AN INVESTIGATION ON PEER STATUS AND ITS RELATION TO THE TRIPARTITE STRUCTURE OF POSITIVE AND NEGATIVE AFFECT IN SCHOOL CHILDREN

A THESIS SUMBITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN

PSYCHOLOGY

MAY 2004

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Abstract

The present investigation assessed whether or not children from varying sociometric status groups displayed levels of anxiety, depression, and affect in accord with current theory. Additionally, it was investigated whether Social Impact (SI) and Social Preference (SP) mediated the relationship between levels of affect and symptoms indicative of social anxiety and/or depression. A peer sociometric nomination task and questionnaire measures of affect and anxious and depressive symptomatology were administered to 98 third- and sixth-graders from two public schools. Rejected children reported higher levels of depressive symptoms than their average peers. Further, while SI and SP failed to mediate the relationships between self-reported levels of affect and symptoms indicative of social anxiety or depression, both negative affect and SP were shown to make significant and independent contributions towards the prediction of self-reported depressive symptoms. Important limitations of the present study, as well as directions for future sociometric status research, are reviewed.

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Introduction

Longitudinal Differences Between Children of Varying Sociometric Status Groups

Researchers studying peer relationships among children have generally relied on the use of one of two sociometric measures; a nomination format, which requires children to name peers they like most and like least, and/or a rating format, which requires children to rate each one of their peers along one or more dimensions, such as how much they like to play with a certain child (Wicks-Nelson & Israel, 1997). Both of these sociometric measuring formats have generally produced five distinct types of peer status – popular, rejected, neglected, average, and controversial. Popular children are those youth who are well liked and accepted by their peers. Rejected children have few friends and are generally openly disliked by the majority of their peers. Neglected youth have few or no friends, but unlike their rejected peers, are not actively disliked (Ollendick, Weist, Borden, & Greene 1992). Average children are those youth who are generally accepted by their peers, while controversial children are salient within their grade in that they are both actively disliked and liked more than average youth by a significant number of their peers. While the specific operational definitions of each type of peer status may have varied slightly from study to study, a multitude of research investigations on peer status has helped to elucidate numerous longitudinal, as well as concurrent differences, between children of varying sociometric status groups (Bell-Dolan, Foster, & Christopher, 1995; Coie, Lochman, Terry, & Hyman, 1992; Cole & Carpentieri, 1990; Hecht, Inderbitzen, & Bukowski, 1998; Inderbitzen, Walters, & Bukowski, 1997; Newcomb, Bukowski, & Pattee, 1993; Ollendick, et al., 1992; Parker & Asher, 1987).

Both follow-back and follow-up longitudinal studies have linked poor childhood and adolescent peer relations to a host of later adjustment problems during adulthood (Coie et al., 1992; Ollendick et al., 1992; Parker & Asher, 1987). For example, in an often-cited comprehensive review on peer status longitudinal research, Parker and Asher (1987) found that school children experiencing poor peer relations (i.e. rejected and/or neglected youth) oftentimes later suffered from dropping out of school and criminality. These findings appear relatively robust, such that all of the investigations examined by Parker and Asher (1987) varied with respect to using peer-based versus teacher-based assessment techniques, follow-back versus follow-up studying techniques, and high-risk clinic populations versus school samples. Little, however, could be safely concluded regarding the link between prior histories of poor peer acceptance and adult psychopathology, given that the literature regarding this topic at the time of the Parker and Asher (1987) review was incomplete and conflicting. In all, Parker and Asher (1987) examined 39 studies, 54 studies, and 48 studies linking poor peer relations to dropping out of school, criminality, and adult psychopathology, respectively.

In an attempt to evaluate the predictive utility and validity of peer nominated social status, Ollendick et al. (1992) followed 267 popular, rejected, neglected, average, and controversial schoolchildren from rural Southwest Virginia over a period of five years. At five-year follow-up, rejected children were perceived by their peers as less likeable and more aggressive and perceived by their teachers as having more conduct problems, aggression, motor excess, and attentional problems than popular children. They also reported an external locus of control, higher levels of conduct disturbance and substance abuse, performed less well academically, failed more grades, and were more likely to drop out of school and to commit delinquent offenses than popular children. Controversial children were similar to rejected children on all but two measures: teachers viewed them as less conduct-disordered than rejected children and they were less likely to drop out of school than rejected children. Neglected children exhibited minimal differences from popular and average children. They did not differ from average children on any measure but did differ from popular children in that they reported a more external locus of control and were viewed by their peers as less likeable and more withdrawn. Ollendick et al.'s (1992) findings that meaningful longitudinal distinctions can be made between popular and rejected children, but not neglected children, are in accord with other findings in the literature (Newcomb et al., 1993).

