

AUTISM: THE EFFECTS OF A LABEL ON SOCIAL ACCEPTABILITY AND
DESIRABILITY OF A CHILD

A Thesis
by
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Abstract

AUTISM: THE EFFECTS OF A LABEL ON SOCIAL ACCEPTABILITY AND DESIRABILITY OF A CHILD

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The aim of the current study was to measure the effects of disorder labels (autism and ADHD) and informational vignettes on ratings of several facets of social attractiveness including traits, perceived social interaction, academic achievement, and occupational attainment. College students ($N = 243$) were randomly assigned to view a photograph of a normally developing boy with a label describing him as having been diagnosed with Autism Disorder, ADHD, or as normally developing. Some participants were also assigned to read a vignette, which provided information about that disorder, while others were not. Analyses revealed that the target labeled as having ADHD was rated significantly less favorably for behaviors related to social interaction than either the target described as having autism or normally developing; however, there were no significant differences between the child labeled as having autism versus described as normally developing. Additionally, the targets labeled as having autism or ADHD were rated significantly lower on potential academic achievement than the target labeled as normally developing. The Autism label elicited the least favorable ratings of future occupational attainment relative to the

other two conditions with the target labeled as having ADHD receiving significantly less favorable ratings than the normally developing child target. Regarding the effectiveness of the information intervention, for Autism, the provision of information led to more positive perceptions of potential academic and occupational achievement as compared to no information. Within the ADHD label condition, the provision of information also led to more positive perceptions of potential academic achievement relative to not receiving this information. Contrary to hypotheses, providing information about normal development led to a significant decrease in ratings of occupational attainment and potential academic achievement. Findings suggest that both Autism and ADHD elicit labeling effects, which negatively affect various areas of social attractiveness. This study also showed that information can contribute to efforts aimed at decreasing stigmatization.

Keywords: labeling effects, Autism, ADHD, stigmatization, social attractiveness

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Literature Review

Autistic Disorder exists in the DSM-IV (American Psychiatric Association, 2000) as one of four Pervasive Developmental Disorder (PDD) diagnoses on a spectrum representing severity of characteristic features and behaviors as well as course and duration of symptoms. Autistic Disorder symptoms usually present before the age of three as sensory perception deficits, trouble with attention or learning and abnormal cognitive functioning. Disorders included under the PDD categorization of the DSM-IV include Autistic Disorder, Asperger Syndrome (AS-HFA), Pervasive Developmental Disorder not otherwise specified, and Childhood Disintegrative Disorder. The major criteria of PDD are developmental disabilities, which usually manifest in irregular social, communicative, and behavioral trends. Autistic Disorder is also characterized by delays in cognitive development and language acquisition (American Psychiatric Association, 2000).

In order to maintain clarity, Autistic Disorder is referred to as autism throughout this paper. The label “autism” was chosen in order to present a term that would be understandable and potentially recognizable to the undergraduate sample participating in the current study. The term “autism” is also reflective of changes made to the PDD diagnostic category in the recently published DSM-V. The DSM-V eliminated the four subcategories of PDD and refers to a general Autism Spectrum Disorder (ASD) diagnosis with symptom severity levels assigned for the two areas of diagnostic criteria (Hyman, 2013).

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There has been a large increase in the number of autism diagnoses given by licensed mental health professionals and the estimate now is that 1 in 91 children has autism (Rice, 2006). Because there is no medical test or biological procedure that allows for a definitive diagnosis of autism (Klinger, Dawson, & Renner, 2003), there has been speculation that the increase in medical diagnosis of the disorder is to advance the research of autism and gain medical help, school assistance, and acceptance into special programs. Furthermore, some have argued that differences in rates of diagnoses may be due to methodological differences in diagnostic procedures rather than increases in development of the condition (American Psychiatric Association, 2000).

Concurrently, the dramatic increase in autism diagnoses could arguably be the result of understanding, documentation, and universal recognition of symptoms of the disorder. Mental health professionals are becoming more knowledgeable about symptoms and are making an effort to correctly identify PDD. Bishop, Whitehouse, Watt, and Line (2008) applied modern criteria for a diagnosis of autism to 38 adults who had been diagnosed during their childhood with Developmental Expressive Language Disorder. This study found that eight of these adults would have met the criteria for severe autism and four would have been diagnosed with mild autism. Since diagnostic tools for recognizing autism have improved, many adults are getting a better explanation for their symptom expression than in years past (Bishop et al., 2008). On the other hand, Klinger et al. (2003) observed that there is no diagnostic instrument or psychological test that can adequately differentiate between many disorders that fall into the category of PDD. Finding ways to conceptualize and diagnose autism continues to be a goal of research efforts. Research is also focused on which interventions and treatment plans have the best outcome potentials (Dawson & Osterling, 1997).

Social Stigma and Mental Disorders

One of the obstacles individuals with mental disorders face, in addition to the cognitive and behavioral deficits that accompany their diagnosis, is the social stigma that arises from those with whom they interact in their social environment. In other words, their diagnosis may be associated with negative stereotypes by the public that go beyond the scope of their actual diagnosis. Furthermore, people generally attend to information consistent with beliefs already held, a propensity termed confirmation bias. Confirmation biases are demonstrated when an individual favors incoming information that supports already held beliefs rather than processing all information and adjusting existing schemas (Myers, 2007).

This affirmation of existing attitudes can lead to the perpetuation of stereotypes and negative perceptions of a labeled individual. Observers of a labeled individual immediately make assumptions about personality, intelligence, attractiveness, and social functionality on the basis of prior information (which can be restricted and limited) in order to achieve concise cognitive processing (Jussim, Manim, Nelson, & Soffin, 1995). For example, in a demonstration of labeling and race, Duncan (1976) showed that shoving was perceived as more aggressive when participants believed it was committed by an African-American individual than when it was believed to be committed by a White individual. Such effects occur frequently when someone has a label that identifies him or her as different or divergent from the norm.

Thus, it can become very difficult to disprove a label and people rarely take time to question their initial assumption. In Rosenhan's (1973) groundbreaking experiment on the dangers of psychiatric diagnosis, he coordinated the admission of eight students to different psychiatric hospitals. These pseudo-patients were admitted after complaining of a rehearsed symptom: hearing a voice of their own gender saying "empty," "hollow," and "thud". The most

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common diagnosis was Schizophrenia and the pseudo-patients were told upon admittance that they would be released when they had convinced the staff that they were sane. Once admitted, these students were instructed by Rosenhan to behave normally, to not mention any more voices, and to not fake symptoms linked to their various diagnoses. Even though nursing staff made official notes that these patients exhibited no abnormal symptoms and seemed genuinely healthy and friendly, it still took the students an average of 18 days to be discharged with the label “schizophrenia in remission.” According to researchers’ experimental notes, other patients frequently accused the students of being sane and recognized that they were not really exhibiting schizophrenic symptoms.

Rosenhan (1973) criticized the hospitals for erring on the side of over diagnosing. He realized that this practice meant there was less chance of missing potentially ill patients. However, he believed diagnosing healthy individuals could make them susceptible to stereotyping, which frequently happened to individuals with psychiatric labels. According to Rosenhan, "Medical illnesses, while unfortunate, are not commonly pejorative. Psychiatric diagnoses, on the contrary, carry with them personal, legal, and social stigmas" (p. 181).

Ohan, Visser, Strain, and Allen (2011) studied the effects of Attention Deficit Hyperactivity Disorder (ADHD) vignettes on perceptions of impairment by elementary school teachers and education students. Participants were asked to read a vignette describing a child who met the symptom criteria for ADHD; however, in one condition the vignette included the label ADHD, while the other condition did not. Results showed that when the label was included, participants were less confident in the capabilities of the child, less confident in their own ability to instruct the child, and showed more negative emotions directed at the child than participants who were in the no-label condition. Ohan et al. also found that teachers who had experience

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working with children with ADHD showed less reaction to the label than education students who did not have applied experience. Elementary school teachers were less likely to question the capabilities of the child and less likely to have a negative emotional reaction toward the child than education students. Interestingly, teachers and education students in the label condition showed higher rates of motivation to seek support and professional services in order to help the child. Finding ways to mitigate the negative effects of labeling was identified as an important area of future research.

