7-2020

Rejection Sensitivity and Social Support as Predictors of Peer Victimization among Youth with Psychiatric Illness

Katherine C. Hyde
University of Arkansas, Fayetteville

Rejection Sensitivity and Social Support as Predictors of Peer Victimization among Youth with Psychiatric Illness

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts in Psychology

by

Katherine C. Hyde
University of Virginia
Bachelor of Arts in Psychology, 2017

July 2020
University of Arkansas

This thesis is approved for recommendation to the Graduate Council.

_____
Timothy A. Cavell, Ph.D.
Thesis Director

_____
Ana J. Bridges, Ph.D.
Committee Member

_____
Ellen W. Leen-Feldner, Ph.D.
Committee Member

Abstract

In this study, I examined whether rejection sensitivity and perceptions of social support predicted concurrent peer victimization in a sample of adolescents with psychiatric illness. Participants included 43 adolescents, aged 12-18 with diverse psychiatric diagnoses, who were recruited from a summer residential treatment program. Participants completed measures of peer victimization, perceptions of social support, and rejection sensitivity. Participants also completed the global victimization item in the Revised Olweus Bully/Victim Questionnaire, which allowed for comparison of rates of peer victimization across studies (Solberg & Olweus, 2003). Results replicate and extend previous research that indicates adolescents with psychiatric illness experience high rates of peer victimization (Cook, William, Guerra, & Kim, 2009; Hunt, Peters, & Rapee, 2012; Kärnä et al., 2011). Additionally, adolescents high in rejection sensitivity reported lower rates of peer victimization, and adolescents who perceive greater social support from parents, peers, and mentors evidenced lower peer victimization. Results do not support evidence of an interaction between perceptions of social support and rejection sensitivity. Taken together, the unique peer victimization experiences for youth with psychiatric illness have specific implications for researchers and practitioners.

Keywords: *rejection sensitivity, peer victimization, perceived social support, psychiatric illness, adolescence*

Table of Contents

Introduction

Research suggests that youth with psychiatric illness are more likely to experience bullying and peer victimization than adolescents without a psychiatric illness (Kokkinos & Panayiotou, 2004; Luukkonen, Räsänen, Hakko, Riala, 2010; Salmon, James, Cassidy, & Javaloyes, 2000). Adolescents with psychiatric illness may also be more likely to be sensitive to rejection, which may compound experiences of victimization (McDonald, Bowker, Rubin, Laursen, & Duchene, 2010; Zimmer-Gembeck, 2016). Given that previous research has found vulnerable adolescents are buffered against stressful events by supportive relationships, I expect youth with psychiatric illnesses will evince less peer victimization if they perceive support from parents, peers, and natural mentors (Bowker, Thomas, Norman, & Spencer, 2011; Fontana et al., 2018; Gralinski-Bakker, Hauser, Billings, & Allen, 2005; Zimmer-Gembeck, 2016). However, few studies have examined these relations and peer victimization experiences in adolescents with psychiatric illness (Zimmer-Gembeck et al., 2016). I also extended this work by considering the possibility that perceptions of social support could moderate the relation between rejection sensitivity and peer victimization.

Peer Victimization and Youth with Psychiatric Illness

Concerns about peers, status, and peer relationships increase in early adolescence (Lev-Wiesel, Nuttam-Shwartz, & Sternberg, 2006; Prinstein & Aikins, 2004; Prinstein, Borelli, Cheah, Simon, & Aikins, 2005). Peer victimization tends to increase in middle school and peak in the first year of a new school setting (Schacter, White, Chang, & Juvonen, 2015). Peer victimization may be particularly distressing in adolescence because it challenges belongingness, perceptions of control, and limits preferences of autonomy, which are all key developmental tasks in adolescence (Zimmer-Gembeck 2016). A major health consequence of peer victimization is an

increase in internalizing symptoms, such as psychosocial maladjustment, observed in victims. A well-established link exists between peer victimization and increased risk for internalizing symptoms and psychosocial maladjustment (Kochenderfer-Ladd, 2002; Schneider, O'Donnell, Stueve, & Coulter, 2012; Perren, Ettekal, Ladd, 2013). Specifically, peer victimization is associated with depression, social withdrawal, lowered self-esteem, anxiety, fear of negative evaluation, school avoidance, and increased suicidal ideation (Rosen, Milich, & Harris, 2007; Rosen et al., 2009; Zwierzynska, Wolke, & Lereya, 2013). Peer victimization in adolescence also relates to social hopelessness, which, in one study, partially accounted for increased later suicidal ideation (Bonanno & Hymel, 2010). Furthermore, evidence supports that peer victimization is predictive of externalizing problems (Perren, Ettekal, Ladd, 2013). The restrictive nature of the school context, in which victims have repeated contact with their abusers, may exacerbate these adjustment problems (Kochenderfer-Ladd & Skinner, 2002). Research suggests that frequent victims may have distinct cognitive characteristics which are related to more frequent experiences of victimization. In one study, victims experienced greater distress while recounting a victimization experience and evidenced greater implicit associations of oneself with the victim role, including defensive, preemptive processing of threatening cues (Rosen, Milich, & Harris, 2007). With these negative psychosocial outcomes, peer victimization has become a major public health risk (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014).

Research suggests youth with psychiatric illness may experience higher rates of peer difficulties than their peers. One study, investigating the relation between involvement in bullying and psychiatric diagnoses, found that 38% of adolescents seeking services at an outpatient clinic had a history of bullying involvement. Of these adolescents, 70% who were victimized had a concurrent diagnosis of depression and half of this group engaged in deliberate

self-harm. Bully-victims who presented to the outpatient clinic commonly had comorbid conduct disorder (CD) and attention-deficit hyperactivity disorder (ADHD) (Salmon, James, Cassidy, & Javaloyes, 2000). Another study found that 61.5% of youth seeking mental health services reported being victimized by a peer (Dyer & Teggart, 2007). Furthermore, studies conducted with adolescents who have been hospitalized for psychiatric illness report rates of peer victimization between 41.8% and 77% (Ayala et al., 2015; Luukkonen, Riala, Hakko, & Räsänen, 2011; Salmon, James, Cassidy, & Javaloyes, 2000). Cook and colleagues' (2010) meta-analysis of bullying and victimization found further evidence to support the notion that youth with psychiatric illness are more likely to be implicated in bullying. Specifically, they found that those with greater internalizing symptoms were more likely to be victims of bullying (Cook et al., 2010). A study of inpatient Finnish adolescents revealed that the presence of a psychiatric disorder classified as externalizing increases the likelihood of being a bully or bully-victim 14-fold for boys and 10-fold for girls. In addition, the presence of a current psychiatric internalizing diagnosis was associated with an increased likelihood of victimization among boys (Luukkonen, Räsänen, Hakko, Riala, 2010). Kokkinos and Panayiotou (2004) found support that bully victims report greater concurrent oppositional defiant disorder (ODD) and CD symptomatology, and victimization was associated with ODD and low self-esteem (Kokkinos & Panayiotou, 2004). These findings are notable when considering that rates of peer victimization typically found in normative, school-based samples are much lower. These studies typically find rates of peer victimization ranging from 10 to 20% (Hunt, Peters, & Rapee, 2012; Kärnä et al., 2011; Solberg & Olweus, 2003).

Research also supports a dose-response relationship in which youth who are more frequently victimized are at greater risk for emotional problems and the presence of a concurrent

psychiatric diagnosis (Zwierzynska, Wolke, & Lereya, 2013). The experience of peer victimization is both more common for youth with a psychiatric diagnosis and may also intensify the psychological difficulties these adolescents already face (Siegel, La Greca, & Harrison, 2009).

Rejection Sensitivity in Youth with Psychiatric Illness

Adolescents' emotional maladjustment can be a product of peer victimization. Many adolescents will experience victimization, and most are able to manage the emotional pain through emotion regulation and appropriate coping strategies. However, some adolescents struggle to regulate their emotions and may react with extreme emotions, appraise the situation in ways that limit recovery, engage in negative self-talk, and fail to seek out appropriate support. These adolescents may experience frequent victimization and their responses may be inadequate to promote recovery (Kochenderfer-Ladd & Skinner, 2002; Zimmer-Gembeck, 2016).