Some researchers posit that aggression, which is frequently associated with peer rejection, is the true predictor of both later delinquency and school problems and that peer rejection is simply a marker variable for aggression (Coie, Lochman, Terry, & Hyman, 1992). Coie et al. (1992) investigated the predictive powers of aggression and peer rejection by following two large cohorts (588 children in Cohort A and 559 children in Cohort B) of Black third-grade children from low-income families over a period of 3 years into early adolescence. Adjustment at the end of the three-year period was assessed by teacher-, parent-, and by adolescent self-report ratings. Teachers rated participants in the areas of language arts achievement, mathematics achievement, overall academic achievement, social skills, conduct, and maturity. Parents rated their children's behavior using the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) and adolescents were interviewed using the Child Assessment Schedule (CAS; Hodges, 1987), a semi-structured interview that generates information relevant for diagnosis using criteria from the *Diagnostic and Statistical Manual of Mental Disorders III* (3rd ed.; American Psychiatric Association, 1980). Results from multiple regression analyses indicated that aggression predicted both self-reported and parent-reported externalizing disorders, whereas peer status predicted both self-reported and parent-reported internalizing disorders. Coie et al. (1992) also found that the full predictive model of aggression and peer social preference together made negative prediction outcomes the best when the child was the reporter of internalizing problems and when the parent was the reporter of externalizing problems. In sum, it appears that aggression and peer rejection each make significant predictive contributions to problems in adolescence (Coie et al., 1992).

The findings that children suffering from poor peer status, particularly those in the rejected category, are at risk for a host of later behavioral and academic problems seem to be fairly robust in nature. Support for a link between poor peer status and adult psychopathology is more mixed and this area warrants future research.

Concurrent Differences Between Children of Varying Sociometric Status Groups

While some researchers have focused on the predictive utility of childhood peer status, others have focused on concurrent differences between children of varying sociometric status groups. Concurrent differences between rejected, neglected, controversial, average, and popular children have been characterized in numerous studies, and collectively indicate that children from varying sociometric status groups differ in terms of cognitive abilities and on global indices of behavior such as sociability, aggression, and withdrawal (Bell-Dolan et al., 1995; Cole & Carpentieri, 1990; Hecht et al., 1998; Inderbitzen et al., 1997; Newcomb et al., 1993). For example, in a comprehensive meta-analytic review of 41 studies examining peer status among children and adolescents, Newcomb et al. (1993) examined the relation between poor peer status and the broadband categories of sociability, aggression, withdrawal, and cognitive abilities. The broadband categories of sociability, aggression, and withdrawal were further subdivided into narrow-band categories to allow for the possibility of detecting true variability within these individual categories. The broadband category of sociability included seven narrow-band areas, (1) social interaction, (2) problem solving, (3) communication skill, (4) positive social interaction, (5) positive social traits, (6) friendship relations, and (7) adult interaction. Aggression included three narrow-band categories, (1) disruptive, (2) physical, and (3) negative. The broadband withdrawal category also included three narrow band areas, (1) loneliness, (2) depression, and (3) anxiety. The broadband category of cognitive abilities served as a generic measure of cognitive functioning. Newcomb et al. (1993) found that popular children tended to show higher levels of sociability and cognitive abilities and lower levels of aggression and withdrawal than did average children. Rejected children on the other hand were shown to be more aggressive and withdrawn and less sociable and cognitively skilled than average children. More specifically, the investigators found that rejected youth experience higher levels of depression and anxiety than average youth did. Interestingly, the neglected sociometric group evidenced more withdrawal and *less* depression than did the average children. Further, neglected children displayed the fewest differences from the average children and there seemed to be an overall lack of support for the hypothesis that neglected children are an at-risk group. Newcomb et al. (1993) suggest protective factors, such as having one good friend who does not attend the same school or is not in the same grade, may buffer neglected children from the effects of poor peer relations. Overall, it appeared that serious concern for the neglected sociometric group is most likely unjustified.

Some researchers posit that weaknesses in the literature on peer status include focusing exclusively on boys as participants and/or failing to examine boys and girls separately (Bell-Dolan et al., 1995). In other words, girls have seldom been studied in their own right. In an attempt to help address this weakness, Bell-Dolan et al. (1995) examined a sample of 129 third- through fifth-grade girls along two dimensions, (1) peer status (popular, rejected, neglected, or average) and (2) withdrawal status (withdrawn or not withdrawn). Peer status was ascertained via Coie et al.'s (1982) standard scoring model and withdrawal status was based on direct observations using an observation code adapted from Rubin's Play Observation Schedule (1985). As measured by the Child Depression Inventory (CDI, Kovacs; 1992), the Social Anxiety Scale for Children (SASC; LaGreca et al., 1988), the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1978) and the CBCL-Teacher Form (CBCL-T; Achenbach & Edelbrock, 1983), Bell-Dolan et al.'s (1995), results supported the notion that rejected girls are at risk for concurrent self- and teacher- identified internalizing problems in the form of social avoidance and depression. Bell-Dolan et al. (1995) failed to find differences between neglected girls and their peers on depression and anxiety. They acknowledge that this may be due to a host of other factors including the fact that so-called neglected children may, in reality, have one or more friends who did not participate in the study because they are in a different classroom or at a different school. The finding that so-called neglected children do not represent a high-risk group is somewhat in accord with the aforementioned findings from Newcomb et al.'s (1993) meta-analysis.