Labeling Effects Surrounding Mental Disorders

Although there is a paucity of research on stereotyping and autism, some research has examined reactions and stereotyping behavior toward other developmental and clinical disorders. Manion and Bersani (1987) suggested that mental retardation (MR), like autism, exists as a mixture of perceptions and definitions of symptoms. MR has been researched more extensively than autism and the findings of these studies can arguably be applied to stereotypes about autism. However, it is important to note some fundamental differences between MR and Autistic Disorder while reviewing the literature. In terms of assessment, an IQ test is the primary diagnostic tool used to deem an individual eligible for the label of MR. This IQ score is also used to determine the level of impairment (mild, moderate, severe) for a person. By contrast, in the case of autism, there is a behavioral component involved in the diagnostic process along with intellectual functioning that adds a level of social impairment to the equation (American Psychiatric Association, 2000). According to Klinger et al. (2003), the comorbid rate for MR and Autistic disorder ranged from 44% to 100% in the period between 1966 and 1999 but this rate dropped to a range from 40% to 69% in the period between 2000 and 2001 due to more effective diagnostic tools, early intervention efforts, and the increase in diagnosis of high-functioning

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autism. MR and Autistic disorder are becoming less comorbid as professionals become comfortable differentiating between the impaired intellectual ability in MR and the social, communicative, and behavioral impairment in Autistic disorder.

Millington, Szymanski, and Hanley-Maxwell (1994) conducted a study in which employee job applications were manipulated to test the effects of the label of MR on the possibility of receiving an employment position. Participants in the study were 296 employers who filled out a survey in which they were asked what factors they most frequently take into account when hiring new employees. They were also asked whether or not they would hire an employee whose resume was provided with the survey. The resumes either contained no mention of MR or it was noted that the applicant had MR. They found that the presence of the label led to a negative evaluation of the potential employee's fundamental and advanced skills, which were identified as two key factors in hiring before interviews were even considered. What's more, lower personal liability ratings also correlated with higher levels of discrimination in terms of hypothetical employment by the participant, suggesting that the evaluation went beyond perceptions of objective competence. The level of discrimination was measured based on the number of individuals called back and invited into the business for a job interview. Employer's immediate evaluations and following discrimination were based on attitudes and expectations already in the minds of employers. Millington et al. (1994) described the discrimination as a rejection based on pre-conceptualizations or stigmatization of individuals with a label.

Given the focus on potential adult life outcomes in Millington et al.'s study, it seems warranted to identify the early forms of this labeling that might occur for children, and whether there are informational interventions that might reduce the impact of labeling. However, few studies have examined label-only stereotyping in young children. Vogel and Karraker (1991) had

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undergraduate students rate toddlers playing in a video on scales of competency, maturity, intelligence, health, and a number of other components of social attractiveness. Some children were labeled as “developmentally delayed” and others were deemed normally developing, although the children in the video were all normally developing. Labeling was varied so that each time the video was shown to a group of participants a different toddler was given the label “developmentally delayed.” Vogel and Karraker found that participants rated the toddler labeled “developmentally delayed” less socially attractive than the “normally developing” toddler. Interestingly, the adult’s perceptions of the “developmentally delayed” toddler was entirely influenced by labeling and not by behavioral or personality differences in the toddlers. Though the influence of a specific diagnosis, like autism, has not been investigated in such a way, it seems reasonable to predict that a child labeled with autism might be subject to the same negative perceptions.

Labeling can have an impact on the emotional health of the labeled individual. Klinger et al. (2003) asserted that high-functioning, autistic adolescents often experience depression in response to the realization that they are different than their peers. According to a qualitative study done by Finlay and Lyons (2005), individuals often reject MR and learning-disorder labels in an effort to avoid stereotyping effects. These individuals feel that the number of expressions of symptoms and behaviors within the MR diagnostic group make membership in the group confusing. Also, those with no physical symptoms avoid the label because it is associated with outward, socially-disruptive symptoms. Behaviors such as head banging, echolalia (stereotyped vocal patterns), and arm flapping are associated with autism and often elicit negative social judgment and are generalized to individuals with autism, MR, and ASD diagnoses who may or may not exhibit these behavioral trends.

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Finlay and Lyons observed that diminished self-esteem was a notable symptom associated with the labeling process for individuals with MR. The self-esteem deficits and depression seen in many individuals with high functioning autism, MR, and other pervasive developmental disorders could come from harsh reactions and immediate negative appraisals of those around them including their peers.

The ability of individuals with a disease or disorder to hide their label from observers moderates the effects of social stigma and labeling. Individuals who cannot hide their disability are subject to increased social judgment and lowered social acceptability (Manion & Bersani, 1987). The impact of physical disabilities or obviously distracting social behaviors drives the development of stigmatization in response to a label. Manion and Bersani studied MR as a social construct and identified that “gawkiness is a cardinal social defect and gracefulness is the desired commodity” (p. 232). Thus, behaviors and mannerisms which make children with MR stand out lead to increased labeling effects and identification of those children as different and inconsistent with the modern Western concept of attractiveness, inclusiveness, and acceptability (Manion & Bersani, 1987). Strain (1985) found that handicapped children were rated as less socially acceptable by their peers than non-handicapped children. Those receiving lower ratings of social acceptability also were rated as less physically attractive, more disruptive in class, had fewer play skills, and were seen as lacking in athletic skills. Children are prone to exhibiting prejudice against their peers with physical handicaps, while adults also frequently attribute negative qualities to these labeled children.

McGarry and West (1975) studied the effects of physical deficits combined with labeling on the treatment of individuals with MR. Residents in a training center for the mentally challenged were rated by staff on a number of scales measuring functionality and social skills.

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McGarry and West measured the number of positive and negative interactions staff members had with each resident. They found that residents who exhibited more physically-present symptoms (e.g., hand flapping, body rocking, abnormalities of posture) were rated by the staff as less mobile, having less communication abilities, and having more distorted facial features. The more stigmatized the resident was as indicated by negative evaluations on staff surveys, the more negative interactions with staff the resident had. These individuals also received less positive attention than residents who exhibited less physically-present symptoms.

Labeling Effects for Autism

Autism is also at its core a socially-created construct in that there are no medical tests to distinguish between individuals with and without the disorder and there are expectations instilled upon the diagnosis by the media, health insurance providers, parents of children with the diagnosis, and teachers (Finlay & Lyons, 2005). When individuals with autism are diagnosed correctly and given the label "autistic," their symptoms can be categorized. This process of identification and classification has helped standardize diagnostic procedures. Hastings (1994) reviewed the positive and negative beliefs associated with the label of autism and found that medical, social, and educational benefits can be conveniently distributed if labels are used to receive benefits. Individuals who want treatment can use their label to find the most empirically-validated techniques for their symptoms. On the other hand, Hastings points out that labeling an individual with autism makes him/her vulnerable to negative stereotyping and discrimination.

Gray (1993) identified the lack of public understanding and knowledge about the disorder and the disruptive nature of autistic symptoms as reasons for harsh stigmatization of parents of children with autism. Mothers of children with autism have reported feeling more stigmatized by their child's condition than mothers of children with severely disabled children. This discrepancy

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highlights the severe social stigma of autism and the harmful effects the negative perceptions of others can have on the self-esteem and psychological well-being of parents of children with autism as well as the disordered individuals themselves. The labeling effects of autism have been shown to be far reaching. Individuals diagnosed as autistic may have lowered self-esteem (Finlay & Lyons, 2005) and their family members are also subject to stigmatization and social judgment.

Although identifying the source from which stereotypes about autism originated is difficult, Jones and Harwood (2009) argue that media has strongly influenced and fanned perceptions of the disorder. Jones and Harwood studied mass media representations of autism in Australia. They found that there were two main stereotypes perpetuated by the media, including (1) the idea that individuals with autism act in irrational and dangerous ways and (2) the notion that individuals with autism are social outcasts who receive poor treatment and no affection. They also found that when the media portrayed autism, it utilized virtually no factual information about symptom expression, the diverse expressions of the disorder, and the negative impact portrayals could have on families, individuals with a diagnosis of autism, and the community in general.

