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The Impact of Stigma on Reactions to an Individual With Type 1 Diabetes

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## Abstract

As implied by the "norm to be kind" to the physically stigmatized, the tendency of the non-stigmatized to 1) adjust their presentation of depression and positive emotion and 2) be more willing to provide help to an individual with Type 1 diabetes was assessed. Ninety-seven participants (47 males and 50 females, mean age = 19.14 years) were led to believe they would be interacting with a same-sex target who either did or did not have Type 1 diabetes. Participants completed a mood measure, which they were told either would or would not be shared with the target, as well as measures of their willingness to provide different types of help to the target. Results provided some suggestive evidence that participants adjust their expression of emotion towards individuals with Type 1 diabetes. Evidence also was found suggesting that perceptions of disease severity and consequences moderate adjustment of emotional expression. Participants expressed greater willingness to provide help on physical and cognitive tasks to the target with Type 1 diabetes than to the healthy target. The implication of these results, and possible directions for future research investigating social stigma and Type 1 diabetes are discussed.

### The Impact of Stigma on Reactions to an Individual With Type 1 Diabetes

It is now widely accepted that social support can have beneficial effects on health and well-being (Berkman & Syme, 1979; Cohen, Gottlieb, & Underwood, 2000; House, Landis, & Umberson, 1988). Evidence also suggests that social support can affect adjustment to various chronic illnesses. Insulin dependent diabetes mellitus (Type 1 diabetes) is no exception. Type 1 diabetes results from the body's inability to produce insulin, a hormone required by cells to use glucose for energy (Foster, 1998). The management of Type 1 diabetes requires a strict regimen of diet, exercise, and insulin administration to control levels of glucose in the blood as a means of preventing both short and long-term complications. Adjustment to Type 1 diabetes and adherence to the treatment regimen are essential to prevent potentially life-threatening short-term and long-term complications.

Social support has been shown to promote adjustment to Type 1 diabetes and increase adherence to treatment regimens, particularly among adolescents (Hauser, Jacobson, Benes, & Anderson, 1997; Kyngäs, Hentinen, & Barlow, 1998; LaGreca et al., 1995). In a review of the literature examining the psychosocial aspects of Type 1 diabetes, Hauser et al. (1997) discuss evidence linking social support, particularly from the family, to better adherence to treatment among adolescents and children with Type 1 diabetes. A study of the impact of friendships on adolescents with Type 1 diabetes by LaGreca et al. (1995) found that adolescents with Type 1 diabetes look to friends as a key source of emotional support. In addition to helping adolescents with diabetes to feel good about their disease, friends were also found to provide valuable tangible support regarding treatment when the adolescent was away from home. Kyngäs et al. (1998)

examined the effects of various types of social interactions on compliance to treatment among adolescents with Type 1 diabetes. They found the highest rates of compliance among adolescents who reported that family and friends supported and accepted them but did not draw excessive attention to their illness.

Given the evidence that social support and social contacts can benefit individuals with Type 1 diabetes, identifying and overcoming barriers that may impede the establishment of social contacts is an important issue. One possible barrier to establishing social relationships among individuals with physical conditions, such as chronic illnesses or physical disabilities, is stigmatization. Social stigma--the devaluation of an individual based on his or her social identity (Crocker, Major, & Steele, 1998)--is a pervasive phenomenon. The stigma surrounding physical conditions, such as chronic illnesses and physical disabilities, has been given a large degree of attention by social psychologists (Hebl & Kleck, 2000). Firsthand accounts of the stigmatization of individuals with a variety of physical conditions are prevalent in the literature addressing the topic (e.g. Goffman, 1963; Jones et al., 1984). Empirical evidence of this phenomenon is also abundant (e.g. Crandall & Moriarty, 1995; Fife & Wright, 2000; Hastorf, Northcraft, & Picciotto, 1979; Katz et al., 1987; Kleck, Ono, & Hastorf, 1966; Kleck & Strenta, 1980; Weiner, Perry, & Magnusson, 1988).

As is common for many stigmatized groups, individuals with stigmatized physical conditions may experience overt prejudice and discrimination directly due to their condition. Such prejudice and discrimination may take the form of blatant avoidance by others (Snyder, Kleck, Strenta, & Mentzer, 1979) or a lack of sensitivity to the special needs of people with disabilities (e.g., handicapped accessible facilities; Hebl & Kleck,

2000). Individuals with chronic illnesses may experience similar overt prejudice and discrimination, often in the form of outright social rejection by their non-stigmatized peers (Crandall & Moriarty, 1995; Fife & Wright, 2000). The prejudice and discrimination experienced by stigmatized individuals can have a variety of negative consequences (Crocker et al., 1998). Stigmatized individuals may be unable to obtain needed resources, may become socially isolated, or may develop a general mistrust of even well-intentioned, non-stigmatized others.

The impact of stigma among individuals with physical disabilities and chronic illnesses is somewhat unique in that such individuals are often the targets of the mixed sentiments of others. Non-stigmatized others not only devalue those with physical disabilities, but also often feel a certain degree of sympathy and concern for them. This phenomenon, known as ambivalence (Katz, 1981), can result in an increased tendency to show kindness and engage in prosocial behavior towards an individual with a stigmatized physical condition. Consistent with the norm of social responsibility, the non-stigmatized may view physically stigmatized individuals as in significant need of help or kindness. Therefore, the non-stigmatized may be increasingly likely to provide help or kindness due to a sense of internal and/or societal obligation (Schroeder, Penner, Dovidio, & Piliavin, 1995). The increased tendency to act prosocially towards an individual with a stigmatized physical condition has been termed the "norm to be kind" (Hastorf et al., 1979; Hebl & Kleck, 2000).

There is a great deal of evidence supporting the existence of the norm to be kind. This norm has been found to influence physical distance behavior. Snyder et al. (1979) demonstrated that, when given a choice between sitting next to a physically disabled

confederate or a non-physically disabled confederate, participants were more likely to sit next to the disabled confederate only when it would be obvious to the confederate that the participant's avoidance was due to the confederate's disability. In other words, participants sat next to the physically disabled confederate only to avoid engaging in obvious social rejection of a physically disabled individual. Participants have also been shown to inflate performance feedback given to confederates they believe to be disabled compared to feedback given to non-disabled confederates (Hastorf et al., 1979). Finally, the norm to be kind also increases concrete helping behaviors (Hebl & Kleck, 2000). Gouvier, Coon, Todd, and Fuller (1994) demonstrated that participants gave more concrete and redundant directions to confederates who appeared to be handicapped than to those who were not handicapped. This clearly supports the idea that individuals with physically stigmatized conditions may be the targets of prosocial acts dictated by the norm to be kind.