Relational self-system processes are beliefs and cognitive representations of the self in relationships with others. These processes guide individual's expectations, cognitions, emotion, and behavior in social interactions (McDonald et al., 2010; Rosen, Milich, & Harris, 2007; Zimmer-Gembeck, 2016). One such relational self-system process is sensitivity to rejection (Zimmer-Gembeck, 2016). The rejection sensitivity model argues that the dispositional trait of rejection sensitivity, defined as the tendency to anxiously or angrily perceive and readily expect rejection, may intensify peer victimization and psychological problems (Chango et al., 2012; Downey et al., 1999; McLachlan et al., 2010). Specifically, the rejection sensitivity model posits that rejection sensitivity develops when one's needs are repeatedly met with rejection such that rejection sensitive individuals come to expect rejection from others. Defensive expectations are then activated in situations when rejection from a close other is possible (Levy, Ayduk, &

Downey, 2002). Adolescents with sensitivity to rejection may perceive and expect rejection from others, even in ambiguous situations. Others' behaviors are then encoding as "rejecting," which leads to anger, anxiety, and hurt (Downey, Lebolt, Rincon, & Freitas, 1998). Rejection sensitivity then drives emotional and behavioral responses to perceived rejection. There are two distinct types of rejection sensitivity: anxious and angry. Consistently, anxious rejection sensitivity is associated with internalizing difficulties and a "flight" response. Angry rejection sensitivity is strongly related to externalizing symptoms and a "fight" response, observed as aggression and conflict towards school personnel and peers (Bondü & Krahé, 2015; London, Downey, Boncia, & Paltin, 2007; McDonald et al., 2010). Research has demonstrated angry rejection sensitivity is predictive of conduct problems, particularly for those with moderate to severe personality organization difficulties (Fontana et al., 2018). These defensive responses driven by this relational self-system process perpetuate hypervigilance for rejection cues (Rosen, Milich, & Harris, 2007; London, Downey, Bonica, & Paltin, 2007). This can create a self-fulfilling prophecy in which rejection sensitive individuals elicit actual rejection (Bondü & Esser, 2015; Fontana et al., 2018; London, Downey, Boncia, & Paltin, 2007; McLachlan, Zimmer-Gembeck, & McGregor, 2010).

Consistently, research has linked high rejection sensitivity with poor mental health outcomes and a risk factor for negative psychosocial maladjustment in early adolescence (Gao, Assink, Cipriani, & Lin, 2017; Thomas & Bowker, 2015). Accordingly, evidence suggests that adolescents with psychiatric illnesses may be more prone to developing rejection sensitivity. Both aggression and social withdrawal in response to rejection are common behavioral patterns observed in adolescents with ADHD. Additionally, one study found that adolescents with ADHD evidenced significantly greater rejection sensitivity compared to controls (Bondü & Esser, 2015).

Another study indicated that adolescents with depression are higher in rejection sensitivity than their peers in part because of how their depressive affect impacts their interpretations of interpersonal interactions and their tendency to blame themselves for rejection (Zimmer-Gembeck et al., 2016). Fontana and colleagues (2018) found that greater angry expectations of rejection predicted conduct problems for adolescents with moderate to severe personality organization difficulties, but not for those with high-level personality functioning. Taken together, adolescents with psychiatric illness may be more likely to develop rejection sensitivity which could worsen their experiences of peer victimization and emotional maladjustment.

Social Support and Youth with Psychiatric Illness

Perceived social support is an important context for positive psychological development in adolescence. Adolescents' peer networks expand as they initiate close, supportive friendships and romantic relationships (Furman & Buhrmester, 1992; La Greca, Davila, & Siegel, 2008; Steinberg & She□eld Morris, 2001). Stable social support networks provide care, security, and may offer help in times of stress (Eşkisu, 2014). Supportive relationships with parents and peers promote psychological well-being in childhood and adolescence (La Greca & Harrison, 2005). Enjoying high quality friendships is negatively related to anxiety and depression during adolescence and is related to positive markers of adjustments such as greater school involvement, higher self-esteem, and less loneliness (La Greca & Harrison, 2005).

Social support can help teenagers navigate relational stressors like peer victimization and rejection (Zimmer-Gembeck, 2016). A lack of social support may prolong youths' experiences of victimization. The absence of friends and low perceived social support are associated with emotional problems, and therefore, may predict continued peer victimization (Schacter, White, Chang, & Juvonen, 2015).

Some adolescents' concerns about potential rejection leads them to isolate themselves, reducing their social support (London, Downey, Bonica, & Paltin, 2007). However, strong perceptions of social support may moderate the relation between rejection sensitivity and negative psychosocial outcomes. There is evidence that not all youth high in rejection sensitivity display negative outcomes. The degree of parental support and the presence and quality of best friendships appear to moderate the relation between high levels of rejection sensitivity and psychopathology symptomatology (Bowker, Thomas, Norman, & Spencer, 2011; Fontana et al., 2018; Thomas & Bowker, 2015). Other researchers have found evidence that anxious rejection sensitivity is uniquely associated with social anxiety and depression only for adolescents who had unsupportive friendships. Additionally, they found that angry rejection sensitivity was not predictive of depressive symptoms if adolescents identified at least one supportive relationship (McDonald et al., 2010). Bonanno and Hymel (2010) found that adolescents' peer victimization were associated with increases in social hopelessness (i.e. negative expectations about one's future interpersonal interactions), which partially accounted for increases in subsequent suicidal ideation. However, this relation was attenuated among adolescents who reported higher perceptions of social support from their family. Furthermore, evidence supports a small, but significant, negative relation between social support and peer victimization, in which adolescents who evidence greater perceptions of support report less peer victimization (Alcantara et al., 2017; Rigby, 2000; Schacter, White, Chang, & Juvonen, 2015; Ybarra et al., 2015). In a multisite study of adolescents in Brazil, researchers found that victimized youth reported lower perceptions of social support compared to non-victims, bully-victims, and bullies (Alcantara et al., 2017). Youth with little or no support may be more vulnerable to bullying and social exclusion and are considered unattractive as potential friends (Rigby, 2000; Rigby & Slee, 1993).

Ybarra and colleagues (2015) found evidence that in-person social support was related to reduced odds of bully victimization and sexual harassment. This research offers evidence that high quality, supportive relationships may buffer vulnerable youth high in rejection sensitivity from negative psychosocial outcomes.

Social support from parents and peers may be particularly important for youth with current psychiatric diagnoses as they may be more likely to experience higher rates of peer victimization and other life stressors. Laursen and colleagues (2007) found that friendships protected isolated and excluded children from increases in internalizing symptoms (Laursen et al., 2007). Social support may even help reduce the impact of stigma for youth with psychiatric illness. Lindsey and colleagues (2010) found evidence for social support as a potential moderator of mental health stigma and depressive symptomology in a sample of African American adolescent boys recruited from treatment and community settings who were currently depressed or at high risk for depression (Lindsey, Joe, & Nebbitt, 2010). In addition, evidence indicates low perceived social support from one's family is associated with greater depression symptomatology in clinical samples (Cumsille & Epstein, 1994). Taken together, social support from parents and peers seems to be an important factor in buffering the exacerbation of psychiatric symptoms and promoting positive psychosocial adjustment, particularly for youth with psychiatric diagnoses.

Natural mentors may be another important source of social support. Research suggests that natural mentors may promote resilience in vulnerable youth. Kanchewa and colleagues (2018) found evidence that highly caring and trusting relationships with mentors may alter youth's relationship expectancies by updating their internal working models of relationships. While research on natural mentors for adolescents with psychiatric illness is limited, one study

that examined adults who were hospitalized in adolescence found that the subset of "resilient" young adults in this group identified supportive relationships as a key resource in their recovery (Gralinski-Bakker, Hauser, Billings, & Allen, 2005). Likewise, Wagner and Davis (2006) cited mentoring relationships as one of the five exemplary practices for youth with emotional disturbances. Munson and colleagues (2015) found that former system youth with mental health challenges identified their mentors as being instrumental in their transition to adulthood. Specifically, consistency and feeling cared for were important features of these mentoring relationships. These youths also indicated that being consistent during times of crisis or when they were experiencing more severe mental health symptoms was particularly critical. Also, specific forms of emotional, informational, and instrumental support were identified as valuable, including encouragement, advice about relationships and mental health services, and help with symptom management. As such, the presence of a mentor may be especially beneficial for youth with psychiatric illness.

