychology classes at Central Connecticut State University were presented with one of three scenarios. Scenario one described an adolescent with Gilles de la Tourette Syndrome (TS) with complex tics, in which he was making obscene gestures, yelling, and screaming out curses in the middle of class. Scenario two described an adolescent with TS with simple tics, in which he was tapping his foot and making loud honking sounds in the middle of class. Scenario three described an adolescent without TS, in which he was not portraying a motor movement or a vocal sound. Students responded to 11 statements designed to measure social acceptance on a five-point scale ranging from strongly disagree to strongly agree. These statements referred to social and academic situations that the average college student would experience daily. Each scenario was distributed to 20 students. This study tests the hypothesis that adolescents with TS (complex tics) would have the lowest reported level of social acceptance, those without TS had the highest reported level of social acceptance, and those with TS (simple tics) to be at a mid-level of reported social acceptance. A between subjects One-Way Analysis of Variance revealed a significant difference in reported social acceptance among the three conditions. Subsequently, a Student Newman-Keuls multiple comparison test revealed that both the TS simple and TS complex groups had significantly lower social acceptance scores than the non-TS group, and that the TS simple and complex groups did not differ from one another.

Gilles de la Tourette Syndrome (TS) is an Axis I childhood neuropsychiatric disorder, (Carter et al., 2000; Diagnostic and Statistical Manual of Mental Disorders (4th ed.), Text Revision, 2000). TS is characterized by multiple involuntary motor and one or more vocal tics. The DSM-IV-TR (2000, p. 111) states, “a tic is a sudden, rapid, recurrent, non-rhythmic, stereotyped motor movement or vocalization.” According to de Lange (2000, p. 12), TS is “primarily a genetic disorder, which causes neurologic abnormalities in the chemical balance of the brain . . . which can possibly cause further psychological and social problems.” The significance of these tics to psychological functioning is reflected in the diagnostic criteria (DSM-IV-TR, 2000) for TS: both multiple motor and one or more vocal tics have been present at some time during the illness, although not necessarily at the same time. In addition, the tics occur many times a day nearly everyday, the onset is before 18 years old, and the disturbance is not due to the direct physiological effects of a substance or a general medical condition.

Concern exists about the social and emotional factors of TS. Carter et al. (2000) examined social-emotional functioning in children with TS alone and in children with TS and Attention Deficit Hyperactivity Disorder (ADHD). “ADHD refers to a symptom that begins early in life, is more common in boys, and is characterized by inattention and impulsivity and in most cases hyperactivity”
ADHD is the most common symptom of TS other than motor and vocal tics (Comings, 1990). In relation to TS, they found that children with TS and ADHD displayed more externalizing and internalizing behavior problems and poorer social adjustment than children with TS. Tic symptom severity was not linked with social functioning among children with TS (Carter et al., 2000). Their findings suggest that much of the social and behavioral dysfunction in children with TS is ADHD-specific and children with TS alone have a very different social-emotional profile than do those with TS plus ADHD. Carter et al. also concluded that children with TS plus ADHD were at an elevated risk for externalizing difficulties and problems in social adjustment. Children with TS alone have problems in school, because they “have motor inhibition difficulties and may be distracted while trying to suppress their tics in school settings. It may be a combination of motor inhibition difficulties, distraction, and difficulties in visual-motor integration contribute to school problems in such children” (Carter et al., 2000, p. 221). According to Peiss (2000), many people with TS are able to suppress or hold back their tics for short periods of time, but the need to give in to them eventually becomes overwhelming.

A child with TS and school problems also suggests self-concept difficulties (de Lange, 2000). For example, de Lange (2000), observed self-concept in a small sample of adolescent males who had TS and postulated that adolescent males with TS may have lower self-concepts in comparison to non-afflicted peers. He concluded that

“adolescent males with TS present a lower physical self, personal self, family self, value self, and total non-academic self-concept . . . a negative attitude towards the school, evaluate themselves lower regarding their school work, and present a lower academic self-concept than adolescent males who do not suffer from TS” (de Lange, 2000, pp. 20-21).

Self-concept is fundamental to the core of personality and has been described as a multidimensional and hierarchical construct (Marsh, 1999, as cited by de Lange, 2000). As Rosenberg and Kaplan (1982, p. xiii) note: “the self-concept is the totality of the individual’s thoughts and feelings with reference to himself or herself as an object.”

A key factor contributing to self-concept, particularly for adolescents, is the feedback received from peers and family (de Lange, 2000). As de Lange (2000) noted, individuals with TS may experience anger towards both their own bodies and their parents, which can negatively affect self-concept. In addition, negative feedback from others can contribute to the negative perception that adolescents with TS may have towards their own academic potential, particularly in the comparison of their own academic potential with that of others (de Lange, 2000). Moreover, the potentially negative self-concept of individuals suffering from TS, coupled with social rejection by others and/or anxiety about having tics in social situations may cause impairment of social, academic, and occupational functioning (DSM-IV, 1994). Consequently, the present study examines the social acceptance by peers of individuals suffering from TS and how this may contribute to weakened self-concept.