Less overt behaviors are also influenced by the norm to be kind to physically stigmatized individuals. In a study by Pataki (1994), participants who believed they would be interacting with a physically unattractive individual (a physically stigmatizing condition) inflated the amount of positive emotion they presented to that individual. Participants who believed their expression of emotion would be seen by the unattractive other (public condition) expressed more positive and less negative emotion than did participants who believed their emotional expressions would be kept private (private condition). There was no difference between public and private expressions of emotions among participants who believed they would be meeting a physically attractive other. In another study, participants who believed they were interacting with a physically disabled

interviewer stated that they attached less importance to physical appearance than did participants interacting with a non-disabled interviewer (Kleck et al., 1966), suggesting that people may adjust their opinions to show false kindness or agreement with physically stigmatized individuals.

When individuals receive a prosocial act without evidence of need, this is referred to as assumptive help (Schneider, Major, Luhtanen, & Crocker, 1996). A common occurrence for stigmatized individuals, receiving assumptive help can have serious negative consequences. Schneider et al. (1996) demonstrated that receiving assumptive help in a domain relative to one's stigmatized condition can adversely impact self-esteem by fostering a "suspicion of inferiority." That is, by receiving unsolicited help, stigmatized individuals may be made aware that their identity is devalued. Personal accounts of individuals with physically stigmatized conditions who are frequent recipients of assumptive help corroborate the existing empirical evidence of these negative effects (Hebl & Kleck, 2000), illustrating the potential aversive consequences of acting in accordance with the norm to be kind.

In the strictest sense, assumptive help refers to explicit prosocial actions, such as provisions of aid or advice in certain domains. Increased prosocial tendencies on the part of the non-stigmatized that do not manifest themselves as concrete helping behaviors can also have negative effects for those who are stigmatized. In addition to promoting the suspicion of inferiority, increased prosocial action toward stigmatized others can result in stigmatized others being uncertain as to whether they should attribute the positive behavior of others to their stigmatized condition or to factors more relevant to the situation. Such attributional ambiguity may result in stigmatized individuals being

unable to rely on feedback from others as accurate correlates of their ability in certain domains (Crocker et al., 1998; Major & Crocker, 1993). It may also undermine their social competence, as stigmatized individuals may harbor uncertainty that the behavior of others towards them may be influenced by their condition (Hebl & Kleck, 2000).

There is evidence that individuals are aware of the influence of their condition on other's behavior. In a study by Kleck and Strenta (1980), participants were led to believe, via the false application of a cosmetic facial scar, that others perceived them as having a physically stigmatized condition. Upon interacting with a confederate, participants rated the behavior of those confederates as being influenced by their fictitious condition. These results indicate that those who are physically stigmatized, even temporarily, perceive the influences of their stigma on the behavior of others. In addition to personal accounts of stigmatized individuals who perceive the norm to be kind on a regular basis (Hebl & Kleck, 2000), there is empirical evidence that stigmatized others are aware of the tendency of non-stigmatized individuals to alter their behavior specifically in accordance with the norm to be kind. In Pataki (1994), participants stigmatized as unattractive reported an awareness of the tendency of non-stigmatized others to inflate the amount of positive emotion expressed towards them. Similarly, confederates in Gouvier et al. (1994) believed that participants were nicer to them when they were in a wheelchair than when they were not. Such findings indicate that physically stigmatized individuals are often quite aware of the impact of their conditions on interactions with non-stigmatized others.

The small body of work that examines the existence and effects of stigma associated with Type 1 diabetes suggests that some degree of devaluation, and therefore



stigma, exists. Public perceptions of diabetes have been examined in relation to other illnesses in large-scale survey studies of public attitudes toward a variety of chronic illnesses (Delin, 1995; Gething, 1991; Katz et al., 1987; Westbrook, Legge, & Pennay, 1993). In these studies, diabetes is typically rated among the most socially acceptable and least severe of the illnesses listed. In a study by Katz et al. (1987), however, participants from a lay population expressed a greater desire for social distance from an individual with diabetes than from a healthy individual, suggesting that individuals with diabetes may be subject to some degree of devaluation. In a study of perceptions of Type 1 diabetes among children both with and without the disease, Underwood (1996) found that children with Type 1 diabetes rated healthy children as being less accepting of the disease. Healthy children in this study rated their peers as less accepting of Type 1 diabetes than themselves, suggesting that those without diabetes are aware of a certain degree of devaluation of the disease.

In general, the stigma associated with Type 1 diabetes has not received much empirical attention. One explanation for this lack of attention lies in the characteristics of the disease itself. Crocker et al. (1998) cite two aspects of stigmatizing conditions that play a significant role in the extent to which conditions or attributes are stigmatized. One of these aspects is visibility. Individuals with physical conditions that are highly visible are more likely to be stigmatized, as the visibility of these conditions makes them apparent to all who encounter the individual. Such is the case with individuals who require wheelchairs or other visible aids for mobility (Gouvier et al., 1994; Hastorf et al., 1979), those who have facial deformities (Kleck & Strenta, 1980), and those who are unattractive (Pataki, 1994). The second factor that influences stigma is controllability.

Conditions that are viewed as being highly controllable (i.e., for which the stigmatized individual can be held responsible) are likely to receive more devaluation than those whose origins are uncontrollable (Crandall & Moriarty, 1995; Weiner et al., 1988). AIDS is a chronic illness that is widely viewed as personally controllable and is often found to be among the most heavily stigmatized chronic illnesses.

At first glance, Type 1 diabetes may not appear to fit either of the above criteria for heavy stigmatization. The origins of Type 1 diabetes are genetic; therefore it is largely uncontrollable. When properly managed, there are few visible signs to convey that an individual has the disease, especially in the context of brief, daily interactions. Thus, from a social psychological standpoint, Type 1 diabetes initially appears to be an unlikely candidate for the type of stigmatization assigned to physical conditions such as paralysis or AIDS. We think Type 1 diabetes may be stigmatized for two reasons. First, an individual with Type 1 diabetes must receive insulin from external sources to prevent possible complications. This creates a definite possibility for devaluation, as reliance on medical treatment for survival is undoubtedly a stigmatizing attribute (Goffman, 1963). Second, the treatment regimen required to manage Type 1 diabetes includes actions that are often noticeable by others (e.g., administering insulin, eating at specified times). In addition, the symptoms of hypoglycemia (low blood sugar), a short-term complication, are often highly visible. Such visibility creates an increased potential for stigmatization. Although a small amount of evidence exists suggesting Type 1 diabetes may be somewhat devalued and therefore stigmatized, virtually no work exists examining how the knowledge that an individual has diabetes may influence social interactions. If diabetes is viewed as a stigmatized physical condition, social encounters with an

individual with Type 1 diabetes may be subject to the same norm to be kind that has been shown to guide behavior towards individuals with other physical conditions.