The Current Study

Research suggests youth with high levels of rejection sensitivity may experience greater victimization, and youth with psychiatric illness are both more likely to be sensitive to rejection and experience peer victimization. Moreover, evidence suggests that perceptions of supportive relationships can act as a positive buffer against negative outcomes, including prolonged victimization, emotional maladjustment, and psychopathology symptoms (Chango et al., 2012; Kanchewa et al., 2018; McDonald et al., 2010; Thomas & Bowker, 2015). However, previous research has not examined whether perceived social support may moderate the association between rejection sensitivity and peer victimization. In this study, I examined the relations among peer victimization, rejection sensitivity, and supportive relationships in a sample of

adolescents with current psychiatric diagnoses. The following hypotheses were tested: I expected that baseline levels of peer victimization would be positively related to youths' self-rated rejection sensitivity: Adolescents who report greater rejection sensitivity also report greater victimization. Second, because supportive relationships are an important buffer for adolescents with psychiatric illness, I expected that youth who enjoy higher quality relationships with parents, peers, or informal mentors would report less peer victimization. Lastly, I hypothesized that perceived social support would moderate the relation between rejection sensitivity and peer victimization. More specifically, for youth with higher perceptions of social support, the association between rejection sensitivity and peer victimization would be weaker.

Method

Procedure

The context for this study is a short-term residential treatment program for children and adolescents with emotional, social, and behavioral difficulties. The Wediko Summer program is a six-week experience where residents participate in highly structured daily routines, including group therapy, pre-vocational programs, classroom-based daily instruction, and camp activities. Summer camp activities are closely monitored by adult staff.

Children are typically referred to Wediko by schools, educational consultants, and clinicians from across the country. The admissions process is initiated by the completion of a parent/guardian form. Wediko also requires forms to be completed by the child's mental health provider and their teacher to determine whether the summer program is a good fit for the child and their family.

According to the Wediko admissions coordinator, approximately 15% of the campers at Wediko received funding from an external agency, and the other half of campers were privately

funded by their families. Tuition costs $18,000 and includes "full room and board, daily group therapy, diagnostic assessment, behavior modification, summer academic enrichment, crisis intervention, medication management, and social skills coaching and consultation for the following academic year" (Wediko Summer Program).

We collaborated with program staff to design and implement our recruitment strategy. Following admittance to the program, admissions packets are sent home which include medication information, release forms, and detailed information about the program. Our consent form was included in the admissions packet. Interested adolescents were invited to participate. Those who expressed interest in participating obtained parental consent and adolescent assent before participating. On arrival day, I collected signed consent forms and recruited additional interested youth to my study. Residents under the age of 12 and those without parental consent were excluded from participation. There were 65 adolescents eligible to participate, and our final sample included 43 adolescents. Data for this study was gathered shortly after participants began the treatment program and again during the last week of the program. Adolescents who completed the survey received a $10 gift card to a local retailer.

Participants

Participants were 43 adolescents (*M* age = 14.57, *SD* = 1.86, 37.21% female). All had 1 or more diagnosis (65.12% ADHD, 58.14% mood disorders, 34.88% trauma and stressor-related). The sample was 7.14% Hispanic, 42.86% white non-Hispanic, 11.90% African American, and 33.33% multi-racial or other. Approximately 85% of all campers at the Wediko Summer Program in 2019 were funded by external agencies, such as Boston Public Schools. I used the MacArthur Scale of Subjective Social Status was used to assess adolescents' subjective social status (SSS) (Goodman et al., 2001). This measure asks adolescents to rank their social

status on two ladders: their familial placement in US society (SSS-family) and their placement within their school community (SSS-school). The mean SSS-family was 6.13, and the mean SSS-school was 6.26. This is notably lower than averages found in a nationally, representative sample of 10,843 adolescents, which found a mean of 7.2 for SSS-family and 7.6 for SSS-school (Goodman et al., 2001).

Measures

Psychiatric diagnosis. Psychiatric diagnoses were drawn from the information recorded in residents' program chart. They were updated at the end of the treatment program by program staff and are based off continual observation of the residents throughout the 45-day treatment program.

Rejection Sensitivity. The Children's Rejection Sensitivity Questionnaire (CRSQ) was used to assess adolescents' level of rejection sensitivity (Downey, Lebolt, Rincon, & Freitas, 1998). Rejection sensitivity in the CRSQ is operationalized as the tendency to anxiously or angrily expect rejection, interpret ambiguous situations as rejection, and overreact to perceived rejection. The CRSQ present children with 12 hypothetical vignettes illustrating high-investment, interpersonal scenarios where they risk rejection from important people in their lives, specifically, teachers and peers. For each vignette, participants were asked to answer three questions. For example, one of the peer situations first asks, "How NERVOUS would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?" Participants' anticipatory anxiety about the potential for rejection was assessed using a 6-point scale ranging from 1 "not nervous" to 6 "very, very nervous". Next, participants were asked, "How MAD would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?" and selected an answer using a 6-point scale ranging from 1 "not mad" to 6 "very, very mad". The

last question assessed their expectation of rejection. In this example, participants were asked "Do you think they were saying bad things about you?" using a six□point scale ranging from 1 "No!!" to 6 "Yes!!". Patterns of rejection sensitivity were assessed using two scales: Anxious Expectations of Rejection (12 items) and Angry Expectations of Rejection (12 items). Anxious Expectations of Rejection are calculated by multiplying the expected likelihood of rejection by the degree of anxiety over its occurrence for each situation, which is then averaged over all 12 situations. Angry Expectations of Rejection are calculated similarly by multiplying the expected likelihood of rejection by the degree of anger for each situation, which is then averaged. Higher scores indicated higher levels of rejection sensitivity. In the present study, the CRSQ demonstrated good internal reliability, $\alpha = 0.93$ for anxious expectations of rejection and $\alpha = 0.86$ for angry expectations of rejection.

Peer Victimization. The victimization items from the Revised Olweus Bully/Victim Questionnaire were used to assess adolescents' victimization experiences (Olweus, 1996). I administered the global victimization item ("How often have you been bullied at school in the past 2 months?") along with 9 OBVQ items assessing verbal, relational, exclusionary, cyber, and physical forms of victimization. Responses were coded from 1 to 5 with responses at 3 or above meeting the criterion for victim status. Response options were "I have not been bullied in this way in the past couple of months" (1), "only once or twice" (2), "2 or 3 times a month" (3), "about once a week" (4), and "several times a week" (5). The victimization items will be averaged to compute a total victimization score. The OBVQ has demonstrated good convergent validity as the self-report victimization items on the OBVQ were significantly correlated with peer nominations for victimization, $r = 0.42$, $p < .01$ (Lee & Cornell, 2009). The OBVQ victimization scale has demonstrated good internal reliability for both sexes and no significant

differences between sexes (Hartung, Little, Allen, & Page, 2011). The internal reliability of the victim subscale in the present study was good, $\alpha = 0.83$. A mean score for each adolescent was computed with higher scores representing greater victimization. Due to copyright regulations, I am not allowed to include a copy of the OBVQ in this thesis.

Perceptions of Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS) is a brief self-report measure that assesses perceived adequacy of support from friends, family, and special persons. However, for the purposes of this study, the directions defined a special person as a supportive adult other than their parents. Twelve-items are rated on a 7-point likert scale ranging from *very strongly disagree* (1) to *very strongly agree* (7). Some sample items include: "I can talk about my problems with my friends"; "My family really tries to help me". There are three subscales that measure support from parents, friends, and a supportive adult. The subscales were combined to compute a total perceived social support score since the three sources of perceived social support were nearly perfectly correlated ($r = 0.99$). Then, I computed a mean score, with higher scores representing greater perceptions of social support. Cronbach's alpha for the MSPSS was 0.93, indicating good internal reliability.

Results

Power Analysis

To estimate power needed for my study, I reviewed relevant research on the relation between peer victimization and either social support or rejection sensitivity. One study found the effect of the relation between social support from fathers, mothers, and best friends and rejection sensitivity tended to be small to medium ($r = -0.11$ to -17) (McDonald et al., 2010). The effect size of overt victimization on rejection sensitivity ranged from $r = 0.22$ to $r = 0.40$, and the relation between relational victimization and rejection sensitivity tended to be comparable, $r =$

0.36-0.40 (Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2013). For the relation between social support and victimization, one study found the correlation of total social support and victimization was r = -0.31, which corresponds with a medium effect size, according to Cohen's conventions (Davidson & Demaray, 2007; Cohen, 1992). However, my sample size was limited to 43 participants for preliminary analyses and 2 participants were excluded for the primary analyses, discussed below. Therefore, my study was only powered to detect significance of large effects in hierarchical multiple regression analyses with two covariates, three main effects, and two interaction terms.