In a more recent study, Inderbitzen, Walters, and Bukowski (1997) examined sociometric status and social anxiety among 973 sixth-, seventh-, and eighth-grade students from eight different schools within the same state. Social anxiety was assessed via the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, in press, La Greca & Stone, 1993). Sociometric status was assessed using Coie et al.'s (1982) standard scoring model and the rejected group was further divided into two smaller subtypes, an aggressive-rejected subtype and a submissive-rejected subtype, using methods from Parkhurst and Asher (1992). As indicated by total SAS-A total scores, results showed that both the rejected and neglected children, although not significantly different from one another, reported significantly higher social anxiety than did the average, popular, and controversial children, who did not differ significantly from one another. In terms of SAS-A's subscales, the rejected group reported a greater fear of negative evaluation (FNE) than did the average, popular, and controversial groups, which did not significantly differ from one another. Further, in terms of general social inhibition (SAD-G) subscale, both the neglected and rejected groups reported higher scores than did the popular group. With regard to the differences between the two rejected subgroups on social anxiety concerns, the submissive-rejected subgroup and neglected group reported the highest SAS-A total scores while the average group and the aggressive-rejected subgroup reported the lowest. In sum, these findings indicate that neglected and rejected students experience greater levels of social anxiety than average, popular, or controversial students and that the submissive-rejected subgroup reported the highest levels of social anxiety and were significantly more anxious than the aggressive-rejected subgroup (Inderbitzen et al., 1997).

In an interesting study investigating the peer social status of children with anxiety disorders, Strauss, Lahey, Frick, Frame, and Hynd (1988) compared the social statuses of a group of children with a *DSM-III* anxiety disorder (n = 16), a group of children with *DSM-III* conduct disorder (n = 26), and a non-referred control group (n = 45). Utilizing Coie et al.'s (1982) standard scoring model, Strauss et al. (1988) found that children with clinically significant anxiety disorders were liked significantly less by their peers as compared to non-referred children. Further, anxiety-disordered children were liked by their peers as infrequently as children with conduct disorder. Compared to non-referred children, children with anxiety disorders tended to be neglected by their classmates while children with conduct disorder tended to be rejected by their peers. It should be noted, however, that 63% of the anxious children and 46% of the conduct disorder children did not fall into any of the specified sociometric categories and that a substantial proportion of both clinic groups did not suffer from poor peer relations (Straus et al., 1988).

At least one study has challenged the notion that rejected children experience higher levels of anxiety than their average or popular peers (Crick & Ladd, 1993). In their investigation, Crick and Ladd (1993) administered Coie et al.'s (1982) standard sociometric questionnaire and three instruments designed to assess feelings of loneliness, social anxiety, social avoidance, and attributions for social outcomes. Rejected children did not experience higher levels of (social) anxiety than popular or average children; rather, neglected children reported significantly lower levels of anxiety than did average and rejected children, who did not differ from one another. Results from social distress measures, however, indicated that when compared to controversial and neglected children, rejected children experienced relatively high levels of social distress and reported significantly higher levels of loneliness than all other groups. Further, the rejected status group had the largest percentage of members who could be classified as experiencing multiple forms of distress (Crick & Ladd, 1993).

Some investigators have chosen to focus on the link between poor peer status and depression and/or loneliness (Cole & Carpentieri, 1990; Asher & Wheeler, 1985; Parkhurst & Asher, 1992; Hecht, Inderbitzen, & Bukowski, 1992). In one investigation, Cole and Carpentieri (1990) examined the overlap between child depression and conduct disorder as a function of peer social status among 1,464 non-referred fourth-graders in a mid-sized midwestern city. Social status was assessed by peer nomination and both depression and conduct disorder were assessed by self-report measures such as the CDI (Kovacs, 1982), peer nomination, and teacher rating. Rejected children were found to be significantly more depressed than popular, neglected, and average children on all three measures (self-report, peer nomination, and teacher rating) of depression. Popular children, on the other hand, were significantly less depressed than all other groups on both self-report and teacher rating measures. No differences were found between the neglected, controversial, and average status groups on any measure of depression. Children who exhibited conduct-disordered behaviors tended to be rejected or controversial and children who exhibited both conduct-disordered behaviors and depression also tended to be rejected or controversial (Cole & Carpentieri, 1990).

In one investigation, Asher and Wheeler (1985) examined loneliness among 200 third- through sixth-grade children. Sociometric status was determined by Coie et al.'s

(1982) standard scoring method and loneliness was assessed via a loneliness questionnaire designed by the investigators. Asher and Wheeler (1985) found that out of all of the status groups, rejected children reported the greatest loneliness while popular children reported the least. Rejected children differed significantly from neglected, controversial, and popular children and neglected children did not differ significantly from the other status groups (Asher & Wheeler, 1985).

Some studies have supported the notion that two subgroups of the rejected status group (i.e. submissive-rejected and aggressive-rejected) differ in terms of anxiety and/or depression (Hecht et al., 1998; Parkhurst & Asher, 1992) from each other and/or the main status groups. Collectively, these studies suggested that submissive-rejected children tend to exhibit high levels of loneliness and anhedonia (symptomatic of depression) as well as worrying about being humiliated or rejected (symptomatic of social anxiety). Aggressive-rejected children, on the other hand, have been reported to display higher levels of disruptiveness, interpersonal problems, and feelings of ineffectiveness than the average and/or submissive-rejected status groups (Hecht et al., 1998; Parkhurst & Asher, 1992).