### *The Present Study*

The purpose of the present study is to explore the existence and effects of a social stigma associated with Type 1 diabetes. Specifically, the norm to be kind to an individual with Type 1 diabetes will be examined. Two particular outcomes associated with the norm to be kind to the physically stigmatized are of interest: 1) the possible adjustment of emotional expression towards an individual with Type 1 diabetes, and 2) the possible increased willingness to help an individual with Type 1 diabetes. These two outcomes are of interest because they are outcomes that have the potential to occur frequently in daily social encounters. Whereas the inflation of performance feedback is limited to a particular type of situation, the adjustment of emotional expression has the potential to occur in a variety of everyday scenarios. For example, upon meeting an individual with Type 1 diabetes for the first time, non-stigmatized others who have been previously made aware of the person's condition, perhaps through a mutual friend, may present themselves as happier to the individual with diabetes than they would towards someone who was healthy. Similarly, daily life is full of opportunities for people to help one another.

Participants in the present study were led to believe they would be interacting with a fictitious other (a target) who was presented as either having Type 1 diabetes or not. After being made aware of the health status of the target, participants completed a rating of their current mood which they were led to believe would either be shared with the target or would be kept private. Participants also completed a measure of their

willingness to help the target and a measure of their perceptions of Type 1 diabetes. Consistent with the norm to be kind to physically stigmatized individuals, three hypotheses were tested: 1) participants would express more positive emotion towards an individual with Type 1 diabetes than they were actually feeling, 2) participants would express less negative emotion toward an individual with Type 1 diabetes than they were actually feeling, and 3) participants would express more willingness to provide help on a physical task to someone with Type 1 diabetes than to someone who was healthy. In addition, the influence of perceptions of diabetes on these outcomes was explored.

### Method

#### *Participants*

Participants were 112 undergraduate psychology students (56 males and 56 females, mean age = 19.23 years) from a medium-sized university. Participants volunteered to participate in this experiment as a means of partially fulfilling a research participation requirement for an undergraduate psychology course. Informed consent was obtained from all participants. All participants received credit towards their research requirement upon completion of the experiment. Data from 15 participants were excluded from all analyses. Six participants expressed suspicion regarding the existence of the target. Eight participants failed the manipulation check. One participant was excluded for arriving at the experiment intoxicated. The final sample size was 97 participants (47 males and 50 females, mean age = 19.14 years).

*Design*

A 2 x 2 (Health Status x Mood Condition) between subjects design was used. Each participant was randomly assigned to one health status and one mood condition. The overall design and procedure are very similar to that used by Pataki (1994).

*Procedure*

Participants met the male experimenter in a location separate from the laboratory, and were escorted to the laboratory by the experimenter. Upon entering the laboratory, participants were told that the study was intended to assess the “communication styles of people meeting for the first time,” and that a little later in the experiment the participant would be meeting with another individual (the target). Consistent with the cover story, the participant was told that the target had been met by the experimenter a few minutes earlier and was seated in an adjacent room. Informed consent was then obtained, after which the experimenter explained that he needed to go into the adjacent room and “check on” the target. The experimenter then left the room and returned with 1) a fabricated background sheet allegedly completed by the target, 2) an identical, but blank, background sheet to be completed by the participant (Appendix A), and 3) a blank mood form to be completed by the participant (Appendices B and C). The experimenter stated the participant and target would exchange background information sheets prior to meeting as a means of facilitating conversation. The experimenter then presented the participant with the fabricated background information sheet allegedly completed by the target. The experimenter explained that the target had already had a chance to complete his or her background information sheet. The participant was instructed to read the target's background information sheet.

*Health status manipulation.* The fabricated background information sheet, allegedly completed by the target, contained the health status manipulation in response to a question about a "significant childhood event." Participants were randomly assigned to one of two health status conditions: a "diabetes" condition or a "no diabetes" condition. In the diabetes condition, the significant childhood event was: "I was diagnosed with diabetes when I was ten and had to change my diet and learn to give myself shots." In the no diabetes condition, the significant childhood event was: "My family moved when I was ten and I had to go to a new school and make new friends." The sex of the target, as indicated by the name on the fabricated background sheet, matched the sex of the participant (i.e., "Eric Atherton" for males, and "Jen Atherton" for females). Thus, all participants were led to believe they would be interacting with a same-sex target.

The experimenter then gave the participant a blank background information sheet and asked them to complete it so that it could be given to the target. The experimenter also presented the target with a blank mood form.

*Mood manipulation.* Participants also were randomly assigned to one of two mood conditions: "public" or "private." The manner in which the mood form was presented to the participant determined the mood condition.

In the public mood condition, participants were given a mood form that was stapled to the blank background information sheet. The experimenter asked participants to complete the mood form, and told them that their completed mood form would be shown to the target, along with their completed background information sheet. As can be seen in Appendix B, the words "This form will be shared with the other participant" were printed across the top of the mood form to reinforce that the mood form would be shared.

Participants were never shown the target's mood form to eliminate the possibility that their expression of mood could be influenced by the expressed mood of the target. To avoid suspicion associated with the fact that the participant was not provided with the target's mood form, the fabricated background sheet had a staple in the upper left corner, creating the appearance that something had been attached to it. The experimenter explained that the target's mood form must have come unattached. The experimenter stated that while the participant completed his or her forms, he would go and retrieve the target's completed mood form. Participants were then instructed to place their completed background information sheets and mood forms in a folder marked "Shared background information/mood forms" provided by the experimenter. The experimenter then left the room and allowed participants to complete their forms.

In the private mood condition, participants were presented with a mood form separate from the blank background information sheet that would be shown to the target. The experimenter told participants that the target would not see their completed mood forms, and that they were for use by the experimenter only. The words "Confidential - Not to be shared" were printed across the top of mood forms given to participants in this condition as a means of reinforcing their private status (see Appendix C). In addition, participants were told to place their completed background information sheet in a folder labeled "Shared background information sheets," and were instructed to place their completed mood forms in a separate envelope labeled "Mood forms - not to be shared," both provided by the experimenter. The experimenter then left the room and allowed participants to complete their forms.