Missing Data Analysis

Anxious rejection sensitivity, angry rejection sensitivity, and perceived social support were all candidates for missing values estimation procedures given a missingness rate greater than 5%. To test whether there were significant demographic differences between participants missing data for these variables versus those not missing data, I created dummy coded variables for missing data (1 = *missing*; 0 = *not missing*) and ran t-tests for numeric variables and chi-square tests for categorical variables. There were no significant differences between participants missing data and those who were not. Therefore, I assumed data were missing at random (MAR) and proceeded with regression-based data imputation. Regression-based imputation uses other data to predict participants' missing scores. Regression-based imputation techniques retains variability to a greater extent than mean substation

Preliminary Analyses

Table 1 presents means and standard deviations for all key variables. Of note is the mean global victimization score. The average global victimization score for this sample (M = 2.19, SD = 1.47) corresponds with being bullied *only once or twice* in the past two months. Not shown in

Table 1 is the percentage of participants who met the recommended cut off of *2 or 3 times a month* for victim status (Solberg & Olweus, 2003); 32.56% of the adolescents in this sample met this criterion. Perceived social support for this sample, averaged across parents, friends, and mentors ($M = 5.30$, $SD = 1.45$) suggested mild to moderate levels of support.

Table 2 presents bivariate correlations among key variables. Anxious and angry rejection sensitivity were significantly and positively correlated, $r = 0.78$, $p < 0.001$. There were also significant positive correlations between both anxious and angry rejection sensitivity and peer victimization, 0.57, $p < 0.001$ and 0.61, $p < 0.001$, respectively. Perceptions of social support and peer victimization were negatively correlated, but the strength of the association did not meet conventional standards for significance, $r = -0.31$, $p = 0.057$.

Primary Analyses

I used a hierarchical regression analysis to examine associations among the key variables of rejection sensitivity, perceived social support, and peer victimization. At Step 1, adolescent age and gender (0 = *male*;1 = *female*) were entered as covariates. Because there were only two gender diverse participants, I excluded these participants from the primary analyses. Anxious and angry forms of rejection sensitivity were entered at Step 2, and perceived social support at Step 3. Step 2 provided a test for my first primary hypothesis: rejection sensitivity will be positively related to youth's self-reported peer victimization. Step 3 tested the second hypothesis: youth who perceive greater social support will evidence less peer victimization. Interactions between anxious and angry rejection sensitivity and perceived social support, respectively, were entered in the fourth step. This step allowed me to test whether perceived social support moderated the relation between rejection sensitivity, both anxious and angry, and peer victimization. To check

assumptions of normality and linearity, I visually inspected histograms of standardized residuals and bivariate plots, which indicated these assumptions were met.

In the first step, participant gender emerged as a significant individual predictor, β = 0.531, $p < 0.001$. Girls tended to report greater levels of peer victimization than boys. Age did not significantly predict peer victimization. To test whether rejection sensitivity predicted peer victimization, anxious and angry rejection sensitivity were entered in the model at Step 2. Including anxious and angry forms of rejection sensitivity significantly increased variance explained, $\Delta F = 5.673$, $\Delta R^2 = 0.164$, $p = 0.007$. However, neither anxious nor angry rejection sensitivity were significant individual predictors of peer victimization. This finding did not support my hypothesis that rejection sensitivity would be predictive of peer victimization over and above gender and age. Next, I examined whether perceived social support was predicted of peer victimization. Adding perceived social support at Step 3 led to a significant increase (9.99%) in variance explained, $\Delta F = 8.376$, $p = 0.007$. Both perceived social support, β = 0.405, $p = 0.046$. and anxious rejection sensitivity, β = -0.344, $p = 0.007$, were significant individual predictors at Step 3. Adolescents who perceived greater social support from parents, friends, and natural mentors tended to report less peer victimization, whereas those with higher levels of anxious rejection sensitivity tended to report more peer victimization. Step 4 tested whether perceived social support moderated the relation between anxious and angry forms of rejection sensitivity and peer victimization. At Step 4, interactions between perceived social support and rejection sensitivity, as a set, did not significantly increase variance explained in peer victimization, $\Delta F = 1.351$, $\Delta R^2 = 0.032$, $p = 0.273$. Gender remained a significant individual predictor in the full model, β = 0.275, $p = 0.036$, but no other main effects reached conventional levels of significance. Results of the hierarchical regression analysis are shown in Table 3.

Discussion

The primary aim of this study was to investigate the relation between rejection sensitivity and peer victimization and the potential moderation by perceived social support among adolescents with psychiatric illness. There is evidence that adolescents with current psychiatric diagnoses may be vulnerable to experiencing peer victimization (Dyer & Teggart, 2007; Luukkonen et al., 2011; Salmon et al., 2000). Furthermore, research indicates that youth with psychiatric illness may be likely to have biased social cognitions and a sensitivity to rejection (Bondü & Esser, 2015; Fontanta et al., 2018; London, Downey, Boncia, & Paltin, 2007; McDonald et al., 2010). Research also suggests a buffering role for social support in the association between rejection sensitivity and psychopathology, which may be particularly relevant for youth with current psychiatric diagnoses (Bowker, Thomas, Norman, & Spencer, 2011; Fontana et al., 2018; Thomas & Bowker, 2015). However, few studies have investigated whether social support could moderate the relation between rejection sensitivity and peer victimization (Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2014). Even fewer have examined these relations in a sample of adolescents with concurrent psychiatric diagnoses (Fontana et al., 2018).

I drew from previous research to guide the testing of three hypotheses. I first tested whether the association between rejection sensitivity and peer victimization could be replicated in an adolescent psychiatric sample, expecting adolescents with higher rejection sensitivity to report high levels of peer victimization (Dyer & Teggart, 2007; Luukkonen et al., 2011; McLachlan, Zimmer-Gembeck, & McGregor, 2010; Williams, Doorly, & Esposito-Smythers, 2017; Salmon et al., 2000; Zimmer-Gembeck, 2016). I also tested whether adolescents with greater perceptions of social support reported less peer victimization, based on previous research

of a negative relation between social support on peer victimization (Alcantara et al., 2017; Rigby, 2000; Schacter, White, Chang, & Juvonen, 2015; Ybarra et al., 2015). Finally, I tested whether perceived social support moderated the relation between rejection sensitivity and peer victimization. I expected the relation between rejection sensitivity and peer victimization would be weaker for adolescents who had strong perceptions of social support.

An important initial finding was the proportion of youth who met the recommended cutoff as a victim of school bullying on the OBVQ (Solberg & Olweus, 2003). Importantly, I used the same criterion used in many school-based studies, which allowed for comparison across studies. I found that 32.56% of my sample met this criterion, which was notably higher than percentages found in previous studies using general school-based samples (Cook, William, Guerra, & Kim, 2009). Normative, school-based samples typically find a percentage of chronic victims between 10 and 20% (Hunt, Peters, & Rapee, 2012; Kärnä et al., 2011; Solberg & Olweus, 2003). Thus, my findings suggest adolescents with a psychiatric illness are at high risk for peer victimization. This finding is consistent with previous research that has demonstrated youth with psychiatric illness are vulnerable to peer victimization (Dyer & Teggart, 2007; Luukkonen et al., 2011; Salmon et al., 2000). However, it could be that adolescents who are referred to a residential summer treatment program by their teachers and school counselors may evidence greater peer difficulties relative to other adolescents with psychiatric illness. I also found that girls in this sample reported greater victimization than boys (Cillissen & Lansu, 2015; Crick & Bigbee, 1998). The literature is mixed as to whether adolescent boys or girls report greater peer victimization. Some studies report higher rates for boys (Rigby, 2000; Roland, 2002; Sourander et al., 2000) whereas other studies find no evidence of gender differences (Pellegrini & Bartini, 2000; Rigby, 1999; Snyder et al., 2003; Sweeting et al., 2006).

Psychometric research of the OBVQ has not found significant measurement differences among boys and girls, so these observed gender differences are likely not due to the measurement used (Hartung, Little, Allen, & Page, 2011). This finding increments the literature as few studies have examined gender differences in peer victimization among adolescents with psychiatric illness (Salmon et al., 2000).

Findings provided some support for my first hypothesis. As a set, anxious and angry rejection sensitivity significantly improved the model's predictions and increased the variance explained by 16.4%. However, neither emerged as a significant independent predictor when included in the second step. Possibly, the high correlation ($r = 0.78$) among anxious and angry forms of rejection sensitivity may be indicative of shared variance and prevented either from adding unique variance to the model. This is consistent with research that has found large, positive correlations between anxious and angry rejection sensitivity and both types have been linked to peer rejection (Ayduk, Gyurak, & Luerssen, 2008; London et al., 2007). However, the CRSQ measures global rejection sensitivity and is not specific to bullying and victimization experiences. Alternatively, it may be that, in certain contexts, triggering stimuli may activate anxious, angry, or both expectations of rejection. Or, it could be that anxious and angry expectations of rejection are activated in tandem to a greater extent in adolescents with psychiatric illness than adolescents without a psychiatric illness. Notably, results also provided support for my second hypothesis. Perceptions of social support both significantly improved the variance explained, $\Delta R^2 = 10.0\%$, and emerged as a significant independent predictor of peer victimization, $\beta = -0.344$, $t = -2.894$, $p = 0.007$. Higher levels of perceived social support were associated with lower peer victimization. This finding replicates previous findings indicating youth with low social support are more vulnerable to peer victimization and extends that work in

a sample of adolescents with psychiatric illness (Alcantara et al., 2017; Rigby, 2000; Rigby & Slee, 1993; Schacter, White, Chang, & Juvonen, 2015; Ybarra et al., 2015).