Ling, Mak, and Cheng (2010) examined the correlation between knowledge and/or experience and stigmatization of autistic children after discovering what they called an "unsupportive education climate" in Hong Kong special education schools (p. 238). The participants in this correlational study were frontline workers in China. Frontline workers are teachers who work with children with autism as early interventionists and tutors. These frontline workers were given a vignette describing a classroom scene involving a child with autism. Immediately following their exposure to the vignette they filled out the Attribution Questionnaire (Corrigan, Markowitz, Watson, Rowan & Kubiak, 2003) to assess the teacher's reactions to the

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child in terms of anger, perceived controllability of the child over their symptoms, sympathy for the child, helping behavioral intentions, and punitive behavioral intentions. They found that teachers who had more knowledge about autism and had more work experience with autistic children showed less punitive intentions and saw the children as having more control over their own symptoms than teachers who had less experience working with autistic clients and had less knowledge about autism. This study emphasizes the fact that knowledge and experience correlate with less stereotyping of autistic children. More psycho-education about autism and interaction with autistic individuals may help in reducing labeling effects.

Little is known about the impact of an autism label on adults and children. Previous research has explored the reaction of observers to the behavioral and physically-visible manifestations of autism in terms of social attractiveness. These studies show that certain traits and characteristics of individuals with autism have been shown to elicit negative reactions. Stemming behavior (which is defined in the DSM- IV as "stereotyped and repetitive motor mannerisms" [p.71]), unusual vocal trends (e.g., echolalia), and uncontrolled facial expressions lead observers to rate individuals with autism as less socially acceptable than their normally developing peers. In a study conducted by Iobst et al. (2009), a videotape depicting a 12-year-old boy exhibiting classic autistic symptoms including head banging, hand flapping, rocking, and gaze avoidance was shown to participants. Participants were also given one of three different informational vignettes, which described the boy portraying the autistic symptoms. These vignettes contained either neuropsychological information, explanatory information, or combined neuropsychological and explanatory information. After watching the video and reading the vignette, participants were then asked to rate the social acceptability of the boy. Compared to ratings of a normally developing boy depicted in a video shown to control-group

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participants, the boy with autism was rated less favorably (in terms of perceived attractiveness, friendliness, ability to perform a task, intelligence, likelihood of future success, etc.). What's more, participants who were assigned to the neurologically-focused information condition or the explanatory condition rated the boy with autism more favorably than those who were in the no vignette condition or combined information condition. Iobst et al. speculated that because the combined information vignette was 1/3 longer than the other vignette conditions and created two different foci, it might have been overwhelming or confusing for participants. Another possibility is that participants were confused by the different foci of information being combined into one paragraph. Despite a need for further clarification on how information can negate labeling biases, Iobst et al. emphasized the effectiveness of providing information in order to minimize stereotyping and quick judgments.

What remains unclear about studies like Iobst et al. (2009) and McGarry and West (1975) is the degree to which the behavioral manifestations of a disorder impact judgments of a person as compared to the impact of the label itself. Harnum, Duffy, and Ferguson (2007) did assess the level of negative judgment elicited by descriptions of *behavioral symptoms* without specific labeling. Attention deficit/Hyperactivity disorder (ADHD) was used as a comparison group with autism to measure peer and adult perceptions of children with the disorders. ADHD and autism were identified as disorders that elicit isolation by peers, negative judgment by adults, and changes in behaviors toward children with the disorders (Harnum et al., 2007). Both disorders were also identified as having symptom-specific stereotypical behaviors that prompt observers to form certain impressions and increase stereotyping patterns. A small convenience sample of 30 children and 30 adults participated in the experiment. The participants were given a vignette describing the stereotypical behavior of a child with autism or ADHD without actually

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identifying a diagnosis or attributing a label to the child. They were then given a seven-item questionnaire upon which to rate the child's level of likability, the degree to which the participants felt the child was like themselves, and to what degree they believed they would avoid the child described in the vignette. Results of the study showed that the peer group rated the autistic and ADHD targets as similar on likability; however, both were rated more harshly than a control target described as a normal child. The peer group was also more likely to express a desire to avoid the targets described with disorder-related symptoms, cited more dislike of these children, and did not believe they were at all like these children relative to the control condition. Adults were less likely than the peer group to harshly rate likability and expressed less of a desire to avoid either the children described as exhibiting autistic or ADHD behaviors; however, they exhibited the same belief as the peer group participants that the children described in terms of autistic symptoms were "not like them at all." Researchers encouraged future studies to look at what is contributing to the specific processes underlying negative judgments of autistic children and ADHD children (Harnum et al., 2007). Looking specifically at the effect of a label of ADHD or Autistic on social attractiveness ratings could parcel out part of that judgment process.

Overview of the Present Study

Previous research has identified that autistic symptoms lead to negative evaluations after brief encounters (Iobst et al., 2009), adolescent observers judge descriptions of autistic individuals as less likable, and adult observers see a child with autism as "less like themselves" than a child with ADHD or a normally developing child (Harnum et al., 2007). Furthermore, peer influence and adult reactions to an autistic child correlate with lowered self-esteem and

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increases in depressive symptoms (Finlay & Lyons, 2005). Negative social judgment is also sometimes directed at parents of children with the diagnosis (Gray, 1993).

There are an increasing number of children being diagnosed with autism than in years past (Rice, 2006), yet there has not been significant research on the potentially detrimental effects of labeling someone as autistic. Indeed, there is no research on the effects of just the label “autistic” on perceptions of social attractiveness of children with the disorder. Given the potential for harsh social judgment regarding the disorder, research examining the label of the disorder, devoid of actual behavioral manifestation, is warranted.

The current study focused on identifying the effects of the label “autistic” on judgments of a six-year-old boy described as having one of three disorder-labels: autistic, ADHD, or normally developing (control condition). In an effort to use labels that would resonate with the participant sample of undergraduate students, what is routinely called “typical development” in the professional literature was referred to as “normal development” in this study. ADHD was selected as a comparison group because it has been shown to share social outcomes similar to autism. According to Harnum et al. (2007), “not only do peers perceive threatening behaviors from autistic and ADHD children, but peers also naturally give the threatening behaviors greater weight than they do the instances of positive behaviors” (p. 1341). Harnum et al. chose to study ADHD concurrently with Autistic Disorder because both can lead to peer rejection, adult stigmatization, and the atypical behaviors seen in both disorders tend to be judged harshly by observers. Participants in the current study were shown a photograph of the boy, paired with a disorder label or described as normally developing, and then asked to rate the child’s social acceptability across multiple domains that included traits, intention toward social interaction with the child, academic achievement potential, and perception of future occupational attainment.

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However, unlike Harnum et al.'s study, the current study used the name of a disorder (with no behavioral descriptions) to describe children in the photographs, in order to assess pure labeling effects apart from reactions to descriptions of stereotypic behaviors of ADHD or autism.

Information has been identified as an important facet in interventions aimed at countering stigmatization against individuals with mental disorders. Education interventions designed to correct misconceptions about mental illness (specifically, mental retardation, depression, psychosis, and cocaine addiction) have been shown to be effective in decreasing endorsement of stigmatization and discrimination (Corrigan, River, & Lundin, 2001). Recall that when Iobst et al. (2009) provided neurologically-based or explanatory information about autism to participants prior to rating the social attractiveness of a child depicted as having autism, ratings of the autistic boy were more favorable than when no information or combined information was given (Iobst et al., 2009). The current study also included an information component to assess whether aspects of labeling are related to a lack of information about disorders like autism. This study looked at whether or not the information provided led to less stigmatization of individuals with these disorders and enhanced ratings of social attractiveness by clarifying myths and common misconceptions about autism or ADHD. Information about the physiological, social, and academic development of a "normal" child was provided as part of the control condition. Due to the lack of research differentiating between stigmatization and labeling effects of ADHD versus autism, this informational intervention was exploratory in nature.

Given that the study was a 3 (Type of Label: Autistic vs. ADHD vs. normally developing) X 2 (Informational Intervention: Information provided vs. Not), participants were randomly assigned to one of six conditions: autism label with no information, autism label with information, ADHD label with no information, ADHD label with information, normally

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developing label with no information, or normally developing label with information. Those in the informational intervention conditions were given 5 minutes to read the information and were then shown a photograph of a child labeled with one of the descriptions (autism, ADHD, normally developing). Those in the other conditions simply received the photograph of the child paired with one of the disorder labels.