All participants were given five minutes to complete their background information sheet and mood forms. After five minutes had passed, the experimenter returned and collected the participant's forms. The experimenter then gave participants the questionnaire containing the willingness to help measure and manipulation check items. Participants were instructed to complete the questionnaire, and told that the rest of the experiment (their meeting with the target) would "get started shortly." The experimenter then left the room to allegedly transport the participant's background information sheet and mood form (public mood condition) or only the background information sheet (private mood condition) to the target. All participants were given three minutes to complete the willingness to help questionnaire.

After three minutes, the experimenter returned and collected the willingness to help measure. At this time, participants were made aware of the deception and fully debriefed regarding the true purpose of the study. The experimenter answered any questions the participant had regarding the experiment. The experimenter explained that people varied in their knowledge of diabetes, and asked participants to complete a measure of their perceptions of Type 1 diabetes. The experimenter left the room and returned after 10 minutes, at which time he collected the completed measure and answered any questions participants may have had. Participants were then thanked for their participation and dismissed.

### *Dependent Measures*

*Mood measure.* Participants completed the depression, well-being, anger, anxiety, and calm subscales of the Profile of Mood States (POMS, Usala & Hertzog, 1989). Participants rated the extent to which they were currently experiencing each of 13



emotion items ( $1 = \text{not at all}$ ;  $7 = \text{extremely}$ ). The internal consistencies of the subscales were good: depression  $\alpha = .89$ , well-being  $\alpha = .81$ , anger  $\alpha = .74$ , anxiety  $\alpha = .75$ , and calm  $\alpha = .76$ .

*Willingness to help.* Participants rated the extent to which they would be willing to help the target on an emotional task (e.g., talking to the target about how they were feeling), a physical task (e.g., lifting and carrying something), and a cognitive task (e.g., homework) on a 7-point scale:  $1 = \text{not at all}$ ;  $7 = \text{extremely}$ . Participants were also asked to rate 1) how much they were looking forward to interacting with the target, 2) how much they thought they would like the target, and 3) how much they thought the target would like them, also on 7-point scales:  $1 = \text{not at all}$ ;  $7 = \text{extremely}$ .

*Perceptions of Type 1 diabetes.* To assess participants' perceptions of Type 1 diabetes, a modified version of the Revised Illness Perception Questionnaire for Diabetes (IPQ-R, Moss-Morris et al., 2002) was used. The IPQ-R has been shown to have good internal reliability as well as strong test-retest reliability over both the short and long term (Moss-Morris et al., 2002). The questionnaire assesses the perceptions of individuals with diabetes regarding several domains of their disease (e.g., causes, course, and consequences). We modified the questionnaire items to reflect other people's perceptions of Type 1 diabetes. Participants completed the entire questionnaire, but we were interested in only two particular domains: 1) *consequences* - a six item subscale assessing the physical, financial and social consequences of diabetes (e.g., "Diabetes has major consequences for a person's life") and 2) *disease controllability* - a four item subscale assessing the amount of control an individual has over developing diabetes (e.g., "There are things a person can do to keep from developing diabetes"). Participants rated their

agreement with each statement using a 5-point scale ( $1 = \textit{strongly disagree}$ ;  $5 = \textit{strongly agree}$ ). The consequences and disease controllability subscales of the IPQ-R showed relatively good internal consistency with  $\alpha = .67$  and  $\alpha = .84$ , respectively.

In addition to the IPQ-R, a 4-item physical limitations scale was created by the investigator specifically for this study due to evidence that physical limitations posed by an illness or condition may greatly increase perceived visibility, and thus the stigma that is associated with the condition (Crocker et al., 1998). The items composing this scale were: "People with diabetes are physically weaker than those without diabetes," "People with diabetes are less capable than those without diabetes," "People with diabetes are physically impaired," and "Diabetes interferes with daily functioning." Participants rated their agreement with each statement using a 5-point scale ( $1 = \textit{strongly disagree}$ ;  $5 = \textit{strongly agree}$ ). Because the last item detracted from the internal consistency, it was dropped. The internal consistency of the 3-item physical limitations subscale was  $\alpha = .75$ .

*Manipulation checks.* To assess the effectiveness of both the health status and mood manipulations, participants completed two items directly concerning their randomly assigned conditions. They were first asked to list the significant childhood event reported by the target as a means of verifying that they perceived the correct health status condition. To determine the effectiveness of the mood manipulation, participants were asked to indicate on a yes/no scale whether or not the target saw their mood form. As mentioned previously, data from 8 participants were discarded because they failed the manipulation check. Two participants assigned to the diabetes condition did not correctly identify the significant childhood event stated on the target's background information

sheet. Six participants (1 private, 5 public) were unable to correctly determine whether or not the target saw their mood form.

## Results

The final sample size consisted of 97 participants. There were between 23 and 25 participants in each condition.

### *Expression of Emotion*

A 2 x 2 (Health Status x Mood Condition) analysis of variance (ANOVA) revealed no significant main effects of health status or mood availability on expression of positive emotion (well-being). Although the interaction between Health Status and Mood Condition did not reach conventional levels of significance,  $F(1, 97) = 1.93, p = .17$ , the pattern of means fit predictions. As shown in Table 1, the amount of positive emotion displayed by participants in the diabetes condition was greater in the public than the private condition. A planned comparison of these two means revealed that their difference was marginally significant,  $t(45) = 1.74, p = .09$ . There was no difference between public and private conditions for the no diabetes target.

For depression, there was no main effect of health status, but a marginal main effect of mood condition,  $F(1, 97) = 3.49, p = .07$ , such that participants in the private mood condition ( $M = 2.22$ ) reported more depression than participants in the public mood condition ( $M = 1.81$ ). The Health Status x Mood Condition interaction was not significant, although the means were again in the predicted direction. As shown in Table 2, participants in the diabetes/public condition expressed less depression than those in the diabetes/private condition. A planned comparison showed that the difference between

the two means was marginally significant,  $t(45) = -1.73, p = .09$ . Again, there was no difference between the public and private conditions for the no diabetes target.

There was no main effect of health status on participants' expression of anger, but a significant main effect of mood condition was found,  $F(1, 97) = 5.84, p = .02$ , such that participants in the private mood condition ( $M = 1.82$ ) expressed significantly more anger than those in the public mood condition ( $M = 1.37$ ). The Health Status x Mood Condition interaction on expression of anger was not significant. There were no significant main effects or interactions involving health status or mood condition for anxiety or calm.

#### *Willingness to Provide Help*

As all participants were told that their willingness to help measure would not be shared with the target, only main effects of health status on the results of the willingness to help measure were examined. The means are shown in Table 3. There was a significant main effect of health status on willingness to provide physical help,  $F(1, 97) = 11.06, p = .001$ . As predicted, participants in the diabetes condition reported being more willing to provide physical help to the target than participants in the no diabetes condition.