Taken together, these studies indicate that rejected children tend to experience higher levels of anxiety and depression (and/or loneliness, symptomatic of depression) than their average or popular peers (Asher & Wheeler, 1985; Bell-Dolan et al., 1995; Cole & Carpentieri, 1990; Crick & Ladd, 1990; Hecht et al., 1998; Interbitzen et al., 1997; Newcomb et al., 1993; Parkhurst & Asher, 1992). These studies also seem to indicate that serious concern for the neglected sociometric status group appears unwarranted, given that this status group often differs only minimally from average and/or popular groups in terms of feelings of depression, anxiety, and/or loneliness (Asher & Wheeler, 1985; Bell-Dolan et al., 1995; Cole & Carpentieri, 1990; Ollendick et al., 1992; Parkhurst & Asher, 1992). In fact, there is support for the notion that neglected youth experience lower levels of depression and anxiety than their average peers (Crick & Ladd, 1993; Newcomb et al., 1993).

With these issues in mind, the current study addressed several questions. I first investigated whether or not youth from varying sociometric status groups displayed patterns of positive and negative affect in a manner consistent with the often-cited tripartite model of emotion. The tripartite theory of emotion currently states that a general distress factor, negative affect, underlies both anxiety and depression and that anhedonia, or low positive affect, is uniquely associated with depression (Brown, Chorpita, & Barlow, 1998; Clark & Watson, 1991; Mineka, Clark, & Watson, 1998).

The Tripartite Theory of Emotion

Clark and Watson (1991) originally theorized in their tripartite model of emotion that (1) a general distress factor, negative affect (NA), is associated with both anxiety and depression, (2) low positive affect (PA) is uniquely associated with depression, and (3) physiological hyperarousal (PH) is uniquely associated with anxiety. In other words, Clark and Watson's (1991) tripartite model of emotion states that negative affect and low positive affect underlie depression while negative affect and physiological hyperarousal underlie anxiety. Negative affect can be conceptualized as a general distress factor associated with feelings of being upset, guilty, afraid, sad, scornful, disgusted, and worried. Positive affect, on the other hand, can be conceptualized as the extent to which a person feels zest for life and can best be characterized by expressions such as active, delighted, interested, enthusiastic, and proud (Watson & Clark, 1991). Physiological hyperarousal can be described as physiological tension and hyperarousal of anxiety such as increased heart rate, respiration rate, and muscle tension that often accompany anxiety (Watson et al., 1995).

Since its original conception in 1991, Clark and Watson's tripartite model of emotion has benefited from empirical scrutiny by the scientific community in that it has been reformulated and refined within the past several years (Brown et al., 1998; Mineka et al., 1998). For example, Brown et al. (1998) examined Clark and Watson's (1991) tripartite model of emotion among 350 adults with anxiety disorders and found that, although both the NA and PA factors significantly linked with the various DSM-IV disorder factors in a manner generally consistent with Clark and Watson's (1991) tripartite model of emotion, the PH factor did not perform as expected. More specifically, in accord with Clark and Watson's (1991) tripartite model of emotion, all factor analytic paths from the NA factor to the Depression (DEP) (.67), Generalized Anxiety Disorder (GAD) (.74), Panic Disorder/Agoraphobia (PD/A) (.65), Obsessive-Compulsive Disorder (OCD) (.43), and Social Phobia (SOC) (.31) factors were significant. Further, a significant negative path from the PA factor to the DEP (-.29) factor was found. Contrary to expectation, however, a significant negative path from PA to SOC (which was virtually identical to the path from the PA factor to the DEP factor) (-.28) was discovered. This unique relationship has been hypothesized to exist based on the interpersonal character of low PA, such as low confidence and unassertiveness, seen in those suffering from social phobia (Clark, Watson, & Mineka, 1994). In addition to this unexpected finding, PH (referred to as autonomic arousal or AA in this investigation) was significantly and positively related only to the PD/A factor (.67) and significantly and negatively related to the GAD factor (-.22). In discussing the implications of their findings, Brown et al. (1998) suggest that "although autonomic arousal had been initially posited to be a discriminating feature for the entire range of anxiety disorders, these data suggest that the relevance of autonomic arousal may be limited primarily to panic disorder/agoraphobia" (p. 189).

A review article on the comorbidity of depression and anxiety disorders by Mineka et al. (1998) acknowledged Brown et al.'s (1998) refinement of Clark and Watson's (1991) tripartite model of emotion and the need for future research. More specifically, Mineka et al., (1998) state that it appears that anxious arousal seems characteristic only of panic disorder/agoraphobia and should no longer be viewed as broadly characteristic of all anxiety disorders. Further, a single specific factor, such as the physiological hyperarousal component of Clark and Watson's (1991) tripartite model, is insufficient to account fully for all of the variance subsumed within the various anxiety disorders. Future research to specify the unique components that make up each anxiety disorder is needed.

In addition to the findings regarding PH's function in the tripartite model of emotion, it appears that while both NA and PA act as potential risk factors for anxiety and mood disorders as temperament-based constructs, PH seems to be related more towards anxiety sensitivity and does not appear to be temperament-based (Clark et al., 1994; Lonigan & Phillips, 2001)

In recent years, there have been growing efforts to examine the tripartite model of emotion in children and adolescents (Chorpita, Albano, & Barlow, 1998; Chorpita, Plummer, & Moffitt, 2001; Joiner, Cantanzaro, Laurent, 1996; Lonigan, Hooe, David, & Kistner, 1999). In one of the first attempts to examine the tripartite model of emotion among children, Joiner et al. (1996) utilized correlational and factor analytic techniques of rationally-selected items from the Children's Depression Inventory (CDI; Kovacs, 1981, 1992) and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) as well as the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) and found basic support for the tripartite model of emotion among 116 psychiatric inpatients, ages 8 – 16 years-old. More specifically, they found that depression and anxiety overlapped in terms of a generalized NA factor, depression was uniquely associated with low PA, and anxiety was uniquely associated with PH. Although these findings garnered support for Clark and Watson's original (1991) tripartite model of emotion among children and adolescents, as Chorpita and Daleiden (in press) point out, Joiner et al.'s (1996) investigation lacked validated child and adolescent measures of PA, NA, and PH. Specifically, like other early investigators of Clark and Watson's (1991) tripartite model of emotion among children and adolescents (e.g. Chorpita, Albano, & Barlow, 1998), Joiner et al. (1996) combined subsets of items from existing anxiety and depression measures and used an adapted, but not tested, version of an adult measure to operationally define the tripartite constructs of PA, NA, and PH.