Experimental predictions were as follows:

H1: Recall, Harnum et al. (2007) found that descriptions of a child exhibiting autism symptomology led to lower ratings of likability by peers compared to their ratings of a child described as normal. Adult participants gave lower ratings of similarity to the self when asked to read about the child displaying autistic symptomology in comparison to their ratings of the child described as having ADHD and the non-disordered child. Additionally, Iobst et al. (2009) found that exposure to autism symptomology in a video format led to lower ratings of social acceptability by adults compared to their ratings of a “normal” child’s social acceptability. Therefore, it was predicted that participants in the autism label condition would rate the child as less socially acceptable than participants in the ADHD condition and the normally developing condition.

H2: Given that Harnum et al. (2007) found that descriptions of a child exhibiting ADHD symptomology led to lower ratings of likability by peers as compared to a description of a normally developing child, it was predicted that participants in an ADHD condition would rank the child as less socially acceptable than participants in the normally developing condition.

Exploratory predictions were as follows:

H1: Given that Iobst et al. (2009) found that providing participants with etiological information about autism improved ratings of social acceptability, participants given information

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about autism would show higher ratings of social acceptability of a child labeled as autistic than participants who were not provided with information.

H2: Similarly, participants given information about ADHD would show higher ratings of social acceptability of a child labeled as having ADHD than participants who were not provided with information.

Method

Participants

Two hundred and forty-three participants completed this study. These individuals were recruited using the online Psychology Subject Pool (SONA). Individuals who were enrolled in Psychology classes were eligible to participate in order to gain experiential credits required for the course. All participants were undergraduate students from a public, moderately-sized, southeastern university. Class rank broke down as follows: 49% freshman, 25% sophomores, 15% juniors, and 11% seniors.

A manipulation check was included to ensure that participants attended to the experimental manipulation. Participants were asked to recall the label that was assigned to the photograph they were shown. If they were assigned to an information condition, they were asked to answer three true or false questions based on the previously viewed informational vignette. Based on answers to the first manipulation check question, which ensured that participants remembered their assigned label condition, seven participants were excluded. In addition, two participants were excluded after missing more than two out of three of the manipulation questions related to the informational vignettes. The remaining 234 individuals comprised the sample. The sample included 90 (39%) males and 143 females (61%), with 1 individual not indicating gender. The mean age of the sample was 19 years old (range of 18 to 36 years of age).

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Ethnicity percentages were as follows: 87% Caucasian, 5% Hispanic, 3% Asian, 3% African American, and 2% Unspecified (with one individual not responding).

In regards to personal experience interacting with an individual with a disorder label: 52% of participants reported having experience with a child with autism, 72% reported experience with a child with ADHD, 20% of participants reported having experience with an adult with autism, and 39% of participants reported experience with an adult with ADHD. All procedures were in compliance with the ethical standards of the American Psychological Association (APA, 2010) and were approved by the Institutional Review Board at Appalachian State University on March 27, 2012 and expired on March 26, 2013 (see Appendix A).

Measures

Three informational vignettes (see Appendix D, Appendix E, and Appendix F) were developed for this study and designed to counter media-generated misconceptions about the disorders ADHD and autism. Information pertaining to disorder symptoms and common developmental trends was included in the vignettes. The vignettes were generated with the help of psychologists who have regular contact with children with autism and ADHD in order to present a realistic depiction of the disorders, highlighting the capabilities of children with the disorders. A vignette was also created for the child described as “developing normally.” The vignettes were designed to be consistent in structure, length, and content.

The Ratings of the Child Questionnaire (ROCQ; Stern & Arenson, 1989) was originally used to assess participants' perceptions of social acceptability of a pre-maturely born child presented in a picture. It was originally designed to gauge reactions of adults' to premature children. Results yield a total social acceptance score and five subscale scores based on attractiveness, physical abilities, cognitive functioning, and social functionality. The

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questionnaire begins with a prompt that says, "Would the child you saw and learned about be" and then lists 20 items, each with its own Likert- scale. Answers are given in the form of a choice on a seven-point Likert scale that ranges from a very positive perception ("smart," "fun to play with," "very well behaved") to a very negative perception ("dumb," "not fun to play with," "not well behaved"). Other questions ask the participant to make ratings of the child's potential for academic success and assess how comfortable the participant would be with varying levels of interaction with the child (e.g., to have the child in a classroom with their own child). A one-item measure of anticipated occupational attainment is included as well, and was assessed with a question asking what occupational level the target child could attain with five answer choices ranging from "Professional" producing a score of 1 and "Unskilled" being assigned a score of five. For this question (unlike the other ROCQ social attractiveness scale questions), lower scores signify better ratings of future potential (Stern & Arenson, 1989).

In addition to the ROCQ, a brief demographic questionnaire was included at the end of the survey. This included questions related to participants' gender, age, and any relationships they have or have had with an individual that has autism or ADHD. Participants were asked "Do you have experience interacting with children with autism?" and "Do you have experience interacting with adults with autism?" Answers are given in the form of a choice on a seven-point Likert scale that ranges from a lot of experience to no experience. Finally, participants were instructed to review a list of potential people in their lives that have autism or ADHD (e.g., brother, sister, cousin, aunt, dad) and place a check next to any that apply.

At the end of the questionnaire a manipulation check was included to ensure that participants attended to the experimental manipulation. Participants were asked to recall the label that was assigned to the photograph they were shown. If they were assigned to an information

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condition, they were asked to answer three true or false questions (see Appendix B) based on the previously viewed informational vignette.

Procedure

After signing an informed consent document (see Appendix C) participants were randomly assigned to one of three developmental label conditions (ADHD, Autistic Disorder, or normal development). Individuals assigned to an information condition had two minutes to read an informational vignette describing the development of a child in the label condition to which they were assigned. Participants who were randomly assigned to the no information conditions did not receive information before viewing the projection screen image and description of the child. Participants were instructed to view the photograph of a boy on a projection screen located in the front of a classroom. The label information was conveyed via a short description of the child (i.e., “This is Timmy. Timmy has Autism.” “This is Timmy. Timmy has Attention Deficit Hyperactivity Disorder.” or “This is Timmy. Timmy is normally developing.”) under the projected picture. Finally, the participants completed the ROCQ and a demographic questionnaire. A short debriefing followed. Participants were also asked to not discuss the study with anyone due to the ongoing nature of the experiment.

Results

In an effort to probe the total ROTCQ score (comprising 20 items) and make it more compatible with the scope of this study, the original five sub-factors were modified and grouped into three distinct sub-scales after an exploratory factor analysis. These sub-scales of social attractiveness were created in an effort to discriminate behavioral, trait, and performance categories that might be subject to stigmatization.

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Reliability analyses were conducted on the three identified sub-scales. The *Traits* subscale (Cronbach's a of 0.76) was measured with 14 items (i.e., Would the child you saw be: big/small, friendly/shy, loud/quiet, smart/dumb, strong/weak, assertive/passive, fast/slow, happy/sad, fun to play with/not fun to play with, very cute and attractive/not very cute and not attractive, attentive/inattentive, well behaved/not well behaved, well-coordinated/not well-coordinated, masculine/feminine). The *Social Interaction* subscale (Cronbach's a of 0.81) was measured by four items (i.e., How much do you like this child: very much/not at all; Would you like to take care of the child: like to very much/not like to at all; Would you like to be close to this child: like to very much/not like to at all; How much would you want this child to be in a classroom with your own child?: very much/not very much at all). The *Academic Achievement* subscale (Cronbach's a of 0.75) was measured by two items (i.e., How well do you think this child will adjust to kindergarten: very well/not very well; How well do you think this child will do academically: very well/not well at all). Finally, a one-item measure of *anticipated occupational attainment* was also included as a dependent variable. These four measures served as the dependent variables in the analyses.

In order to test H1 (that participants in the autism label condition would rate the child as less socially acceptable than participants in the ADHD condition and the normally developing condition) and H2 (that participants in an ADHD condition would rank the child as less socially acceptable than participants in the normally developing condition), the four dependent measures (traits, social interaction, academic achievement, and occupation attainment) were submitted to a 3 Type of Label Condition (ADHD, autism, vs. normally developing) x 2 Type of Information (Information provided vs. no information provided) between-subjects factorial ANOVA.