There was no significant main effect of health status on willingness to provide emotional help, but there was a main effect of health status on willingness to provide cognitive help,  $F(1, 97) = 4.25, p = .04$ . Participants in the diabetes condition reported being more willing to provide cognitive help to the target than participants in the no diabetes condition (see Table 3).

#### *Ancillary Analyses*

We asked three additional questions. First we asked: "How much are you looking forward to interacting with the other participant?" Participants in the diabetes condition reported that they were looking forward to interacting with the target significantly more than participants in the no diabetes condition,  $F(1, 97) = 4.58, p = .02$  (see Table 3).

Next we asked: "How much do you think you will like the other participant?"

Participants in the diabetes condition also reported a significantly greater anticipated liking of the target than did participants in the no diabetes condition,  $F(1, 97) = 4.40, p = .04$ . Finally, participants were asked: "How much do you think the other participant will like you?" A marginal main effect of health status also was found, with participants in the diabetes condition expressing a greater belief that the target would like them than participants in the no diabetes condition,  $F(1, 97) = 2.28, p = .08$ .

#### *Influence of Perceptions of Diabetes on Mood Ratings*

Disease severity, visibility, and controllability have been shown to impact the extent to which an individual may be stigmatized (Crocker et al., 1998). It is not clear if these dimensions are applicable to Type 1 diabetes. It is quite likely that people vary in how they perceive Type 1 diabetes. Thus, for participants in the diabetes condition, we investigated their perceptions regarding disease controllability, consequences, and physical functioning associated with Type 1 diabetes. To assess the effect of participants' perceptions of these dimensions on their expression of emotion, a median split was conducted on each of the three subscales to place participants into high and low groups on these dimensions.

The average rating of the physical limitations scale was 2.28 indicating that participants generally perceived a low level of physical limitations associated with Type

1 diabetes. A 2 x 2 (Mood Condition x Physical Limitation) ANOVA was conducted on each of the five emotion subscales. A marginal main effect of physical limitation perceptions appeared on expression of positive emotion,  $F(1, 47) = 4.06, p = .07$ , such that participants who perceived high physical limitations expressed less positive emotion ( $M = 3.74$ ) than participants who perceived low physical limitations ( $M = 4.31$ ). There was no Mood Condition x Physical Limitation interaction on expression of positive emotion. Although there was no main effect of physical limitation on expression of anxiety, a significant Mood Condition x Physical Limitation interaction did appear,  $F(1, 47) = 4.45, p = .04$ . As shown in Figure 1, participants reported more anxiety when they perceived high than low physical limitations associated with Type 1 diabetes. This difference was more pronounced for the private condition participants. This indicates some adjustment of anxiety among those who perceived high physical limitations in the public condition. Although there was no main effect of physical limitations on expression of calm, a Mood Condition x Physical Limitation interaction appeared,  $F(1, 47) = 5.18, p = .03$ . As shown in Figure 2, participants in the private mood condition who perceived low physical limitations expressed more calm ( $M = 5.20$ ) than did participants who perceived high physical limitations ( $M = 4.00$ ). Among participants in the public condition, there was little difference in the level of calm reported for those who perceived high ( $M = 4.67$ ) and low ( $M = 4.48$ ) physical limitations. No main effects or interactions involving physical limitations were found on depression or anger. Again, it appears that participants in the public condition who perceived high physical limitations adjusted their expression of emotion to show more calm.

On average, participants perceived a moderate level of consequences associated with Type 1 diabetes ( $M = 3.35$ ). A 2 x 2 (Mood Condition x Disease Consequences) ANOVA was conducted on each of the emotions. There was a marginal main effect of disease consequences on depression,  $F(1, 47) = 3.44, p = .07$ , such that participants who associated Type 1 diabetes with a high level of personal consequences expressed more negative emotion ( $M = 2.50$ ) than did participants who perceived diabetes as being associated with a low level of consequences ( $M = 1.84$ ). The Mood Condition x Disease Consequences interaction also approached significance,  $F(1, 47) = 3.96, p = .05$ . As shown in Figure 3, among participants in the private mood condition, those who perceived a high level of personal consequences expressed more depression ( $M = 3.19$ ) than did participants who perceived a low level of consequences ( $M = 1.96$ ). The expression of depression by participants in the public mood condition did not differ whether participants associated diabetes with low consequences ( $M = 1.86$ ) or high consequences ( $M = 1.81$ ). This suggests that participants in the public condition expressed less depression when they perceived high consequences. There also were main effects of disease consequences on anxiety, anger, and calm. Participants in the high consequences group expressed more anxiety ( $M = 3.36$ ) than did participants who perceived low consequences ( $M = 2.55$ ),  $F(1, 47) = 5.46, p = .02$ . Participants in the high consequences group expressed more anger ( $M = 2.04$ ) than those in the low consequences group ( $M = 1.39$ ),  $F(1, 47) = 4.03, p = .05$ . Participants in the high consequences group also expressed significantly less calm ( $M = 4.20$ ) than those in the low consequences group ( $M = 4.98$ ),  $F(1, 47) = 6.40, p = .02$ . There were no significant Mood Condition x Disease Consequences interactions on expressions of anxiety, anger, calm, or well-being.

Participants generally viewed the development of Type 1 diabetes as being low in controllability ( $M = 2.65$ ). A 2 x 2 (Mood Condition x Disease Controllability) ANOVA revealed no significant main effects or interactions involving disease controllability on any of the five mood subscales.

### Discussion

It was predicted that participants would express more positive and less negative emotion towards a target with Type 1 diabetes than a healthy target. Although the results did not support these hypotheses at conventional levels of significance, there was modest evidence that such emotional adjustment did occur. Participants who expected to interact with a person with diabetes expressed less depression towards the target when their mood form was public than when it was private. Similarly, participants expressed more positive emotion when they thought the target would see their mood form than when they thought their mood form was private. These trends indicate that the adjustment of emotional expression found to occur during interactions with physically stigmatized others (Pataki, 1994) may present itself in the case of Type 1 diabetes.

However, none of the interactions between mood condition and health status were significant. A possible explanation may be that Type 1 diabetes is not viewed by non-stigmatized individuals in a way that elicits the adjustment of emotional expression consistent with the norm to be kind. Given that diabetes is often rated among the least severe and most socially acceptable of chronic illnesses (Delin, 1995; Gething, 1991; Westbrook et al., 1995), this explanation is viable. Upon conclusion of the experiment, several participants informally expressed that they viewed individuals with diabetes as differing little from healthy individuals. Thus, it appears that some participants may not



have held a devalued perception of Type 1 diabetes, and therefore did not view it as a stigmatized condition.