In another study that investigated the tripartite theory of emotion among children and adolescents, Chorpita et al. (1998) sought to define the latent constructs associated with anxiety and depression through a structural equations/confirmatory factor-analytic approach among a sample of 216 children and adolescents with a diagnosis of an anxiety disorder or comorbid anxiety and mood disorder. Like Joiner et al. (1996), Chorpita et al. (1996) combined subsets of items from existing anxiety and depression inventories [e.g. Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983), Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978), and Children's Depression Inventory (CDI; Kovacs, 1981)] to measure the tripartite constructs of PA, NA, and PH. Unlike Joiner et al. (1996) however, but in accord with Barlow, Chorpita, and Turovsky (1996), Chorpita et al. (1998) referred to the constructs in the tripartite theory of emotion as Anxiety, Depression, and Fear, respectively analogous to Watson and Clark's (1991) NA, low PA, and PH. Utilizing both parent and child report, Chorpita et al. (1998) found that, in general, their analyses supported the latent constructs of anxiety, depression, and fear as reasonably distinct yet correlated constructs. Chorpita, Albano, and Barlow (1998) finish their investigation with two very important notes of caution: although the collective evidence seems to indicate a tripartite model of latent constructs in explaining depression and anxiety, one should be careful not to draw causal influences from their data, which merely suggest groupings of symptoms. It seems that that in the long run, Chorpita et al. (1998) were correct in putting forth this caveat as subsequent research (e.g. Brown et al. 1998; Mineka et al., 1998) has not fully supported Clark and Watson's (1991) original tripartite theory of emotion in that the construct of PH is currently not believed to occur uniformly across all anxiety disorders.

More recently, Lonigan et al. (1999) administered the Positive and Negative Affect Schedule – Extended Version (PANAS-X; Watson & Clark, 1991), Children's Depression Inventory (CDI; Kovacs, 1981, 1992), and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) and found with confirmatory factor analyses among an older [n = 213, mean age = 14.2 years (*SD* = 1.34)] and younger [n = 152, mean age = 10.3 years (*SD* = 0.68)] sample of children that when compared to a one- and four-factor model of affect, a two-factor orthogonal model of affectivity provided a good fit to children's self-reported affect. In addition, the structure of this model was almost identical between the older and younger groups of children and between girls and boys. Further, an examination of the relations of NA and PA with measures of anxious and depressive symptoms were found to be largely consistent with the tripartite model. More specifically NA, as measured by the PANAS-X, an adult measure of affect, was strongly related to both symptoms of anxiety and depression. Further, PA, as measured by the PANAS-X was more strongly related to depressive symptoms than to symptoms of anxiety.

Most recently, Chorpita et al. (2001) comparatively investigated the tripartite scales developed in Joiner et al.'s (1996) investigation with those developed in Chorpita et al.'s (1998) investigation among a sample of 100 children (mean age = 12.40 years, *SD* = 3.13, range = 6.5 to 17.83, 43% girls and 57% boys) referred to an outpatient clinic specializing in childhood anxiety disorders. As mentioned earlier, these tripartite scales were developed by summing selected items from existing measures of anxiety and depression, such as the CDI (Kovacs, 1981, 1992) and the RCMAS (Reynolds & Richmond, 1978), to represent the tripartite constructs of NA, PA, and PH. When examined in relation to clinical severity ratings (clinician ratings of the severity of an anxiety or mood disorder), Chorpita et al. (2001) found that in general, both definitions showed that NA positively correlated with all anxiety and mood disorder severity ratings while PA significantly negatively correlated with depression, panic, and social phobia severity ratings. Further, Joiner et al.'s (1996) PH scale correlated positively only with panic severity ratings while Chorpita et al.'s (1998) PH scale correlated positively with separation anxiety, panic, and depression severity. Collectively, these findings, combined with Brown et al.'s (1998) findings with adults, converge to suggest that the tripartite construct of PH does not seem to be uniformly distributed among those suffering from anxiety disorders.

In sum then, accumulating evidence has, for the most part, supported Clark and Watson's (1991) tripartite model of emotion. Specifically, findings from multiple investigations have converged to suggest that the tripartite construct of NA is associated with both mood and anxiety disorders, while low levels of PA are uniquely associated with depression. However, the tripartite construct of PH does not seem to be uniformly related to all anxiety disorders, and may only occur with panic disorder/agoraphobia and/or separation anxiety disorder (Brown et al., 1998; Mineka et al., 1998). Further, unlike PA and NA, PH does not seem to be temperamentally based (Clark et al., 1994; Lonigan & Phillips, 2001). Keeping these issues in mind, the current study investigated only the NA and PA factors of the tripartite model of emotion in terms of its relation to anxious and depressive symptomatology among youth from varying sociometric status groups.