Contrary to predictions, there was no moderation of the relation between rejection sensitivity and peer victimization by perceived social support. Instead, these predictor variables operated as additive independent predictors of peer victimization. Although previous research (London, Downey, Boncia, & Paltin, 2007; Rigby, 2000) suggests rejection sensitivity could interfere with adolescents' ability to benefit from social support, it may be that the relation between social support and peer victimization is not strong enough to moderate or attenuate the deleterious effects of rejection sensitivity on peer victimization. It also could be that these variables exert bidirectional influences through a self-fulfilling prophecy (Ayduk, Gyurak, & Luerssen, 2008; Fontana et al., 2018). Adolescents who experience peer victimization may be sensitive to rejection cues, acting anxiously or angrily to perceived rejection (Bondü & Esser, 2015; McDonald et al., 2010. Youth high in rejection sensitivity may also be less able to benefit from social support, which may then increase their peer victimization.

Strengths & Limitations

This study had several limitations worth noting. Although my sample was diverse in age, racial/ethnic background, and psychiatric diagnoses, participant recruitment was constrained by the number of adolescents who attended the Wediko summer program, which resulted in a limited sample size. Therefore, this design has poor sensitivity to detect significance of small or medium effects. Previous research has found large effects between rejection sensitivity and peer victimization (McDonald et al., 2010), but effect sizes of the relation between social support and peer victimization tend to be small. This is consistent with the present research, which found the correlation between perceived social support and peer victimization was medium but nonsignificant whereas the effect of the correlation among both types of rejection sensitivity and

victimization was large and significant (Zimmer-Gembeck et al., 2014). Future research would benefit from larger sample sizes to detect significance of small and medium effects. Of note, is the percentage of adolescents who were invited to participate and participated in the current study. 66.15% of the possible sample consented. It could have been that youth who recently experienced painful instances of bullying were less likely to participate in a study on school bullying, or it may have been that adolescents who had not experienced bullying felt a study on school bullying was irrelevant to them. It could also be that adolescents who are referred and recommended by school counselors and teachers may have greater peer difficulties than adolescents who are not referred. Therefore, future research is needed that corroborates the high percentage of adolescents with psychiatric illness who experience frequent bullying and victimization. There is also some evidence that mentors, friends, and family may confer differing instrumental and emotional support to youth (Cumsille & Epstein, 1994; McLachlan, Zimmer-Gembeck, & McGregor, 2010; Siegel, Greca, & Harrison, 2009; Thomas & Bowker, 2015). However, given the limited sample size and high correlations among sources of social support, I did not test for these differences. Studies are needed that parse these differing sources of support to test for possible differential effects in predicting peer victimization and rejection sensitivity for adolescents with psychiatric illness. There could also be other persons, such as therapists and treatment staff, who are important sources of support for youth with psychiatric illness. Future research would benefit from expanding the range of potentially supportive individuals in the lives of adolescents with psychiatric illness.

Another key limitation was shared method variance. All key variables were self-reported by adolescents, so future research would benefit from collecting reports of peer victimization and rejection sensitivity from other informants. There is evidence that peer and teacher reports of

victimization are distinct sources of information, so future research should include multiple informants (Pouwels, Souren, Lansu, & Cillessen, 2016). Additionally, there is some evidence that adolescents high in rejection sensitivity tend to overreport peer victimization experiences compared to their peers (Zimmer-Gembeck et al., 2013). Anxious and angry expectations of rejection sensitivity were highly correlated in this study. Conceptually, the CRSQ was a global index of rejection sensitivity in which rejection sensitivity was assessed across a number of contexts. Youth high in rejection sensitivity may respond anxiously, angrily, or both, depending on the context. Alternatively, adolescents with psychiatric illness may have a disorganized approach in which they hold anxious and angry expectations of rejection simultaneously. Future studies should examine whether anxious and angry rejection sensitivity are distinct constructs in adolescents with psychiatric illness. A final limitation is that findings from this study are concurrent associations, so no conclusions about temporal sequencing or direction of effects can be drawn. Future research should examine these associations longitudinally to examine the unfolding of these associations over time.

My study increments the nascent body of research examining the experience of peer victimization among youth with concurrent psychiatric diagnoses. There exists a plethora of research on normative samples of youth demonstrating the deleterious effects of peer victimization in worsening internalizing and externalizing symptoms (Kochenderfer-Ladd, 2002; Perren, Ettekal, Ladd, 2013; Rosen et al., 2009; Zwierzynska, Wolke, & Lereya, 2013). Thus, it is important that the present study found evidence that youth with psychiatric illness experience high rates of peer victimization. A tendency for youth with current psychiatric diagnoses to be more vulnerable to being victimized by peers suggests they are also at greater risk for the exacerbation of psychiatric symptoms due to peer victimization (Ayala et al., 2015; Cook et al.,

2010; Luukkonen, Riala, Hakko, & Räsänen, 2011; Salmon, James, Cassidy, & Javaloyes, 2000). To date, there has been limited research that has examined how rejection sensitivity may be related to increased peer victimization for adolescents with psychiatric illness (Zimmer-Gembeck, Nesdale, & Downey, 2014). Specifically, most research on rejection sensitivity and adolescents with psychiatric illness has demonstrated these adolescents tend to evidence higher levels of rejection sensitivity (Bondü & Esser, 2015), and rejection sensitivity is associated with negative psychological outcomes for these youth (Fontana et al., 2018).

Implications & Future Directions

Findings from my study have six possible implications. First, given findings here and in other studies that indicate youth with psychiatric illness are at greater risk for peer victimization (Dyer & Teggart, 2007; Luukkonen et al., 2011; Salmon et al., 2000), schools and treatment programs should consider strategies to protect them from the harm associated with victimization. Targeted interventions, like those used to help chronically bullied children, might also benefit youth with psychiatric illness who are often socially excluded (Gregus, Craig, & Cavell, 2020). Second, adolescents with psychiatric illness who are exposed to peer victimization could possibly benefit from increased provision of social support. Parents, peers, and natural mentors can be used to assist youth in navigating challenging peer relations and conflict. Third, my findings provided further support for the unique relation between rejection sensitivity and peer victimization in a sample of youth with psychiatric illness (McDonald et al., 2010; Zimmer-Gembeck et al., 2016). Adolescents high in rejection sensitivity, who expect to be rejected and victimized by peers, could adopt a victim role and act in ways that elicit greater peer victimization. For example, one study found support that adolescents with greater depression symptomology tend to withdraw and blame themselves in response to rejection (Zimmer-

Gembeck et al., 2016). There is evidence that the rejection sensitivity literature converges with research on victim schemas (McDonald et al., 2010). Youth with a victim schema might be hypervigilant to rejection or threat cues and respond in ways to reduce arousal and the threat. However, at times, these behaviors, like submission or inappropriate aggression, may further contribute to their victimization (Rosen, Milich, & Harris, 2007). Identifying and correcting these social cognitive biases and associated maladaptive responses could be a useful target for intervention and treatment to reduce further victimization.

The present study suggests both perceptions of social support and rejection sensitivity are predictive of concurrent peer victimization in a sample of adolescents with psychiatric illness. Rejection sensitivity is consistently linked to negative psychological outcomes (Gao, Assink, Cipriani, & Lin, 2017; Thomas & Bowker, 2015), which may hold particular relevance for adolescents with preexisting psychological difficulties (Bondü & Esser, 2015; Fontana et al., 2018; Williams, Doorley, & Esposito-Smythers, 2017). Given research on the deleterious psychological outcomes associated with peer victimization, future research should examine whether peer victimization and rejection sensitivity interact in worsening symptoms in youth with psychiatric illness. Furthermore, there is evidence that rejection sensitive individuals may be less apt to benefit from social support (London, Downey, Boncia, & Paltin, 2007; Rigby, 2000). However, social support is needed for adolescents undergoing psychiatric or psychological care. Social support can help reduce the effects of mental health stigma and promote adherence to treatment. Future research is needed that examines rejection sensitivity in the context of the therapeutic alliance. The therapeutic alliance is an important interpersonal context that could provide offer corrective feedback and reduce sensitivity to rejection.