Evidence of the variability in disease perception and of the importance of disease perception comes from our tests of individual differences variables as moderators of effects. Perceptions of disease consequences and associated physical limitations may be individual difference variables that influence the tendency to adjust emotional expression in accordance with the norm to be kind. First, we noticed that people who perceived more physical limitations and more consequences associated with diabetes reported more negative affect. Second, there was some evidence that those who viewed Type 1 diabetes as high in these dimensions adjusted their expression of emotion in a manner consistent with the norm to be kind. This is illustrated by the discrepancy between the public and private depression ratings at the high level of disease consequences, but the relatively similar depression ratings at the low level of disease consequences. Among participants who perceived high consequences, those in the public condition expressed less depression than those in the private condition, consistent with mood inflation. Similar effects appeared for participants who perceived high physical limitations on their expression of both calm and anxiety. These findings are consistent with research that shows severity influences perceived stigma (Jones et al., 1984). As participants generally did not express high levels of perceived disease consequences or physical limitations, it appears that many may not have viewed Type 1 diabetes as a condition severe enough to warrant adjustment of emotional expression. This may account for the lack of a significant interaction between mood condition and health status on the expression of emotion.

Evidence was found to support the prediction that participants would be more willing to provide help on a physical task to an individual with Type 1 diabetes than a healthy individual. The increased willingness of participants to provide physical help to the target in the diabetes condition is consistent with past findings that the norm to be kind may lead physically stigmatized others to become the recipients of unsolicited prosocial acts (Gouvier et al., 1994; Hebl & Kleck, 2000). The fact that an increased tendency for prosocial action appears to occur in the case of individuals with Type 1 diabetes also provides additional evidence of the existence of some degree of stigma associated with the disease.

Two other findings emerged that provide further support for the existence of the norm to be kind to individuals with Type 1 diabetes. First, participants reported more willingness to provide help on a cognitive task to targets with Type 1 diabetes than to healthy targets. This suggests that prosocial acts prompted by the norm to be kind to an individual with Type 1 diabetes are not necessarily restricted to the domains that are perceived to be obviously affected by the disease. However, there was no health status difference in willingness to provide help on an emotional task. Evidence concerning whether the norm to be kind generalizes to domains outside of those affected by the stigmatized condition is somewhat mixed (Gouvier et al., 1994; Hastorf et al., 1979; Russell et al., 1985).

Second, participants in the diabetes condition also reported that they looked forward to interacting with the target more and thought they would like the target more than those in the no diabetes condition. Because participants were told that their responses to these items would not be shared with the target, the implications of these

results are somewhat less clear. One possible explanation is that participants in the diabetes condition responded this way because of social desirability. Perhaps participants in the diabetes condition wished to portray themselves as people who were kind and accepting of individuals with disabilities. If this is the case, these results support the influence of the norm to be kind on interactions with individuals with Type 1 diabetes.

Overall, there appears to be some evidence that the norm to be kind influences social interactions between healthy individuals and those with Type 1 diabetes. The influence of this norm presupposes a certain degree of stigma associated with the disease. Perceiving that one is being treated in accordance with the norm to be kind could have negative implications for individuals with Type 1 diabetes. As mentioned above, the awareness that one is being treated differently because of a stigmatized condition may foster attributional ambiguity and reduced social competence. Such factors could prove to be barriers to the establishment of social relationships and support networks that have been shown to be beneficial to the health and well-being of individuals with Type 1 diabetes. Knowing that one is viewed differently by others because one has diabetes has been shown to have negative implications. Kyngäs et al. (1998) reported that feeling different from friends because of diabetes is associated with decreased self-care behavior among adolescents. Being the target of adjusted expressions of emotion and/or the increased prosocial tendencies of others because of one's diabetes may promote such feelings of uniqueness. The receipt of unsolicited help may also decrease self-esteem, which could negatively affect health as lower self-esteem has been associated with poorer adherence to treatment (Hauser et al., 1997).

The implications of these results are not entirely negative for individuals with diabetes. The fact that there appears to be a relation between expression of emotion and individual differences in perceptions of disease consequences and physical limitations suggests that the stigma associated with Type 1 diabetes, as well as the potential impact of that stigma on social interactions, may depend on the amount a particular social contact knows about the disease. Those who have little or no knowledge of Type 1 diabetes may be unlikely to stigmatize an individual with the disease. These people probably perceive fewer consequences and lower levels of physical limitation. Individuals who have close social ties to someone with Type 1 diabetes may also be unlikely to stigmatize or adhere to the norm to be kind for similar reasons, provided the person with diabetes manages the disease effectively and does not experience severe complications. Given the evidence that perceptions of consequences and physical limitations associated with Type 1 diabetes may influence adjustment of emotional expression in a manner consistent with the norm to be kind, those who are most likely to act in accordance with this norm may be those who have been exposed primarily to the negative consequences of the disease. Such exposure may be an isolated incident (e.g., witnessing a classmate or co-worker who is confused and disoriented due to low blood sugar) or may be recurring (e.g., watching an elderly parent experience complications due to a lifetime of having diabetes). Evidence suggests that programs aimed at promoting awareness of diabetes have been effective in reducing perceptions of the disease as one that is automatically and totally disabling (Gething, 1991).

There are several limitations of this study that should be addressed. First, a number of participants were excluded from analyses due to failed manipulation checks.

Many of those who failed the manipulation check did so because they were uncertain as to whether or not the target would see their mood form. The majority of these people were assigned to the public mood condition. It is possible that participants assigned to this condition who answered the manipulation correctly may still have had some uncertainty regarding whether or not their mood form would be seen. Such uncertainty may have counteracted the effects of the public mood manipulation. Those who were uncertain as to whether their mood would be seen by the target may have been less inclined to adjust their expression of emotion.

Second, despite receiving instructions from the experimenter to read the target's background sheet before completing the mood form, it is possible that some participants chose not to read the background sheet until they had completed their own background information sheet and mood form. Some participants were informally asked during the debriefing about the order in which they read and completed the forms. No participants expressed that they completed their mood form before reading the target's background information sheet. Nevertheless, we cannot rule out the possibility that some participants completed the mood form before they read the target's background information sheet. Future studies should ensure that participants read the target's background sheet before completing the mood form.