A Newly-Afforded Precision in Measuring Tripartite Constructs, Selected Anxiety Disorders, and Depression among Children and Adolescents

In recent years, investigators have noted that when using traditional measures of anxiety and depression, it is often difficult to differentiate anxiety from depression (Stark & Laurent, 2001). This difficulty may stem from the fact that measures traditionally used to identify youth as depressed or anxious [e.g. Children's Depression Inventory (CDI; Kovacs, 1980, 1992); Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978, 1985)] lack discriminant validity, such that scores on these measures are often highly correlated (Stark & Laurent, 2001). In one recent study, Stark and Laurent (2001) conducted a joint factor analysis of the items on the CDI and RCMAS, two frequently utilized measures of depression and anxiety, respectively, to determine whether unique factors of depression and anxiety factors could be identified. Utilizing archival data from 750 school-age children in grades 4 through 7, Stark and Laurent (2001) reported that although support for a unique nine-item depression factor and a unique seven-item anxiety factor existed, the CDI and RCMAS were shown to be more similar than different. More specifically, they found a high correlation (.72) between the total scores on the RCMAS and CDI for their sample and that 71% of the items on the RCMAS and CDI shared characteristics with one another. In addition, several factors, interpreted as the NA component of the tripartite model of emotion (Clark & Watson, 1991), emerged from Stark and Laurent's (2001) joint factor analysis that were composed of items from both the CDI and RCMAS. Stark and Laurent (2001) go on to state that they did not find factors that easily represented the PA or PH factors of Clark and Watson's (1991) tripartite model of emotion and that "instead of trying to awkwardly fit the CDI and RCMAS to current theory [such as Joiner et al. (1996) and Chorpita et al. (1998) who rationally selected items from these instruments to represent the tripartite constructs of PA, NA, and PH], perhaps researchers should consider developing or using instruments designed to examine these theories" (p. 564).

Psychometrically validated child measures of both affect (PANAS-C; Laurent et al., 1999) and selected DSM-IV anxiety disorders and depression (RCADS; Chorpita et al., 2000) appropriate towards measuring constructs in the tripartite theory of emotion have, as of recent years, just arrived. The newly-afforded precision of these recently developed instruments may help to provide insight on the structure of PA and NA in the tripartite theory of emotion in a sample of school children.

In sum, then, the first goal of the current study capitalized on the increased measurement precision afforded by these newly validated child measures to investigate the levels of NA, PA, selected anxiety disorders, and depression among youth from varying sociometric status groups. Unlike previous studies that tried to fit subsets of items from conceptually heterogeneous measures of anxiety and depression (that preceded the tripartite theory of emotion) to represent tripartite constructs, the current investigation utilized inventories tailored to measure tripartite constructs and DSM-IV anxiety and depressive symptoms. The current study is thus one of the first of its kind in terms of employing psychometrically validated child measures of affect and DSM-IV anxiety and mood symptomatology to a large non-clinical sample of children from varying sociometric status groups.

The second goal of the current study investigated whether or not the underlying defining components of peer status, Social Impact (SI) and Social Preference (SP) (Coie et al., 1982; see methods), mediated the relationship between levels of affect and symptomatology indicative of social anxiety and/or depression seen in children from varying sociometric status groups. In other words, I investigated the extent to which the variables of SI or SP (the hypothesized mediator variables) accounted for the relation between the predictor variable of either high or low levels of positive or negative affect and the criteria of symptoms indicative of social anxiety and/or depression. As with the first goal of this study, there existed the potential for this part of the study to make a unique contribution to the existing literature on affect, peer status, social anxiety, and depression in that the possible mediating relationships of SI and SP on affect and symptoms indicative of social anxiety and depression have thus far never been investigated. However, while this study aimed to elucidate the predictive relationship between levels of affect and levels of social anxiety and depression by investigating the effects of a third, previously unexamined variable (i.e. SI and SP variables, respectively), it did not address directionality issues between these three variables.

Predictions

Self-reported levels of affect and anxious and depressive symptomatology among children from varying sociometric status groups.

A total of eight separate 5 (sociometric status) x 2 (school) x 2 (grades) x 2 (gender) ANOVAs were scheduled to be conducted to examine self-reported raw scores on two questionnaires, the Revised Child Anxiety and Depression Scales (RCADS; Chorpita et al., 2000) and the Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999), designed to assess anxious and depressive symptomatology, and positive and negative affect, respectively. Six separate ANOVAs were used to examine scale raw scores on each factor of the RCADS (Chorpita et al., 2000) (e.g. SOC = Social Phobia, SAD = Separation Anxiety Disorder, PD/A = Panic Disorder/Agoraphobia, GAD = Generalized Anxiety Disorder, OCD = Obsessive Compulsive Disorder, and DEP=

Depression). Two separate ANOVAs, one for NA and one for PA, as measured by the PANAS-C (Laurent et al., 1999), were also be performed.