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Results yielded significant main effects for label condition on ratings of occupational attainment, $F(2, 229) = 16.40, p = < .001, \eta_p^2 = 0.13$; academic achievement, $F(2, 231) = 29.17, p = < .001, \eta_p^2 = 0.20$; and social interaction, $F(2, 231) = 8.51, p = < .001, \eta_p^2 = 0.07$. Ratings of traits across all the label groups were not statistically significant at $p < .05$ (Table 1).

As can be seen in Table 1, Duncan's post-hoc comparisons for the social interaction variable revealed that the target labeled as having ADHD was rated significantly less favorably than either the autistic or normally developing target. Contrary to expectations, there were no significant differences between the autism label condition and normally developing label condition on ratings related to social liking and desire for social interaction. Post-hoc comparisons also revealed that the target labeled as having autism or ADHD was rated significantly lower on potential academic achievement than the target labeled as normally developing; however, ratings on academic achievement between the ADHD target and autism target did not significantly differ.

Consistent with both hypotheses, the item assessing anticipated occupational attainment did show that the target described as having autism was given the least favorable ratings relative to the other two conditions. Furthermore, the target labeled with ADHD received significantly less favorable ratings than the normally developing target child.

Two exploratory hypotheses were proposed regarding the information intervention. Both proposed that the information intervention would increase social acceptability ratings of the target described with autism (exploratory H1) and ADHD (exploratory H2). Results from the 3 x 2 ANOVA did demonstrate a significant main effect for information type, $F(1, 228) = 4.63, p = .03, \eta_p^2 = .02$. Individuals exposed to information about the target child's development evaluated him as having greater academic potential ($M = 4.79, SD = .96$) than those not exposed to

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information ($M = 4.53$, $SD = 1.14$). This main effect, as well as the main effect for label condition was qualified by a significant interaction between the two variables, $F(2, 228) = 7.35$, $p = .001$, $\eta_p^2 = .06$. As Table 2 shows, within levels of label, the informational vignettes had different influences. For the normally developing child, the information led to decreases in ratings of academic achievement, whereas for the child label with autism, the information led to greater perceived success than if no information about the disorder was provided. Similarly, the child labeled with ADHD was rated higher on academic achievement if information relative to if it was not.

For perceived occupational success of the child, the main effect for disorder label was also qualified by a significant label x type of information interaction, $F(2, 226) = 5.61$, $p = .004$, $\eta_p^2 = .05$. Results for perceived occupational success are also presented in Table 2. The provision of information for the normally developing child, again, led to a lower perception of potential occupational success for that child relative to having no information provided. However, for the child labeled with autism, information led to higher ratings of success relative to those in the control condition. The child labeled with ADHD received similar ratings of perceived occupational success irrespective of informational provision.

Discussion

Although scarce, previous research on the perception of individuals with autism based on behavioral information suggests a tendency toward stigmatization (Harnum et al., 2007; Iobst et al., 2009). This trend is also seen, to a lesser degree, in research on stigmatization toward individuals with ADHD (Harnum et al., 2007). Previous studies have focused on perceptions of participants after they observe overt symptoms of disorders, after these behavioral manifestations of the disorder are described, or both the effects of a label and descriptions of overt

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manifestations of disorders. The current study sought to examine the effects of only a disorder label on ratings of social attractiveness, acceptability, and competence of a child for both autism and ADHD as compared to a normally developing control. Results of this study add a level of specification to the body of literature documenting parameters of stigmatization based on disorder labels and accompanying behaviors.

Contrary to hypothesis, the current study found no stigmatization of a child labeled with autism for general trait-related attributes including assessments of shyness, attractiveness, attentiveness, and physical characteristics or for social interaction ratings assessing the desire to interact with the child relative to a child described as normally developing. As predicted, however, ratings of both academic and occupational competence did show less favorable assessments relative to the normally developing child.

Surprisingly, this study did not find overwhelming evidence for the label of autism to be unique in its perceived social deficits relative to ADHD. Although the child described as having autism was rated as less likely to achieve occupational success than the child labeled with ADHD, no differentiation occurred between these targets for ratings of academic achievement. What's more, the ADHD label proved to carry the most liability for ratings of social interaction, where that child was rated most unfavorably relative to the other two targets. One explanation for the discrepancy between stigmatization within the ADHD and autism label conditions is that participants may associate ADHD with more controllable individual flaws but link autism to biological causes perceived as outside the control of the afflicted individual. Understanding for this explanation is expanded by Osterholm, Nash, and Kritsonis (2007), who assert in their research on learning disorder labels that, due to a lack of overt behaviors, children's personality traits are faulted for their deficits. They argue that children with "invisible disabilities" are

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perceived as unmotivated and lazy (p. 2) due to a lack of discernible physical symptoms. Interpreted against the same parameters, ADHD could be seen by participants as an “invisible disability” particularly if the child has the inattentive type of ADHD which manifests primarily in concentration difficulties and not hyperactivity. In a sense, observers see functional deficits in individuals with ADHD (i.e., failure in school or work) without witnessing the individual’s internal struggle with intrusive thoughts and distractibility. Autism, on the other hand, is defined by irregular behavioral manifestations which preclude it from being an “invisible disability.” According to the invisible disability theory, a personalization of blame for ADHD could explain why participants were less likely to report wanting to spend time with the target child or want their child to interact with the target child (as seen in ratings related to perceptions of desired social interaction).

Ohan et al. (2011) had elementary school teachers and education students read a vignette describing a child with ADHD; however, in one condition the vignette included the label ADHD, while the other condition did not. Findings showed that participants in the vignette and label conditions were more likely to have negative feelings and decreased confidence in the ADHD-labeled target child than participants in the non-label vignette condition. These results emphasize the deleterious expectations associated with the ADHD label beyond initial reactions to actual behavioral descriptions. These expectations could be linked to assumptions about behaviors and interpretations of the etiology of those behaviors (i.e., lack of control versus genetic or biological causes). However, the current study did not assess for participants level of blame for disorder symptoms and this idea would need to be specifically tested in future studies. Also, this proposition contradicts previous research by Manion and Bersani (1987) who asserted that an

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individual who cannot hide his/her disability is subject to increased social judgment and lowered social acceptability.

Previous research on autism shows a dynamic in which descriptions or visual presentation of autism symptoms often lead to stigmatization. Iobst et al. (2009) found that after participants had viewed a video of a boy exhibiting behavioral symptoms of autism, the boy with autism was rated less favorably (in terms of perceived attractiveness, friendliness, ability to perform a task, intelligence, likelihood of future success, etc.) than a normally developing boy. Harnum et al. (2007) showed that, after reading vignettes describing behavioral manifestations of autism and ADHD, both peers and adults rated the descriptions of children with disorders lower in terms of level of likability than a control condition describing a normally developing child.

More recently, Butler and Gillis (2011) led a comprehensive examination of the interaction between behavioral descriptions and label effects when they examined the effect of the label Asperger Syndrome (AS-HFA) and descriptions of the behaviors associated with AS-HFA on stigmatization of adults. AS-HFA is a PDD diagnosis in the DSM-IV which is defined by impairments in social functioning; however, individuals with AS-HFA generally exhibit less severe deficits in communication ability than those typically found in individuals with autism. AS-HFA is also characterized by identification of an area of interest which occupies a large amount of an individual's attention and time as well as stronger adaptive social skills than seen in individuals with autism (Kozlowski, Matson, & Belva, 2012). Findings from Butler and Gillis (2011) showed that the vignettes without labels elicited significant increases in stigmatization and support similar studies done with autism. However, the label alone without behavioral descriptions of AS-HFA did not significantly impact stigmatization. They speculate that the lack of labeling effects related to AS-HFA seen in their study may be related to participants viewing

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AS-HFA as outside the control of the adult target. Thus, this external attribution of symptoms by observers may lead to less social distancing and a lack of stigmatization. Along the same vein, the fact that participants in the current study did not label the child with autism as possessing less desirable traits or express less desire to interact with the child could reflect viewing autism as externalized and outside the fault of the target child. However, unlike Butler and Gillis's study on AS-HFA, the current study used autism as the label, chose to use a child target instead of an adult, and did find significant labeling effects in regard to academic achievement and future occupational attainment. It also may be the case that providing a visual representation of symptoms (e.g., Iobst et al., 2009) or a description of such symptoms (e.g., Butler & Gillis, 2011) makes it more difficult for an observer to deny the social and behavioral deficits that the disorder may afford an individual. The label alone with a static photograph (as was used in this study) may not provide the same schematic representation for a naïve observer.