Conclusion

The present study found support that this sample of adolescents with psychiatric illness experiences high rates of peer victimization. This finding supports previous research that has shown youth with psychiatric illness are at high risk of peer victimization (Dyer & Teggart, 2007; Luukkonen et al., 2011; Salmon et al., 2000). I also found evidence that perceptions of social support and rejection sensitivity is associated with concurrent peer victimization. Future research should continue to investigate the relations among these variables, particularly as they relate to adherence to treatment.

References

Alcantara, S. C., González-Carrasco, M., Montserrat, C., Viñas, F., Casas, F., & Abreu, D. P. (2017). Peer violence in the school environment and its relationship with subjective well-being and perceived social support among children and adolescents in Northeastern Brazil. *Journal of Happiness Studies*, *18*(5), 1507-1532. doi:10.1007/s10902-016-9786-1

Ayala, L. M., Wang, J., Anderson, S., Brevard, A., Ruiz, M., Bannerman, R., ... & Hinds, P. (2015). Implementing a community bullying awareness intervention in an adolescent psychiatric unit: A feasibility study. *Archives of psychiatric nursing*, *29*(6), 426-433. doi: 10.1016/j.apnu.2015.06.011

Ayduk, Ö., Gyurak, A., & Luerssen, A. (2008). Individual differences in the rejection: Aggression link in the hot sauce paradigm: The case of rejection sensitivity. *Journal of Experimental Social Psychology*, *44*(3), 775-782. doi:10.1016/j.jesp.2007.07.004

Bonanno, R. A., & Hymel, S. (2010). Beyond hurt feelings: Investigating why some victims of bullying are at greater risk for suicidal ideation. *Merrill-Palmer Quarterly (1982-)*, 420-440.

Bondü, R., & Esser, G. (2015). Justice and rejection sensitivity in children and adolescents with ADHD symptoms. *European Child & Adolescent Psychiatry*, *24*(2), 185-198.

Bowker, J. C., Thomas, K. K., Norman, K. E., & Spencer, S. V. (2011). Mutual best friendship involvement, best friends' rejection sensitivity, and psychological maladaptation. *Journal of Youth and Adolescence*, *40*(5), 545-555.

Bondü, R., & Krahé, B. (2015). Links of justice and rejection sensitivity with aggression in childhood and adolescence. *Aggressive Behavior*, *41*(4), 353-368.

Canty-Mitchell, J., & Zimet, G. D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology*, *28*(3), 391-400.

Chango, J. M., McElhaney, K. B., Allen, J. P., Schad, M. M., & Marston, E. (2012). Relational stressors and depressive symptoms in late adolescence: Rejection sensitivity as a vulnerability. *Journal of Abnormal Child Psychology*, *40*(3), 369-379.

Cillessen, A. H., & Lansu, T. A. (2015). Stability, correlates, and time-covarying associations of peer victimization from grade 4 to 12. *Journal of Clinical Child & Adolescent Psychology*, *44*(3), 456-470.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155.

Cook, C. R., Williams, K. R., Guerra, N. G., & Kim, T. (2009). Variability in the prevalence of bullying and victimization. *Handbook of Bullying in Schools: An International Perspective*, 347-362.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly*, *25*(2), 65.

Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multi informant approach. *Journal of Consulting and Clinical Psychology*, *66*, 337–347. doi:10.1037=0022-006X.66.2.337

Cumsille, P. E., & Epstein, N. (1994). Family cohesion, family adaptability, social support, and adolescent depressive symptoms in outpatient clinic families. *Journal of Family Psychology*, *8*(2), 202.

Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review, 36*(3), 383-406. doi:10.1080/02796015.2007.12087930

Downey, G., Bonica, C., & Rincon, C. (1999). Rejection sensitivity and adolescent romantic relationships. *The development of romantic relationships in adolescence*, 148-174.

Downey, G., Lebolt, A., Rincón, C., & Freitas, A. L. (1998). Rejection sensitivity and children's interpersonal difficulties. *Child Development*, *69*(4), 1074-1091.

Dyer, K., & Teggart, T. (2007). Bullying experiences of child and adolescent mental health service-users: A pilot survey. *Child Care in Practice*, *13*(4), 351-365. doi:10.1080/13575270701488733

Enders, C. K. (2001). The impact of nonnormality on full information maximum-likelihood estimation for structural equation models with missing data. *Psychological Methods*, *6*, 352–370.

Eşkisu, M. (2014) The Relationship between Bullying, Family Functions, Perceived Social Support among High School Students. *Procedia*, *159*, 492–496.

Fontana, A., De Panfilis, C., Casini, E., Preti, E., Richetin, J., & Ammaniti, M. (2018). Rejection sensitivity and psychopathology symptoms in early adolescence: The moderating role of personality organization. *Journal of Adolescence*, *67*, 45-54.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, *63*(1), 103-115.

Gao, S., Assink, M., Cipriani, A., & Lin, K. (2017). Associations between rejection sensitivity and mental health outcomes: A meta-analytic review. *Clinical Psychology Review*, *57*, 59-74.

Goldbaum, S., Craig, W. M., Pepler, D., & Connolly, J. (2003). Developmental trajectories of victimization: Identifying risk and protective factors. *Journal of Applied School Psychology*, *19*(2), 139-156.

Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, *108*(2), e31-e31.

Gralinski-Bakker, J. H., Hauser, S. T., Billings, R. L., & Allen, J. P. (2005). Risks along the road to adulthood: Challenges faced by youth with serious mental disorders. In D. W. Osgood, E. M. Foster, C. Flanagan, & G. R. Ruth (Eds.), On your own without a net: The transition to adulthood for vulnerable populations. Chicago, IL: University of Chicago Press, pp. 272-303.

Hartung, C. M., Little, C. S., Allen, E. K., & Page, M. C. (2011). A psychometric comparison of two self-report measures of bullying and victimization: Differences by sex and grade. *School Mental Health*, *3*(1), 44-57.

Hlavac, Marek (2018). Stargazer: Well-formatted regression and summary statistics tables. R package version 5.2.2. https://CRAN.R-project.org/package=stargazer

Hunt, C., Peters, L., & Rapee, R. M. (2012). Development of a measure of the experience of being bullied in youth. *Psychological assessment*, *24*(1), 156. doi:10.1037/a0025178

Kanchewa, S. S., Yoviene, L. A., Schwartz, S. E., Herrera, C., & Rhodes, J. E. (2018). Relational experiences in school-based mentoring: The mediating role of rejection sensitivity. *Youth & Society*, *50*(8), 1078-1099. doi:10.1177/0044118X16653534

Kärnä, A., Voeten, M., Little, T. D., Poskiparta, E., Kaljonen, A., & Salmivalli, C. (2011). A large□scale evaluation of the KiVa antibullying program: Grades 4–6. *Child development*, *82*(1), 311-330. doi:10.1111/j.1467-8624.2010.01557.x

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization?. *Developmental Psychology*, *38*(2), 267. doi:10.1037/0012-1649.38.2.267

Kokkinos, C. M., & Panayiotou, G. (2004). Predicting bullying and victimization among early adolescents: Associations with disruptive behavior disorders. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, *30*(6), 520-533.

Koster, N., de Maat, D. A., Schreur, M., & van Aken, M. A. (2018). How borderline personality characteristics affect adolescents' life satisfaction: The role of rejection sensitivity and social relations. *European Journal of Developmental Psychology*, *15*(5), 594-607. doi:10.1080/17405629.2017.1321983

La Greca, A., Davila, J., & Siegel, R. (2008). Peer relations, friendships, and romantic relationships: implications for the development and maintenance of depression in adolescents. In N. Allen, & L. Sheeber (Eds.), *Adolescent Emotional Development and the Emergence of Depressive Disorders*.

La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression?. *Journal of Clinical Child and Adolescent Psychology*, *34*(1), 49-61.

Laursen, B., Bukowski, W. M., Aunola, K., & Nurmi, J. E. (2007). Friendship moderates prospective associations between social isolation and adjustment problems in young children. *Child Development*, *78*, 1395–1404.

Lee, T., & Cornell, D. (2009). Concurrent validity of the Olweus bully/victim questionnaire. *Journal of School Violence*, *9*(1), 56-73.

Lev-Wiesel, R., Nuttman-Shwartz, O., & Sternberg, R. (2006). Peer rejection during adolescence: Psychological long-term effects—A brief report. *Journal of Loss and Trauma*, *11*(2), 131-142.