It was specifically predicted that sociometric status would be related to measures of affect and symptoms of anxiety and depression, such that rejected children would be uniformly higher on the dependent variables of NA, SOC, SAD, PD/A, GAD, OCD, and DEP and uniformly lower on the dependent variable of PA than their average peers. This would be demonstrated by a significant main effect for sociometric group, with Dunnett's Test, an a priori test that compares every mean in a set of means against a common mean, showing these specific elevations and one depression in the scores of rejected youth relative to their average peers. In order to protect the experimentwise error rate, a new significance level of .00625 was computed via a Bonferroni-type correction (i.e. an alpha level of .05 divided by eight Dunnett's Tests), and all eight Dunnett's Tests (one for each ANOVA) were performed against this new significance level. The average sociometric status group served as the reference group for all eight Dunnett's Tests. I predicted no significant interactions with school, age, or gender. All of the specific predictions for this portion of the investigation are shown in Table 1.

Relation of affect to symptom measures of anxiety and depression as mediated by Social Impact (SI) and Social Preference (SP).

In order to address the second goal of this study, which aimed to assess whether or not the underlying and defining components of peer status, Social Impact (SI) and Social Preference (SP) (Coie et al., 1982), mediated the relationship between levels of affect and symptoms indicative of social anxiety and/or depression, the following three regression equations were estimated (Baron & Kenny, 1986). First, the mediator was regressed on the independent variable; second, the dependent variable was regressed on the independent variable; and third, the dependent variable was regressed on both the independent variable and on the mediator. Although there was no need for hierarchical or stepwise regression or the computation of any partial or semi-partial correlations, separate coefficients for each equation were estimated and tested (Baron & Kenny, 1986). When taken together, these three regression equations provided the tests of the linkages of the mediation model. In order to establish mediation, the following three conditions must hold: "First, the independent variable must affect the mediator in the first equation; second, the independent variable must be shown to affect the dependent variable in the second equation; and third, the mediator must affect the dependent variable in the third equation" (Baron & Kenny, 1986, p. 1177). If the three conditions above hold in their predicted directions, Baron and Kenny state, "the effect of the independent variable on the dependent variable must be less in the third equation than in the second. Perfect mediation holds if the independent variable has no effect when the mediator is controlled" (p. 1177). In a more general sense, Baron and Kenny state that, "a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion" (p. 1176).

The mediational model that will be investigated for this portion of the study can be seen in Figure 1.

In all, eight separate mediational models were scheduled for testing, and each mediational model utilized the set of three regression equations above (Baron and Kenny, 1986). All of the specific mediational models (i.e. Mediational Models 1 – 8) for this portion of the investigation are shown in Table 2.

It was predicted that both hypothesized mediators (i.e. SP for Mediational Models 1, 2, 5, and 6 and SI for Mediational Models 3, 4, 7, and 8) would provide partial mediation for their respective independent and dependent variables, such that they would account for a significant proportion of the relationship between their respective independent and outcome variables, in all eight models (e.g. Mediational Models 1 – 8).

Method

Participants

Ninety-eight students [50 boys (51%) and 48 girls (49%)] in grades three and six from two different public elementary schools in Honolulu, Hawaii participated in the current study. The mean age for third-grade students ($n = 45$) was 8.95 years ($SD = 0.44$ years) and the mean age for sixth-grade students ($n = 53$) was 11.93 years ($SD = .33$ years). The mean ages of both the third- and sixth-grade samples did not differ significantly between the participating schools. Data were collected and examined from two different grade levels to allow for the comparison of findings from different age groups as well as to investigate the possibility of an interaction that may occur due to student grade level. Only those students with active parental consent and written assent were eligible for participation. Active parental consent rates ranged from 31% (School 1; $n = 47$) to 42% (School 2; $n = 59$). One student whose parents provided parental consent did not assent to his participation in the study. Five students whose parents provided parental consent were absent on the day that the data were collected. One student whose parent provided parental consent was a special education student and could not read at an age level appropriate to understand and complete the questionnaires; his questionnaires were excluded from analyses.

Measures

Peer Sociometric Nomination Task.

Coie, Dodge, and Coppotelli's (1982) standard peer sociometric nomination model was used to determine each child's sociometric peer status (see Appendix A). This peer sociometric nomination procedure required each child to nominate from an attached class roster (listing all the names of the same-grade students whose parents provided active parental consent) three classmates whom he or she likes most and then three whom he or she likes least. Children were reminded of the strict confidentiality of their responses both before and after the nomination process. Nominations occurred across the target students' entire grade level, rather than within their respective classrooms, as it is quite possible for children to experience inter-classroom friendships. For instance, many children attend the same school for a number of years but do not always continue to be grouped into the same classroom. Further, all children in the same grade level usually share the same lunch, recess, and playground periods. Forcing children to restrict their nominations to their current classroom could have distorted our perceptions of these children's social relations (Coie & Dodge, 1983). After children indicated three peers they like most and three peers they like least, the total numbers of nominations received by each child from his or her grade-level peers on these two sociometric items, Liked Most (LM) and Liked Least (LL), were tallied, and standardized scores were created from them within each grade level and school. These standardized scores for the LM and LL items were then used to generate two new sociometric variables, the social preference (Z_{LM} - Z_{LL}) and social impact (Z_{LM} + Z_{LL}) scores.