Concurrently, the differences in findings between Butler and Gillis (2011) and the present study may indicate that an AS-HFA label and an autism label may elicit varying degrees of stigmatization in observers. Beliefs about the ramifications of the disorders may significantly diverge. The current study did not attempt any measures of disorder attribution or implicit attitudes so this line of discussion is purely speculative. Future studies could gain a deeper understanding of participants' propensity toward stigmatization and discrimination of children with autism and ADHD based on internalized or externalized attributions by utilizing an indirect question methodology (Fisher, 1993) or developing an implicit apperception test (Banse & Greenwald, 2007). Future studies should also continue to parcel out differences in labeling effects between PDD diagnoses.

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The fact that Butler and Gillis (2011) found no labeling effects for AS-HFA via the disorder name alone, and the current study found no labeling effects for autism or ADHD on perceptions of the child's personality, physical, emotional, and social traits provides promise that progress is being made toward decreasing stigmatization of disorder labels. Participants in the current study were not stigmatizing the target child on many subjective measures of social attractiveness. However, their judgments of the child on more objective, functional assessments (i.e., academic and occupational attainment) are somewhat expected based on the social and emotional deficits that the diagnosis for ADHD and autism confirms. That is, these individuals do face real challenges with regard to navigating these more concrete outcomes for which they must compete with normally developing individuals.

An important extension of studies on stigma is research promoting effective interventions to decrease stigmatization and limit discriminatory actions. Corrigan et al. (2001) emphasize that three key strategies to reduce stigma directed at individuals with mental illness are education, protest, and contact-based interactions or de-segregation of social spheres. In this study, incorporating information as a way to counter myths and misconceptions about the disorders and provide diagnosis-specific symptom information significantly increased ratings of social attractiveness in the ADHD and autism label conditions. Specifically, when an informational vignette was included in the intervention, the target child with autism was rated as more capable of academic and occupational achievement compared to participant ratings in the autism label condition where no information was given. For the ADHD label condition, information served to significantly increase participant ratings of academic achievement for the child.

Osterholm et al. (2007) assert that "salient information ameliorates label bias" (p. 9). However, agreement is lacking across research studies as to what informational intervention is

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most effective. For instance, Iobst et al. (2009) found that using neurologically-based information about autism increased ratings of social attractiveness of an adolescent portrayed as having autism. These findings contradict results of Pescosolido, Martin, and Long (2010) who found that providing information about the neurobiological concept of Schizophrenia, depression, and alcoholism led to decreased ratings on individuals' control over their behavior, increased ratings of potential dangerousness and unpredictability, and decreased ratings related to an individual's ability to recover.

Due to previous studies showing that information can increase ratings of social attractiveness even in the face of behavioral manifestations of a disorder (Iobst et al., 2009; Ling et al., 2010; Ohan et al., 2011), an exploratory informational component was included in this study. The informational vignettes were designed to present factual descriptions of autism, ADHD, and normal development in a manner that would be comprehensible by an undergraduate participant sample and influential enough to decrease stigmatization. The information was presented in an explanatory way without specific emphasis placed on neurobiological components of the disorders. Based on research by Jones and Harwood (2009), included information was designed to counter media-generated misconceptions about the disorders. According to Stuart (2006), mental illness as portrayed in the media (i.e., news outlets and entertainment media) is often associated with unpredictable behavior, violence, and threats to the personal safety of bystanders. Consistent with the argument that providing neurologically-based or explanatory information might be most effective for enhanced favorability ratings for people with autism (Iobst et al., 2009), the informational vignettes in this study succeeded in improving ratings of potential academic and occupational achievement for the autism label condition and potential academic achievement for the ADHD label condition.

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There are a number of explanations for why information proved to be effective in more domains of social attractiveness for autism as compared to ADHD. The first explanation is that the undergraduate sample participating in this study had a larger pre-existing base of knowledge for ADHD (72% reported experience with a child with ADHD, and 39% of participants reported experience with an adult with ADHD) as compared to autism (52% of participants reported having experience with a child with autism, and 20% with an adult with autism). Greater exposure to individuals with ADHD may have led participants to gain more personal knowledge and understanding of symptoms related to ADHD compared to their understanding of autism. Moreover, participants in the autism information condition may have had more to gain from the information presented because they knew less prior to participating in the study than participants in the ADHD information condition.

It is also possible that participants developed negative expectations of ADHD based on prior-interactions with diagnosed individuals. Previous knowledge most likely comes from interactions with peers considering the larger number of students with ADHD diagnoses attending college than students attending college with a diagnosis of autism. According to Weyandt and DuPaul (2008), an estimate of college students with ADHD and autism is hard to calculate due to the fact that students are not required to provide documentation of their diagnosis unless they wish to receive services through the school. However, through a meta-analysis of studies on ADHD in a college population, they posit that approximately 2-8% of undergraduate students have self-reported sufficient symptoms to warrant a diagnosis of ADHD (Weyandt & DuPaul, 2008). There has been very little research done on the prevalence of autism within college populations; however, White, Ollendick, and Bray (2011) estimated that 0.7 - 1.9% of an undergraduate sample met criteria for a high functioning autism spectrum disorder

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(HFASD). Negative experiences with peers in college could explain the disparate results on effectiveness of information interventions between ADHD and Autism conditions in that participants in the ADHD group may have had more solidified, stereotyped opinions of ADHD than autism, which rendered these opinions less open to intervention via provision of information.

Although not expected, the current study found that providing information decreased ratings of potential occupational attainment and academic success of the target described as developing normally. Given that it is difficult to argue that this is grounded in stigmatization, results likely relate to the wording of the vignette. As previously mentioned, the information included in the disorder vignettes (autism and ADHD) was explanatory in nature and the tone of both the ADHD and autism informational vignettes emphasized the uniqueness of each individual with a disorder label. All of the vignettes focused on reducing generalized assumptions about an individual's limitations based on his/her diagnosis or preconceptions. This is exemplified by statements in the vignettes such as "Individuals who are diagnosed with ADHD [autism] are unique and their ways of interacting with the world are diverse" (see Appendices D and E). The normally developing informational vignette was created to be structurally and contextually similar to the disorder-label vignettes in order to limit differences in ratings based on this framework. Unfortunately, by pointing out areas in which normally developing individuals could struggle, the vignettes likely instigated thoughts that did not previously come to mind when merely viewing the neutral picture and associated label of "normally developing." Take for instance a sentence out of the normally developing vignette which stated, "Although most individuals who are normally developing do not exhibit impairments in social interactions, difficulties in communication, problems with self-regulation

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in more than one environment such as an academic, occupational, or an interpersonal relationship, it is important to remember that each normally developing person is different” (Appendix F). In the disorder-label conditions, this introductory sentence pointed out several DSM validated symptoms of the disorder and ended with a statement emphasizing individual differences (see Appendices D and E). So, unlike the disorder-label conditions, within a context of normal development, the statement could trigger thoughts about potential areas of difficulty for a normally developing child and participants likely projected these difficulties onto the target child.

It is also likely that in an effort to ensure parallel structure between the three vignettes, the normally developing vignette came across as artificial and odd. For instance, empirically-validated interventions for ADHD and autism were presented in the disorder vignettes to assert that, while there is no cure for the disorders, symptoms can be targeted through treatment (see Appendices D and E). An attempt was made to mimic this sentence in the normally developing vignette by saying “although there are some ways to negatively interfere with normal development, empirically-validated interventions such as authoritative parenting and establishing basic trust have been shown to improve development.” Taking into account that the normal development label alone did not elicit stigmatization, information interventions are not needed to negate stereotypes for a normally developing population. However, the unforeseen effects of the information intervention in the normally developing condition show the need for vigorous testing of wording, structure, and content in future studies attempting to use information to promote change.