Social Acceptance Research

Considerable research has been conducted examining the social acceptance and social reactions among peers. For example, Crick and Ladd (1993) studied children’s feelings of loneliness, social anxiety, social avoidance, and their attributions for social outcomes. They suggest these feelings have been projected as important indicators of children’s perceptions of distress or disappointment within the peer group (Crick & Ladd, 1993). They specifically found that rejected children reported higher levels of loneliness and were more likely to attribute relationship failures to outside causes. In relation to Crick and Ladd’s study, Harrist, Zaia, Bates, Dodge, and Pettit (1997) studied children who were classified as socially withdrawn. Harrist et al. (1997) suggest that withdrawn children (passive-anxious) want to play with other children, but they are inhibited. Unsociable children do not mind playing with other children, but they would rather not, and socially unskilled children (active-isolates) would like to play with other children, but they cannot find agreeable partners (Harrist et al., 1997). Their results
indicated that antisocial children had increased rates of sociometric neglect, active-isolates had higher than expected levels of rejection, and sad/depressed children had elevated rates of both neglect and rejection.

Children with problematic peer relations during early and middle childhood have been shown to be at bigger risk of long-term learning difficulties, educational under-achievement, absenteeism, and early school parting than children without early problematic peer relationships (Woodward & Fergusson, 2000). They found that children with these problems were also at increased risk of weaker peer attachments. According to Woodward and Fergusson (2000, p. 198), “peer-rejected children tend to be less academically able, more aggressive and antisocial, have fewer prosocial skills, and more frequently have family backgrounds characterized by socioeconomic disadvantage and psychosocial adversity.” Blanton, Smith, Davidson, and Poppen (1992) state that poor peer relationships during middle childhood are predictive of emotional and behavioral problems in adolescence and adulthood.

Another research study conducted on peer relationships by Fordham and Stevenson-Hinde (1999) suggested that middle childhood is a time when self-awareness and self-consciousness increase. Social withdrawal is increasingly connected with negative peer perceptions and peer relation difficulties, resulting in poor perceptions of self-worth, feelings of isolation, experiences of rejection, and low self-esteem (Fordham and Stevenson-Hinde, 1999). Their suggested reasons for social withdrawal include unsociability, introversion, unpopularity, and depression. Fordham and Stevenson-Hinde (1999) found that perceptions of social acceptance were negatively associated with social dissatisfaction and feelings of loneliness. Several studies have directly examined peer reaction to individuals displaying TS symptomatology. Boudjouk, Woods, Miltenberger, and Long (2000), examined adolescents’ reported levels of social acceptance of an actor viewed on videotape who portrayed either a habit behavior (motor tic) or no habit behavior. Boudjouk et al. found the boy in the videotape was more acceptable by his peers when he did not display a tic, and that individuals with TS were less well liked than their classroom peers. Other evidence suggests that adolescents demonstrating motor tics are perceived less socially acceptable by their peers than adolescents who did not exhibit motor tics. For example, three students with TS reported that they were forced to leave school because their tics were impairing the learning of classmates or because the teachers were uncomfortable with the symptoms (Mathews et al., 2001). The researchers noted that “one subject had death threats made against him by teenagers in his school because he was unable (or as they perceived it, unwilling) to stop his tics, and another was hit and injured by a priest in church who was offended by his vocal tics” (Mathews et al., 2001, p. 459).

Long, Woods, Miltenberger, Fugua, and Boudjouk (1999) conducted a study similar to Boudjouk et al.’s (2000). Participants viewed videotapes of male and female actors exhibiting various habit behaviors, including motor and vocal tics, as well as videotapes where the actors exhibited no habit behaviors. Long et al found that the motor tic male actor was rated as less acceptable than the normal male actor. Likewise, the vocal tic male actor was rated as less acceptable than the normal male actor. Based on these past studies, I expected to find that adolescents with TS (complex tics) had the lowest reported level of social acceptance, those without TS had the highest reported level of social acceptance, and those with TS (simple tics) to be at a mid-level of reported social acceptance.

The present study builds on the findings of both Boudjouk et al. (2000) and Long et al. (1999). Since peer acceptance is important in adolescent adjustment (Lefrancois, 1995), this research evaluated the effects of tic disorders on reported social acceptance. Unlike the above studies, acceptance was measured in a broader way. Individuals were queried about the types of behaviors they might do with (or in the presence of) an individual displaying various levels of TS, not simply their unidimensional judgment about the global acceptance of the individual. I expected to find that adolescents with TS (complex tics) would have the lowest reported level of social acceptance, those without TS had the highest
reported level of social acceptance, and those with TS (simple tics) to be at a mid-level of reported social acceptance.

**METHOD**

**Participants**

Sixty college students from two Biopsychology classes at Central Connecticut State University (44 women, 12 men and four did not report their gender, mean age = 23.54 years, SD = 7.52) participated in this project. Each student received one of three scenarios described below. These particular Biopsychology classes were about to learn about TS, however, the research was conducted prior to such learning experiences. Students volunteered to complete the questionnaire during class time after giving their consent. Participants were randomly assigned to the three conditions.