Third, the extent of participant's exposure to Type 1 and Type 2 diabetes was not taken into consideration. Type 2 (non-insulin dependent) diabetes differs from Type 1 diabetes in that those with Type 2 diabetes frequently do not require insulin injections to manage their disease. Type 2 diabetes can be developed as a result of lifestyle factors including poor diet, obesity, and sedentary lifestyle, making its development somewhat

more controllable. Differences in perceived controllability and/or severity between Type 1 and Type 2 diabetes may have contributed to the variability in participants' perceptions of the disease. Only 19% of participants said they knew the difference between Type 1 and Type 2 diabetes. We failed to adequately assess knowledge of and exposure to individuals with Type 1 diabetes.

The age of the non-stigmatized individual may be an influential determinant of the extent to which Type 1 diabetes is stigmatized. Advances in the treatment of Type 1 diabetes have made the control of short and long-term complications much more feasible than was the case in the past. There may, therefore, be generational differences in perceptions of individuals with Type 1 diabetes. These differences may influence social interactions and should be explored in future studies.

The results of this study suggest that further exploration of the impact of stigma on interactions with individuals with Type 1 diabetes is warranted. One important consideration when exploring the existence of any type of stigma is the awareness of the stigma on the part of the stigmatized (Crocker et al., 1998). There is a small amount of evidence suggesting that individuals with Type 1 diabetes may be aware of a certain degree of devaluation of their condition (Underwood, 1996). Further research on the perceptions of individuals with Type 1 diabetes, particularly regarding the effects of the disease on their social interactions with non-stigmatized others, would be beneficial. Knowing which, if any, aspects of social interactions individuals with Type 1 diabetes perceive as being influenced by the norm to be kind could provide valuable direction for future examination of the potential negative effects of this norm.

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Table 1

Mean Expression of Positive Emotion

|         | Diabetes | No Diabetes |
|---------|----------|-------------|
| Public  | 4.39     | 4.21        |
| Private | 3.83     | 4.22        |

Table 2

Mean Expression of Depression

|         | Diabetes | No Diabetes |
|---------|----------|-------------|
| Public  | 1.84     | 1.77        |
| Private | 2.42     | 2.01        |

Table 3

## Mean Expression of Willingness to Help and Ancillary Items

|   | Diabetes | No Diabetes |
|---|----------|-------------|
| How willing would you be to help the other participant with a <i>physical task</i> ?  | 5.74     | 4.82        |
| How willing would you be to help the other participant with a <i>emotional task</i> ? | 4.93     | 4.54        |
| How willing would you be to help the other participant with a <i>cognitive task</i> ? | 5.33     | 4.80        |
| How much are you looking forward to interacting with the other participant?           | 4.70     | 4.26        |
| How much do you think you will like the other participant?                            | 4.80     | 4.48        |
| How much do you think the other participant will like you?                            | 4.13     | 3.82        |

Figure Captions

*Figure 1.* Mean level of anxiety expressed by participants who perceived high vs. low physical limitations in the diabetes/public and diabetes/private conditions.

*Figure 2.* Mean level of calm expressed by participants who perceived high vs. low physical limitations in the diabetes/public and diabetes/private conditions.

*Figure 3.* Mean level of depression expressed by participants who perceived high vs. low disease consequences in the diabetes/public and diabetes/private conditions.