Limitations and Future Research

The non-analogous nature of this study (i.e., identifying a disorder label under a child's picture) makes the results difficult to generalize to real-life scenarios in which an individual's disorder label would be less obvious and not blatantly identifiable. This point is particularly relevant considering that Finlay and Lyons (2005) found that individuals often reject labels in an effort to avoid stereotyping effects. This study lays a foundation for future studies that could identify specific social situations in which a disorder label may be disclosed such as medical appointments, educational settings, employment interviews, or mental health treatment facilities. Future studies could look at more subtle ways of presenting a label and the effect that modification of this presentation could have on ratings of social attractiveness.

Inclusion in this study was open to the entire student body enrolled in undergraduate psychology courses through an online system that offers course credit for participation. While this methodology limits attempts to reduce sampling bias, many undergraduate students have not and will not interact regularly with individuals diagnosed with ADHD or autism. Future attempts to decrease stigmatization against individuals with ADHD and autism could focus on those employing, educating, or routinely interacting with labeled individuals in order to have the largest potential influence. In particular, providing undergraduate or graduate education majors, psychology majors, and sociology majors with educational information to counter inaccurate beliefs about individuals with developmental disorders could attenuate stigmatization, discriminatory behavior, and negative expectations. As seen in Ohan et al. (2011), interacting with children with ADHD decreased negative feelings about the label and increased confidence in the child's capabilities and their own ability to instruct the with the diagnosis. Thus, programs aimed at eliciting more in-person interactions between future educators and children with

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disorders would likely improve outcomes seen in this study that are more vulnerable to stigmatization such as ratings of perceived academic achievement and future occupational attainment.

In order to clarify the issue regarding differences in effectiveness of information and ratings of social attractiveness between the autism and ADHD label conditions, future studies should have participants complete a pre-test in order to document baseline knowledge of the disorder labels being studied and sources where this information was acquired. Knowing how individuals routinely learn about disorders could help optimize future information interventions.

Applied Implications

Previous research on labeling and stigmatization of mental illness has shown that labels often come with associations of being damaged, blameworthy, or somehow less than those who are unlabeled (Arboleda-Florez & Stuart, 2012). Often, a labeled individual's behavior is interpreted through pre-existing biases about that label (Rosenhan, 1973) and this can often lead to unfair treatment, discrimination, and the perpetuation of the self-fulfilling prophecy phenomenon (Osterholm et al., 2007). On the other hand, labels are an integral part of the diagnostic process in psychology and serve vital purposes particularly in the area of research, garnering attention for advocacy campaigns, and ensuring that empirically-valid interventions are developed and disseminated to mental health care professionals (Osterholm et al., 2007). The current study continues the effort toward understanding the ramifications of diagnoses; specifically, autism and ADHD.

In response to findings that an AS-HFA label alone does not evoke stigmatization, Butler and Gillis (2011) theorized that observers may not hold as many biases against individuals with AS-HFA as they would against individuals with a diagnosis of autism. The results of the current

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study lend credence to the idea that an autism diagnosis and subsequent labeling may prompt more explicit biases than AS-HFA. In light of recent changes to the fifth edition of the Diagnostic and Statistical manual of Mental Disorders (Mohiuddin, Bobak, Gih, & Ghaziuddin, 2011), individuals who were previously labeled with AS-HFA could now be subsumed into the ASD diagnostic category and may be subjected to increased stigmatization based on their label.

Butler and Gillis (2011) emphasize that this re-labeling process will likely happen due to the continued desire to receive mental health care services predicated on the presence of a pervasive developmental disorder label by individuals and families of individuals that were previously labeled with AS-HFA. However, Hyman (2013) points out that those individuals with a prior diagnosis of AS-HFA may continue to self-identify with that disorder rather than ASD. Future research should continue to monitor the changes in stigmatization of children and adults with autism to ensure that the negative labeling effects of the diagnosis are being limited. Clinicians should also be aware of the ramifications of diagnoses and aid in the development of community and education interventions to minimize the harmful effects of discrimination. The current study may have important implications for the treatment of labeling in education settings, particularly when taking into account the negative effect that an ADHD and autism label had on ratings of potential academic success. Also, research has previously shown an increased manifestation of mood and anxiety disorders in individuals with disorder labels in response to perceptions of observer's biases and in response to overt discrimination (Klinger et al., 2003). Educators and psychologists could implement information campaigns designed to decrease stigmatization of these individuals and quickly address overt discrimination. This study has shown that information can be effective in reducing stigmatization of autism and further efforts

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should be made to develop effective, empirically-based interventions to target stigmatization of ADHD.

Conclusion

The present research has continued the attempt to understand and erode stigmatization related to disorder labels including Autism and ADHD. Findings show that there is a complex relationship between labels and ratings of social attractiveness. Interestingly, participants in the current study were not stigmatizing the autism target child on any subjective measures of social attractiveness and their judgments of the child on more objective, functional assessments (i.e., academic and occupational attainment) is somewhat expected based on the social and emotional deficits that a diagnosis of autism confirms. However, the finding that participants want less social interaction with the ADHD target child and that this discrimination did not lessen after that information intervention indicates the need for further research on specific stigmatization trends and development of effective interventions for ADHD. Results of this study indicate that using information can be an effective way to mitigate the effects of underlying biases, particularly when countering stigmatization of functional abilities. Once researchers have made greater strides in determining the ramifications of clinical disorder labels in various social settings, time and resources should be allocated to constructing effective interventions aimed at helping individuals cope with stigmatizing and work to prevent discrimination from occurring.

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Table 1

Means (M), Standard Deviations (SD), F-value (F), P-value (p), and Partial eta-squared value (η_p^2) for Dependent Measures across Label Conditions

Dependent Variables	Autism <i>M (SD)</i>	ADHD <i>M(SD)</i>	Normally Developing <i>M(SD)</i>	<i>F</i>	<i>p</i>	η_p^2
Traits	4.64 (.55)	4.60 (.43)	4.74 (.42)	1.65	.19	.01
Social Interaction	6.55 (1.00) _b	6.02(1.89) _a	6.72 (1.10) _b	8.51	.001	.07
Academic Achievement	4.23 (1.05) _a	4.40 (.97) _a	5.33 (.82) _b	29.17	.001	.20
Occupational Attainment*	2.66 (1.09) _a	2.21 (.95) _b	1.78 (.76) _c	16.40	.001	.13

Note. Means that share the same subscripts are not significantly different at $p < .05$ within given dependent measure rows using Duncan's post hoc test.

* Lower score means greater perception of future occupational attainment

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Table 2

Means (M), Standard Deviations (SD), and Sample Sizes for Perceived Academic Achievement and Occupational Success across Label Conditions Comparing Information vs. No Information Groups

Variable	Information (n = 40)		No Information (n = 44)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Autism</i>				
Academic Achievement	4.60 _a	0.99	3.90 _b	1.01
Occupational Attainment*	2.40 _a	1.01	2.91 _b	1.13
<i>ADHD</i>				
	(n = 39)		(n = 41)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Academic Achievement	4.65 _a	0.96	4.17 _b	0.93
Occupational Attainment*	2.10 _a	0.85	2.32 _a	1.04
<i>Normally Developing</i>				
	(n = 35)		(n = 35)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Academic Achievement	5.13 _a	0.87	5.53 _b	0.74
Occupational Attainment*	2.03 _a	0.82	1.53 _b	0.62

Note. Means that share the same subscripts are not significantly different at $p < .05$ within given dependent measure rows based on pair-wise comparisons using Tukey's post hoc test

* Lower score means greater perception of future occupational attainment.

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Appendix A

To: Laura Delustro

CAMPUS MAIL

From: Dr. Stan Aeschleman, Institutional Review Board Chairperson

Date: 3/27/2012

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

Study #: 12-0208

Study Title: Autism: The Effects of a Label on Perceptions of Social Acceptability and Desirability of a Child

Submission Type: Initial

Expedited Category: (7) Research on Group Characteristics or Behavior, or Surveys, Interviews, etc.

Approval **Date:** 3/27/2012

Expiration Date of Approval: 3/26/2013

This submission has been approved by the Institutional Review Board for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Investigator's Responsibilities:

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to request renewal of approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval.