Lindsey, M. A., Joe, S., & Nebbitt, V. (2010). Family matters: The role of mental health stigma and social support on depressive symptoms and subsequent help seeking among African American boys. *Journal of Black Psychology*, *36*(4), 458-482.

London B, Downey G, Bonica C, Paltin I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence*, *17*, 481–506. doi:10.1111/j.1532-7795.2007.00531.x.

Lund, R., Nielsen, K. K., Hansen, D. H., Kriegbaum, M., Molbo, D., Due, P., & Christensen, U. (2008). Exposure to bullying at school and depression in adulthood: A study of Danish men born in 1953. *The European Journal of Public Health*, *19*(1), 111-116.

Luukkonen, A. H., Räsänen, P., Hakko, H., Riala, K. (2010). Bullying behavior in relation to psychiatric disorders and physical health among adolescents: A clinical cohort of 508 underage inpatient adolescents in Northern Finland. *Psychiatry Research*, *178*(1), 166-170.

McDonald, K.L., Bowker, J.C., Rubin, K.H., Laursen, B., & Duchene, M.S. (2010). Interactions between rejection sensitivity and supportive relationships in the prediction of adolescents' internalizing difficulties. *Journal of Youth and Adolescence*, *39*, 53-574. doi: 10.1007/s10964-010- 9519-4

McLachlan, J., Zimmer-Gembeck, M. J., & McGregor, L. (2010). Rejection sensitivity in childhood and early adolescence: Peer rejection and protective effects of parents and friends. *Journal of Relationships Research*, *1*(1), 31-40.

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, *55*(5), 602-611. doi:10.1016/j.jadohealth.2014.06.007

Munson, M. R., Brown, S., Spencer, R., Edguer, M., & Tracy, E. (2015). Supportive relationships among former system youth with mental health challenges. *Journal of Adolescent Research*, *30*(4), 501-529.

Newman, D. A. (2003). Longitudinal modelling with randomly and systematically missing data: A simulation of ad hoc, maximum likelihood, and multiple imputation techniques. *Organizational Research Methods*, *6*, 328 –362.

Olweus, D. (1996). *The revised Olweus bully/victim questionnaire*. University of Bergen, Research Center for Health Promotion.

Pellegrini, A. D., & Bartini, M. (2000). A longitudinal study of bullying, victimization, and peer affiliation during the transition from primary school to middle school. *American Educational Research Journal*, *37*(3), 699-725. doi:10.3102/00028312037003699

Perren, S., Ettekal, I., & Ladd, G. (2013). The impact of peer victimization on later maladjustment: Mediating and moderating effects of hostile and self□blaming attributions. *Journal of Child Psychology and Psychiatry*, *54*(1), 46-55.

Pouwels, J. L., Souren, P. M., Lansu, T. A., & Cillessen, A. H. (2016). Stability of peer victimization: A meta-analysis of longitudinal research. *Developmental Review*, *40*, 1-24.

Prinstein, M. J., & Aikins, J. W. (2004). Cognitive moderators of the longitudinal association between peer rejection and adolescent depressive symptoms. *Journal of Abnormal Child Psychology*, *32*(2), 147-158.

Prinstein, M. J., Borelli, J. L., Cheah, C. S., Simon, V. A., & Aikins, J. W. (2005). Adolescent girls' interpersonal vulnerability to depressive symptoms: a longitudinal examination of reassurance-seeking and peer relationships. *Journal of Abnormal Psychology*, *114*(4), 676.

Rigby, K. E. N. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of adolescence*, *23*(1), 57-68. doi:10.1006/jado.1999.0289

Rigby, K., & Slee, P. T. (1993). Children's attitudes towards victims. *Understanding and managing bullying*, 119-135.

Roland, E. (2002). Bullying, depressive symptoms and suicidal thoughts. *Educational Research*, *44*(1), 55-67. doi:10.1080/00131880110107351

Rosen, P. J., Milich, R., & Harris, M. J. (2007). Victims of their own cognitions: Implicit social cognitions, emotional distress, and peer victimization. *Journal of Applied Developmental Psychology*, *28*(3), 211-226.

Rosen, P. J., Milich, R., & Harris, M. J. (2009). Why's everybody always picking on me? Social cognition, emotion regulation, and chronic peer victimization in children. In *Bullying Rejection & Peer Victimization* (pp. 79-100). Springer New York, NY.

Salmon, G., James, A., Cassidy, E. L., & Javaloyes, M. A. (2000). Bullying a review: Presentations to an adolescent psychiatric service and within a school for emotionally and behaviourally disturbed children. *Clinical Child Psychology and Psychiatry*, *5*(4), 563-579.

Schacter, H. L., White, S. J., Chang, V. Y., & Juvonen, J. (2015). "Why me?": Characterological self-blame and continued victimization in the first year of middle school. *Journal of Clinical Child & Adolescent Psychology*, *44*(3), 446-455.

Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling psychology*, *57*(1), 1.

Schneider, S. K., O'donnell, L., Stueve, A., & Coulter, R. W. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health*, *102*(1), 171-177.

Siegel, R. S., La Greca, A. M., & Harrison, H. M. (2009). Peer victimization and social anxiety in adolescents: Prospective and reciprocal relationships. *Journal of Youth and Adolescence*, *38*, 1096 –1109. doi: 10.1007/s10964-009-9392-1

Silvers, J. A., McRae, K., Gabrieli, J. D., Gross, J. J., Remy, K. A., & Ochsner, K. N. (2012). Age-related differences in emotional reactivity, regulation, and rejection sensitivity in adolescence. *Emotion*, *12*(6), 1235.

Snyder, J., Brooker, M., Patrick, M. R., Snyder, A., Schrepferman, L., & Stoolmiller, M. (2003). Observed peer victimization during early elementary school: Continuity, growth, and relation to risk for child antisocial and depressive behavior. *Child Development*, *74*(6), 1881-1898. doi:10.1046/j.1467-8624.2003.00644.x

Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, *29*(3), 239-268.

Sourander, A., Helstelä, L., Helenius, H., & Piha, J. (2000). Persistence of bullying from childhood to adolescence: A longitudinal 8-year follow-up study. *Child Abuse & Neglect*, *24*(7), 873-881. doi: 10.1016/S0145-2134(00)00146-0

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, *52*(1), 83-110.

Sweeting, H., Young, R., West, P., & Der, G. (2006). Peer victimization and depression in early–mid adolescence: A longitudinal study. *British Journal of Educational Psychology*, *76*(3), 577-594. doi:10.1348/000709905X49890

Thomas, K. K., & Bowker, J. C. (2015). Rejection sensitivity and adjustment during adolescence: Do friendship self-silencing and parent support matter? *Journal of Child and Family Studies*, *24*(3), 608-616.

Tierney, N. (2017). Visdat: Visualising whole data frames. *Open Source Software*, 2(16), 355. doi:10.21105/joss.00355.

Wagner, M., & Davis, M. (2006). How are we preparing students with emotional disturbances for the transition to young adulthood? Findings from the National Longitudinal Transition Study–2. *Journal of Emotional and Behavioral Disorders*, *14*, 86-98.

Wediko Summer Program: Therapeutic camp. (n.d.). Retrieved May 10, 2020, from https://www.wediko.org/our-services/wediko-summer-program/overview

Ybarra, M. L., Mitchell, K. J., Palmer, N. A., & Reisner, S. L. (2015). Online social support as a buffer against online and offline peer and sexual victimization among US LGBT and non-LGBT youth. *Child abuse & neglect*, *39*, 123-136. doi:10.1016/j.chiabu.2014.08.006

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30-41.

Zimmer-Gembeck, M. J. (2016). Peer Rejection, victimization, and relational self□system processes in adolescence: Toward a transactional model of stress, coping, and developing sensitivities. *Child Development Perspectives*, *10(2),* 122-127.

Zimmer-Gembeck, M. J., Nesdale, D., Webb, H. J., Khatibi, M., & Downey, G. (2016). A longitudinal rejection sensitivity model of depression and aggression: Unique roles of anxiety, anger, blame, withdrawal and retribution. *Journal of Abnormal Child Psychology*, *44*(7), 1291-1307.

Zimmer-Gembeck, M. J., Trevaskis, S., Nesdale, D., & Downey, G. A. (2014). Relational victimization, loneliness and depressive symptoms: Indirect associations via self and peer reports of rejection sensitivity. *Journal of Youth and Adolescence*, *43*(4), 568-582.

Zwierzynska, K., Wolke, D., & Lereya, T. S. (2013). Peer victimization in childhood and internalizing problems in adolescence: A prospective longitudinal study. *Journal of Abnormal Child Psychology*, *41*, 309–323.