Figure 1

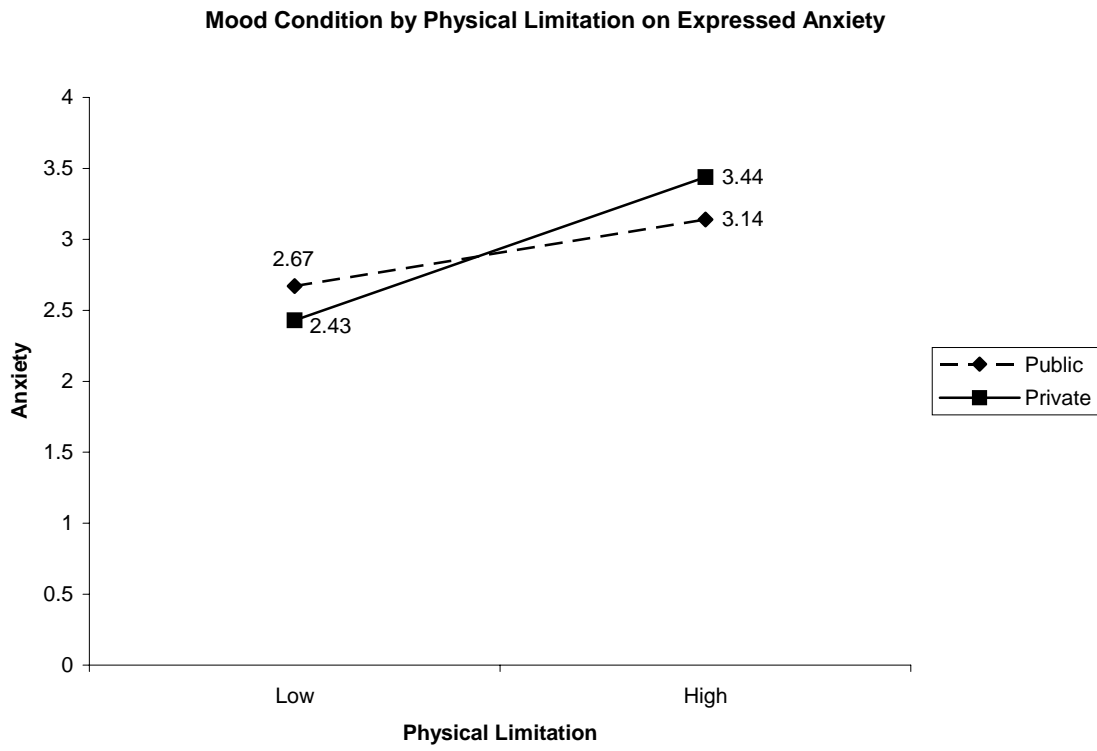


Figure 2

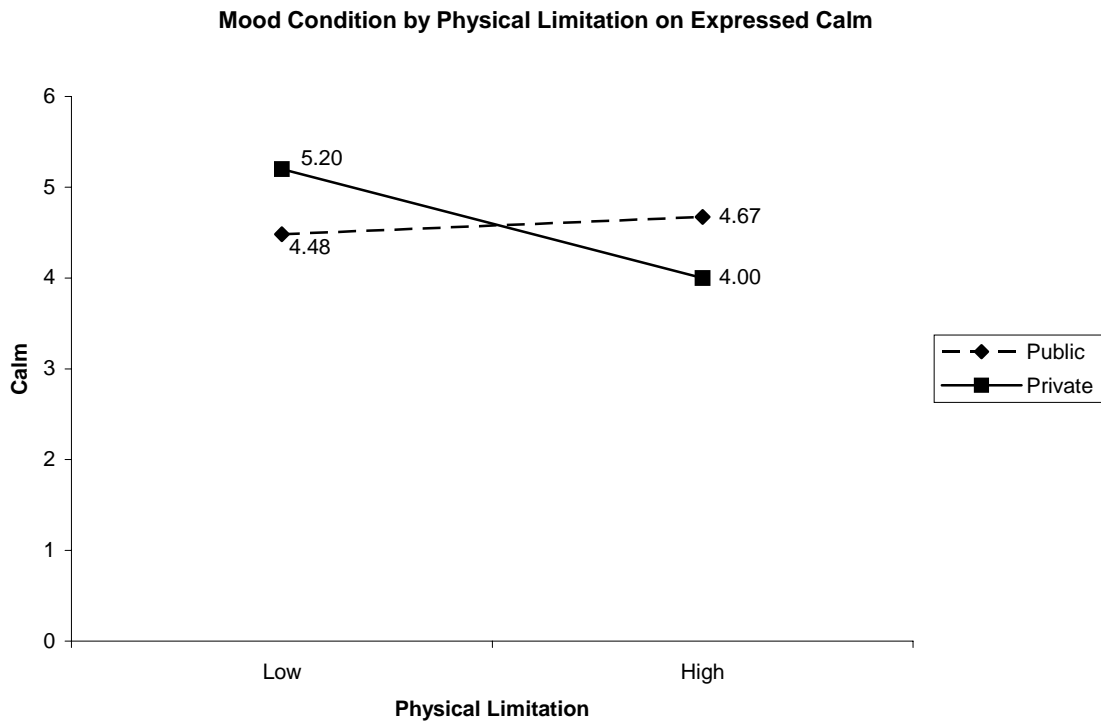
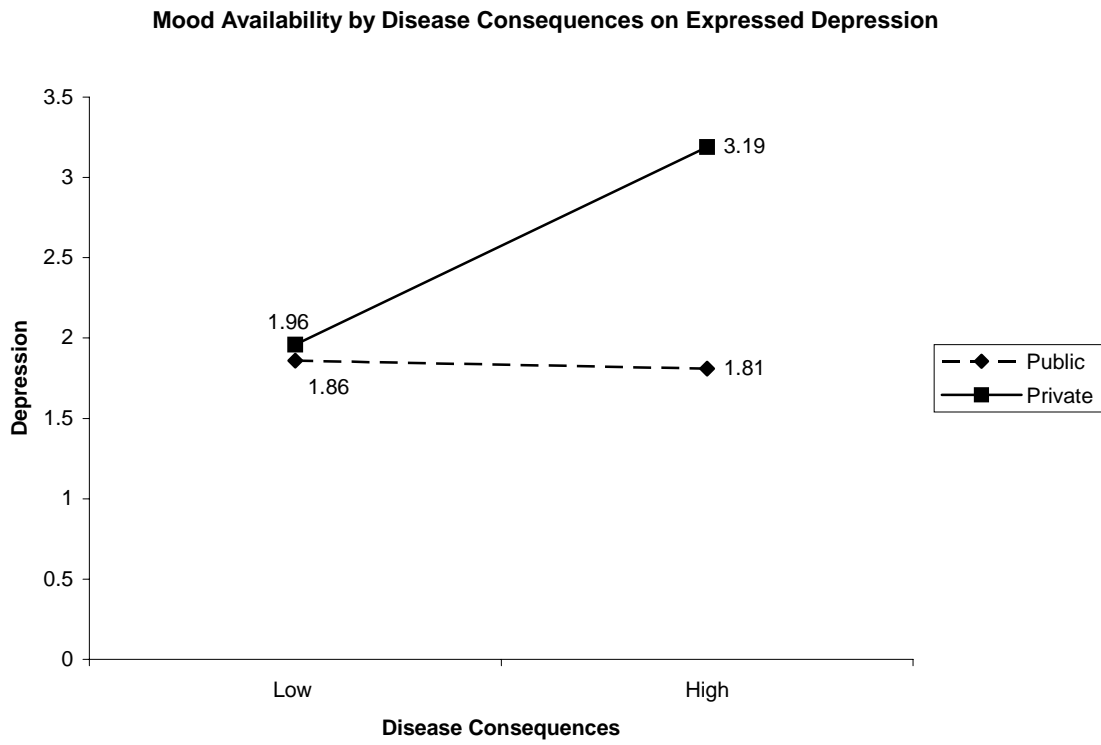




Figure 3



## Appendix A

**This Form Will Be Shared With The Other Participant****Background Information**

This form will be shared with the other participant. You may leave blank any items you do want to answer.

**Name:**

**Age:**

**Hometown:**

**College:**

**Major:**

**Please rate yourself on the following:**

Do you consider yourself ...

|                     | Not at<br>All |   |   |   | Very<br>Much |
|---------------------|---------------|---|---|---|--------------|
| musically talented? | 1             | 2 | 3 | 4 | 5            |
| well read?          | 1             | 2 | 3 | 4 | 5            |
| athletic?           | 1             | 2 | 3 | 4 | 5            |
| people oriented?    | 1             | 2 | 3 | 4 | 5            |

**Briefly describe a memorable/important event from your childhood?**

**Why did you select this study?**

## Appendix B

**This Form Will Be Shared With The Other Participant****Current Mood Form**

Please indicate how you are feeling right now by completing each item below. Don't think about any one word for too long. Just try to judge your mood as you perceive it right now.

|                    | <b>Not at<br/>All</b> |   |   | <b>Extremely</b> |   |   |   |
|--------------------|-----------------------|---|---|------------------|---|---|---|
| <b>happy</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>nervous</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>sad</b>         | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>calm</b>        | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>angry</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>pleased</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>unhappy</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>relaxed</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>tense</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>hostile</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>cheerful</b>    | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>depressed</b>   | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>comfortable</b> | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |

## Appendix C

**Confidential - Not To Be Shared****Current Mood Form**

Please indicate how you are feeling right now by completing each item below. Don't think about any one word for too long. Just try to judge your mood as you perceive it right now.

|                    | <b>Not at<br/>All</b> |   |   | <b>Extremely</b> |   |   |   |
|--------------------|-----------------------|---|---|------------------|---|---|---|
| <b>happy</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>nervous</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>sad</b>         | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>calm</b>        | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>angry</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>pleased</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>unhappy</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>relaxed</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>tense</b>       | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>hostile</b>     | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>cheerful</b>    | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>depressed</b>   | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |
| <b>comfortable</b> | 1                     | 2 | 3 | 4                | 5 | 6 | 7 |