Any adverse event or unanticipated problem involving risks to subjects must be reported immediately to the IRB. You are required to obtain IRB approval for changes to any aspect of this study before they can be implemented. Best wishes with your research!

CC:

Doris Bazzini, Psychology

Appendix B
Manipulation Check Questions

Instructions for participants: The following questions are based on the information you were asked to read in the beginning of the experiment. Please circle T if you believe the statement is “true” and F if you believe the statement is “false.” If you were not given an informational handout circle N/A.

Autism Condition

- T / F / NA Individuals with Autism do not experience emotion.
- T / F / NA There is no cure for Autism.
- T / F / NA Most individuals with Autism have an extraordinary ability.

ADHD Condition

- T / F / NA Individuals with ADHD cannot succeed in an academic setting.
- T / F / NA There is no cure for ADHD.
- T / F / NA Most individuals with ADHD struggle with concentration or impulsivity.

Normally Developing Condition

- T / F / NA Listening to classical music during childhood easily speeds up intellectual development.
- T / F / NA Authoritative parenting and establishing basic trust have been shown to improve development.
- T / F / NA Some normally developing individuals experience stress and diminished self-confidence throughout their lives.

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Appendix C
Consent Form
APPALACHIAN STATE UNIVERSITY

Title of Project: Autism: The Effects of a Label on Perceptions of Social Acceptability and Desirability of a Child

Investigator(s): Laura DeLustro, B.A. and Doris Bazzini, PhD

I. Purpose of this Research/Project: The purpose of this research is to examine perceptions of children.

II. Procedures: You will be asked to view a photograph, read a vignette, and complete a questionnaire. The procedure will take approximately 30 minutes.

III. Risks: Participation has no foreseeable risks. However, if you wish to withdraw from the study at any time, for any reason, you may do so without repercussions.

IV. Benefits: The study will provide insight on the effects of labeling on observer's perceptions of children. There are no direct benefits of participating in this study.

V. Extent of Anonymity and Confidentiality: There will be nothing containing any identifying information of your participation in this study, specifically no names will be recorded, and therefore participation is anonymous and confidential.

VI. Compensation: You will receive course credit or extra credit as specified by your instructor if applicable. To ensure confidentiality, we will be able to award you credit using an ID number instead of your name.

VII. Freedom to Withdraw: If at any time you feel uncomfortable, or for any reason wish not to continue with the study, you have the freedom to withdraw without penalty (ELC credit will still be awarded). Participation is voluntary.

VIII. Approval of Research: This research project has been approved, as required, by the Institutional Review Board of Appalachian State University.

Signature

Date

IRB Approval Date

Approval Expiration Date

IX. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

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- To view the presented material and rate them and answer questions seriously and honestly to the best of my ability
- Refrain from discussing this study (and my participation in it) until after the study has been completed

Should I have any questions about this research or its conduct, I may contact:

<u>Laura DeLustro</u>	<u>(843) 709 3937</u>	<u>delustrolm@appstate.edu</u>
Investigator(s)	Telephone	e-mail

<u>Doris Bazzini, PhD</u>	<u>(828) 262 2733</u>	<u>bazzinidg@appstate.edu</u>
Faculty Advisor	Telephone	e-mail

Questions regarding the protection of human subjects may be addressed to the IRB Administrator, Research and Sponsored Programs, Appalachian State University, Boone, NC 28608 (828) 262-2130, irb@appstate.edu

Appendix D
Informational Vignette for the Autism Condition

Autism Disorder

Although most individuals who have been diagnosed with Autism exhibit impairments in social interactions, difficulties with communication, and restrictive or repetitive patterns of behavior, it is important to remember that each person with Autism is different. For example, while one of the symptoms of Autistic disorder is trouble expressing emotions, this does not mean that an autistic person does not experience emotions. Individuals who are diagnosed with Autism are unique and their ways of interacting with the world are diverse. Although there is no cure for Autism, empirically validated interventions such as early intervention and Applied Behavior Analysis have been shown to improve symptoms. Indeed, some individuals with Autism lead independent lives and have healthy, loving relationships.

There have been some beliefs about Autism perpetuated by modern society. For instance, movies about savants (i.e., individuals with extraordinary abilities in one or more areas who may lack basic skills on another area) have created a misconception that individuals with Autism regularly have savant abilities, despite the fact that savantism is rare. Another stereotype about those with Autism includes the notion that they are typically aggressive or unable to control themselves. Some individuals with Autism experience anxiety and diminished self-confidence due to symptoms of the disorder. Autism is a biological, social, and psychological disorder that can contribute to a daily struggle with impulsivity, poor social interactions, and exchanging appropriate emotions. For example, during a conversation with a teacher an individual with Autism may avoid eye contact, not acknowledge questions or statements being made, or exhibit physical mannerisms such as flapping his/her hands. It is important to remember that each individual with Autism is unique.

Appendix E
Informational Vignette for the ADHD Condition

Attention Deficit Hyperactivity Disorder

Although most individuals who have been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) exhibit impairments in concentration, self-control, and self-regulation in more than one environment such as an academic or occupational setting, or interpersonal relationships, it is important to remember that each person with ADHD is different. For example, while one of the symptoms of ADHD is difficulty focusing while reading or listening to an academic lecture, this does not mean that an individual with ADHD cannot succeed in school through development of coping skills. Individuals who are diagnosed with ADHD are unique and their ways of interacting with the world are diverse. Although there is no cure for ADHD, empirically validated interventions such as cognitive behavioral therapy and stimulant medication have been shown to improve symptoms. Indeed, many individuals with ADHD have healthy, loving relationships and succeed in academic environments.

There have been some beliefs about ADHD perpetuated by modern society. For instance, a common misconception is that individuals with ADHD get bored and stop concentrating on purpose, they do not put in any effort in school, or that they should care more about concentrating during conversations. Another stereotype about those with ADHD includes the notion that they are typically aggressive or unable to control themselves. Some individuals with ADHD experience anxiety and diminished self-confidence due to symptoms of the disorder. ADHD is a biological, social, and psychological disorder that can contribute to a daily struggle with concentration, impulsivity, and hyperactivity. For example, during a conversation with a teacher an individual with ADHD may interrupt them, change the topic abruptly, or exhibit physical mannerisms such as fidgeting with his/her hands or moving around in his/her seat. It is important to remember that each individual with ADHD is unique.

Appendix F
Informational Vignette for the Normal Development Condition

Normal development

Although most individuals who are normally developing do not exhibit impairments in social interactions, difficulties in communication, problems with self-regulation in more than one environment such as an academic, occupational, or an interpersonal relationship, it is important to remember that each normally developing person is different. For example, while one of the early developmental milestones in gross motor skills is walking within 16 months of birth, this does not mean that a normally developing person may not walk before that point or after it. Individuals who go through normal development are unique and their ways of interacting with the world are diverse. Although there are some ways to negatively interfere with normal development, empirically validated interventions such as authoritative parenting and establishing basic trust have been shown to improve development. Indeed, many normally developing individuals live independent lives, have healthy, loving relationships, and succeed in academic environments.

There have been some beliefs about normal development perpetrated by modern society. For instance, commercials for some children's videos and games have created a misconception that individuals who are normally developing can easily speed up or improve intellectual development by listening to the right music or playing the right video game. Another stereotype about normally developing individuals includes the notion that they are typically understanding or affectionate. Some individuals experience stress and diminished self-confidence throughout their lives. Normal development is a biological, social, and psychological process that can contribute to a daily struggle with self-concept, peer influences, and maturity. For example, during a conversation with a teacher a normally developing individual may make or avoid eye contact, answer or avoid questions, or exhibit physical mannerisms such as nail biting or crossing and uncrossing his/her legs. It is important to remember that each normally developing individual is unique.

Vita

Laura Marie DeLustro was born in Palo Alto, California. She attended elementary and middle school in that region before moving to South Carolina in 2000 and graduated from Bishop England High School in June 2006. The following autumn, she entered Furman University, double majored in Psychology and Sociology, and graduated in May 2010 at which time she was awarded two Bachelor of Arts degrees. In the fall of 2010, Ms. DeLustro began study toward a Master of Arts degree in Clinical Health Psychology at Appalachian State University and was awarded the degree in August 2013. Her parents are Frank DeLustro, Ph.D. and Barbara DeLustro.