Tables

Table 1
Descriptive Statistics

Scale	M	SD
OBVQ- Global Victimization	2.19	1.47
OBVQ- Total Victimization	1.74	0.78
Anxious RS	10.45	7.24
Angry RS	7.40	3.70
Perceived Support	5.30	1.45

Note. RS = rejection sensitivity.

Table 2
Correlations among key variables

Variable	1	2	3
1. OBVQ – Total Victimization			
2. Perceived Support	-.31		
3. Anxious RS	.57***	.18	
4. Angry RS	.61***	.00	.78***

Note. RS = rejection sensitivity.

Table 3

Hierarchical Regression Analysis Predicting Peer Victimization from Rejection Sensitivity and Perceived Social Support.

Predictors		β	*t*	*ΔF*	df	ΔR^2	R^2
Step 1							0.331
	Age	-0.196	-1.456				
	Gender (0 = male, 1 = female)	0.531***	3.946				
Step 2				5.673**	(2, 35)	0.164	0.495
	Age	-0.232	-1.801				
	Gender (0 = male, 1 = female)	0.335*	2.499				
	Anxious RS	0.256	1.235				
	Angry RS	0.222	1.108				
Step 3				8.376**	(1, 34)	0.100	0.595
	Age	-0.161	-1.349				
	Gender (0 = male, 1 = female)	0.326*	2.677				
	Anxious RS	0.405*	2.071				
	Angry RS	0.128	0.695				
	Perceived Support	-0.344**	-2.894				
Step 4				1.351	(2, 32)	0.032	0.626
	Age	-0.143	-1.207				
	Gender (0 = male, 1 = female)	0.275*	2.193				
	Anxious RS	0.045	0.056				
	Angry RS	1.293	1.696				
	Perceived Support	0.136	0.402				
	Perceived Support: Anxious RS	0.472	0.551				
	Perceived Support : Angry RS	-1.370	-1.602				

*Note: N = 41. * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$. RS = Rejection Sensitivity.*

Appendix

Wediko Survey – Time 1

ID #: _____

Age: _____

Grade: _____

Gender: (circle one)

Male

Female

Trans Male/Trans Man

Trans Female/Trans Woman

Genderqueer/Gender non-conforming

Other:_____

Circle your Race/Ethnicity:

1. Non-Hispanic White
2. Hispanic/Latino(a)/x
3. Black
4. Asian-American
5. Other (fill in: _____)

Children's Rejection Sensitivity Questionnaire

Please imagine yourself in each of the following situations described here and tell us how you would feel in each.

1. Imagine you want to buy a present for someone who is really important to you, but you don't have enough money. So you ask a kid in your class if you could please borrow some money. The kid says, "Okay, wait for me outside the front door after school. I'll bring the money." As you stand outside waiting, you wonder if the kid will really come.

How NERVOUS would you feel, RIGHT THEN, about whether or not the kid will show up?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the kid will show up?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the kid will show up to give you the money?

YES!!! **NO!!!**

1 2 3 4 5 6

2. Imagine you are the last to leave your classroom for lunch one day. As you're running down the stairs to get to the cafeteria, you hear some kids whispering on the stairs below you. You wonder if they are talking about YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think they were saying bad things about you?

YES!!! **NO!!!**

1 2 3 4 5 6

3. Imagine that a kid in your class tells the teacher that you were picking on him/her. You say you didn't do it. The teacher tells you to wait in the hallway and she will speak to you. You wonder if the teacher will believe you.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will believe your side of the story?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will believe your side of the story?

not mad **very, very mad**

1 2 3 4 5 6

Do you think she will believe your side of the story?

YES!!! **NO!!!**

1 2 3 4 5 6

4. Imagine you had a really bad fight the other day with a friend. Now you have a serious problem and you wish you had your friend to talk to. You decide to wait for your friend after class and talk with him/her. You wonder if your friend will want to talk to you.

How NERVOUS would you feel, RIGHT THEN, about whether or not your friend will want to talk to you and listen to your problem?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not your friend will want to talk to you and listen to your problem?

not mad **very, very mad**

1 2 3 4 5 6

Do you think he/she will want to talk to you and listen to your problem?

YES!!! **NO!!!**

1 2 3 4 5 6

5. Imagine that a famous person is coming to visit your school. Your teacher is going to pick five kids to meet this person. You wonder if she will choose you…

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the teacher will choose YOU to meet the special guest?

YES!!! **NO!!!**

1 2 3 4 5 6

6. Imagine you have just moved and you are walking home from school. You wish you had someone to walk home with. You look up and see in front of you another kid from class, and you decide to walk up to this kid and start talking. As you rush to catch up, you wonder if he/she will want to talk to you.

How NERVOUS would you feel, RIGHT THEN, about whether or not he/she will want to talk to you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not he/she will want to talk to you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think he/she will want to talk to you?

YES!!! **NO!!!**

1 2 3 4 5 6

7. Now imagine that you're back in class. Your teacher asks for a volunteer to help plan a party for your class. Lots of kids raise their hands so you wonder if the teacher will choose YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the teacher will choose YOU?

YES!!! **NO!!!**

1 2 3 4 5 6

8. Imagine it's Saturday and you're carrying groceries home for your family. It is raining hard and you want to get home FAST. Suddenly, the paper bag you are carrying rips. All your food tumbles to the ground. You look up and see a couple of kids from your class walking quickly. You wonder if they will stop and help you.

How NERVOUS would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think they will offer to help you?

YES!!! **NO!!!**

1 2 3 4 5 6

9. Pretend you have moved and you are going to a different school. In this school, the teacher lets the kids in the class take home a video game to play with on the weekend. Every week so far, you have watched someone else take it home. You decide to ask the teacher if YOU can take home the video game this time. You wonder if she will let you have it.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will let you take the video game home this time?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will let you take the video game home this time?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the teacher is going to let you take home the video game this time?

YES!!! **NO!!!**

1 2 3 4 5 6

10. Imagine you're back in your classroom, and everyone is splitting up into groups to work on a special project together. You sit there and watch lots of other kids getting picked. As you wait, you wonder if the kids will want you for their group.

How NERVOUS would you feel, RIGHT THEN, about whether or not they will choose you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not they will choose you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the kids in your class will choose you for their group?

YES!!! **NO!!!**

1 2 3 4 5 6

11. Imagine that your family has moved to a different neighborhood, and you're going to a new school. Tomorrow is a big math test, and you are really worried because you don't understand this math at all! You decide to wait after class and speak to your teacher. You wonder if she will offer to help you.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will offer to help you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will offer to help you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the teacher will offer to help you?

YES!!! **NO!!!**

1 2 3 4 5 6

12. Imagine you're in the bathroom at school and you hear your teacher in the hallway outside talking about a student with another teacher. You hear her say that she really doesn't like having this child in her class. You wonder if she could be talking about YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher was talking about you?

not nervous **very, very nervous**

1 2 3 4 5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher was talking about you?

not mad **very, very mad**

1 2 3 4 5 6

Do you think the teacher meant YOU when she said there was a kid she didn't like having in the class?

YES!!! **NO!!!**

1 2 3 4 5 6

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement using the following scale:

1	2	3	4	5	6	7
Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree

Note: "Special Person" refers to an important adult in your life other than your parents.

☐1. There is a special person who is around when I am in need.

☐2. There is a special person with whom I can share my joys and sorrows.

☐3. My family really tries to help me.

☐4. I get the emotional help and support I need from my family.

☐5. I have a special person who is a real source of comfort to me.

☐6. My friends really try to help me.

☐7. I can count on my friends when things go wrong.

☐8. I can talk about my problems with my family.

☐9. I have friends with whom I can share my joys and sorrows.

☐10. There is a special person in my life who cares about my feelings.

☐11. My family is willing to help me make decisions.

☐12. I can talk about my problems with my friends.

UNIVERSITY OF ARKANSAS

To:	Katherine C Hyde
From:	Douglas James Adams, Chair IRB Committee
Date:	02/21/2019
Action:	**Expedited Approval**
Action Date:	02/15/2019
Protocol #:	1902175323
Study Title:	The Wediko Project
Expiration Date:	02/14/2020
Last Approval Date:	

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Tim Cavell, Investigator

UNIVERSITY OF ARKANSAS

To:	Katherine C Hyde BELL 4188
From:	Douglas James Adams, Chair IRB Committee
Date:	04/07/2020
Action:	**Expedited Approval**
Action Date:	04/03/2020
Protocol #:	1902175323R001
Study Title:	The Wediko Project
Expiration Date:	02/14/2021
Last Approval Date:	04/03/2020

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Tim Cavell, Investigator