**Materials**

Questionnaires were distributed to the participants. Each consisted of a scenario, followed by 15 statements designed to measure social acceptance. Each participant received one of the three scenarios: a description of a male college student who either had: 1) TS with complex motor and vocal tics, in which he was making obscene gestures, yelling, and screaming out curses in the middle of class, 2) TS with simple motor and vocal tics, in which he was tapping his foot and making loud honking sounds in the middle of class, or 3) who does not have TS, in which he was not portraying a motor movement or a vocal sound. These different tic descriptions were based on a list of simple and complex motor and vocal tics obtained from Ottinger (2000) and Packer (2000). In regards to the complex motor and vocal tics, there was an emphasis on copropraxia and coprolalia. Ottinger (2000, pp. 2-3) defines each: “copropraxia: making obscene gestures; coprolalia: vocalizing obscene or other socially unacceptable words or phrases.” A general example of copropraxia would be sexually touching others, while a general example of coprolalia would be blasphemy. According to Mathews et al. (2001), coprolalia is unacceptable in many cultures.

The same 15 statements were used to access social acceptance for each scenario. Examples of positively and negatively worded statements would include: “I would get together and study with John for the next test if he asked me to” and “If my friends and/or classmates were laughing at John, I would laugh with them.”

The participants circled a number on a five-point scale in response to each student (1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree). A total of five negative questions were reversed in scoring. Four items from the original fifteen-item scale had item-total correlations less than .14. These items were not used in subsequent analyses. Thus, social acceptance scores on the 11-item scale can range from 11 to 55 with higher scores indicating greater social acceptance. After each answer was interpreted numerically, the total score was calculated by adding up the 11 scores. Coefficient alpha for the 11-item social acceptance scale was .71 indicating acceptable internal consistency.

**Procedure**

After introducing myself to the class, I distributed consent forms, which ensured anonymity, to all class members. The consent forms also informed the participants to answer each statement as honestly as possible. Individuals wishing to participate reviewed and then signed the form. Scenarios and questionnaires were then distributed separately, with one-third of the participants getting each of the scenarios described above. Participants responded to the questions and all materials were individually collected when all individuals were finished (approximately 10 minutes).

The participants were then debriefed as to the study purpose, and I showed them a video titled, “Stop It. I Can’t!” (James Stanfield Film Associates, 1984) which accurately educated the participants about TS and the potential emotional effects of TS on adolescents.

**RESULTS**

A between subjects One-Way Analysis of Variance (ANOVA) was used to examine differences in reported social acceptance of the adolescent in the three scenarios. Table 1 presents means and standard deviations for social acceptance of an adolescent with either complex TS, simple TS or no TS. Results of the ANOVA indicated a significant difference in reported social acceptance of the adolescent by condition, F (2, 57) = 3.745, p < .05. Subsequently, a Student Newman-Keuls multiple comparison test was conducted to locate
the source of the difference indicated by the ANOVA. This post-hoc analysis revealed that both the TS simple and TS complex groups had significantly lower social acceptance scores than the non-TS group, and that the TS simple and complex groups did not differ from one another. All three means, however, suggested a relatively high level of reported social acceptance.

**DISCUSSION**

These results generally support the hypothesis: adolescents with TS would have lower reported level of social acceptance while those without TS would have the higher reported level of social acceptance. But there was no statistically reliable difference between reported social support received by the two levels of TS. In the study done by Carter et al. (2000), researchers examined social-emotional performance in children with TS. They found that among children with TS, tic symptom severity was not associated with social functioning. In research examining self-concept, de Lange (2000) studied both adolescent males with TS and without TS. He found, that there are significant self-concept differences between adolescent males with TS and adolescent males without TS. My study suggests that these differences may, in part, relate to the different social acceptance feedback that others give to individuals with and without TS.

One limitation of the present study is that the instrument used was not made by a professional, and it was not a standard test used by other researchers. Because I designed the test, the validity of the scale is not known. The questions may not have fully tested for social acceptance of TS. Another related limitation is the possibility of social desirability in the participants’ responses.

In the future, if I were to conduct this research again, I would show a video clip similar to Boudjouk et al.’s (2000) study, of an adolescent with TS (complex tics), an adolescent with TS (simple tics), and an adolescent without TS instead of having participants read a scenario. Each participant again would only view one video clip and they would all have the same questions. This would give participants a better understanding of the adolescent since they would be able to see the tics the adolescent was performing (or not performing). Another possibility would be to have an actor come in to the classroom and portray the tics of someone with TS to again, give participants a better understanding of the adolescent. Again, this may allow participants to more accurately rate their level of social acceptance based on a more realistic depiction of TS by the actor than could be obtained by verbal description. Such an approach could also control for between group differences that could exist by using video clips of different people.

The findings of this study indicate that regardless of tic severity, people reported lower social acceptance after reading descriptions of a youth with TS as compared to an identical youth without TS. This question of social acceptance among not only adolescents with TS, but also adolescents with any neuropsychiatric disorder is important in our society as a whole. It is a critical and real-life issue especially in the education systems that needs to be addressed everywhere.

**REFERENCES**