According to Coie et al.'s (1982) standard scoring model, social preference and social impact scores will operationally define five types of social status. Popular children will be all those children who received a social preference score greater than 1.0, a Liked Most standardized score greater than 0, and a Liked Least standardized score of less than 0. Rejected children will be those children who received a social preference score of less than –1.0, a Liked Least standardized score of greater than 0, and Liked Most standardized score of less than 0. The Neglected group will be all those children who received a social impact score of less than –1.0 and an absolute Liked Most score of 0. These children are presumably friendless within the reference group. Controversial children will be those children who received a social impact score of greater than 1.0 and who received Liked Most and Liked Least standardized scores that were each greater than 0. Average status will be reserved for all those children whose social preference scores fall between –0.5 and 0.5.

This procedure resulted in the identification of 30 average (13 third graders and 17 sixth graders), 23 popular (11 third graders and 12 sixth graders), 5 controversial (2 third graders and 3 sixth graders), 17 rejected (10 third graders and 7 sixth graders), and zero neglected children. In all, 75 of the 98 participants who participated in this investigation were placed into one of Coie et al.'s (1982) peer status categories. Twenty-three children did not meet sociometric scoring criteria for categorization into one of Coie et al.'s (1982) sociometric status groups.

Eight participants elected to not complete the peer sociometric nomination task in its entirety. Descriptive information about these participants, as well as their elected actions, can be seen in Table 3. One (popular) male student whose parents provided parental consent did not assent to his participation for any portion of this entire investigation.

Coie et al.'s (1982) peer status sociometric scoring model is generally accepted as the standard scoring approach for measuring peer status. In a recent meta-analytic review of 41 studies on children's peer relations, 25 studies used Coie et al.'s (1982) standard scoring method, 7 used Coie and Dodge's (1983) revised standard scoring method, 6 used probability models, and 4 used hybrid systems (Newcomb et al., 1993). Twelve-week test-retest Pearson product-moment reliability correlations for Coie et al.'s (1982) standard scoring model ranged from .46 to .88 with a median of .65 (Coie et al., 1982). Further, Coie et al.'s (1982) original study found many meaningful differences among the profiles of each type of status group. For example, popular children were described as leaders who cooperated and did not fight or disrupt the group while rejected children displayed the opposite profile.

Revised Child Anxiety and Depression Scales (RCADS; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000).

The Revised Child Anxiety and Depression Scale (RCADS; Chorpita, et al., 2000) is a 47-item adaptation of the Spence Children's Anxiety Scale (SCAS; Spence, 1997) that assesses children's self-report of symptoms corresponding to selected DSM-IV anxiety disorders and depression (see Appendix B). Factor analyses of the RCADS has demonstrated support for the existence of six factors. These six factors are a social phobia (SP) component, a panic disorder (with agoraphobia) (PDA) component, a major depressive disorder (MDD) component, a separation anxiety disorder (SAD) component, a generalized anxiety disorder (GAD) component, and an obsessive compulsive disorder (OCD) component (Chorpita et al., 2000). The alpha coefficients for these six factors were: SP = 0.82, PD = 0.79, GAD = 0.77, MDD = 0.76, SAD = 0.76, and OCD = 0.73. One-week test-retest correlation coefficients of the RCADS are acceptable, with SP subscales being the most reliable (.80) and OCD subscales ranging from .63 to .66. Finally, correlations between specific subscales of the RCADS and specific subscales of the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) as well as the Children's Depression Inventory (CDI; Kovacs, 1980/1981) seem to lend strong support for the convergent and discriminant validity of the RCADS (Chorpita et al., 2000).

Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999).

The PANAS-C is a 27-item self-report measure constructed through factor analyses that assesses both positive affect (PA) and negative affect (NA) (see Appendix C). The scale itself consists of 27 words that describes different feelings and emotions with 15 of the 27 items assessing negative affect and 12 of the 27 items assessing positive affect. All items had corrected item-total correlations that exceeded .30. Each item is rated on a 5-point Likert scale, ranging from 1 (not at all) through 5 (extremely). The PANAS-C exhibits sufficient test-retest reliability, .94 (scale development) and .92 (a replication study) for NA and .90 (scale development) and .89 (a replication study) for PA. Negative affect, as measured by the PANAS-C, significantly correlated with the CDI (Kovacs, 1980/1981) and the State and Trait Anxiety Inventory for Children

(STAIC; Spielberger, 1973) (.60 and .68 respectively). Conversely, positive affect, as measured by the PANAS-C, exhibited a significant negative correlation with the CDI (-.42). Finally, positive affect displayed a slight negative correlation with negative affect. These findings taken together suggest convergent and discriminant validity.

Although there are currently at least two psychometrically validated child measures of affect, the Affect and Arousal Scale (AFARS; Chorpita, Daleiden, Moffitt, Yim, & Umemoto, 2000; Daleiden, Chorpita, & Lu, 2000) and the Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999), the PANAS-C (Laurent et al., 1999) will be used in the following investigation because although very similar to the AFARS (Chorpita et al., 2000), the PANAS-C tended to display slightly better psychometric properties in a recent investigation (Chorpita & Daleiden, in press). In their investigation, Chorpita and Daleiden (in press) comparatively examined the performance of both measures among 226 children and adolescents diagnosed with DSM-IV anxiety, mood, attention, and disruptive behavior disorders. Across a host of analyses, they found that although the PANAS-C did not display higher validity coefficients than the AFARS with convergent measures of depression, it displayed slightly higher validity coefficients than the AFARS with convergent measures of anxiety. Further, besides displaying some weaknesses with respect to discriminant validity, the "PANAS-C PA scale demonstrated a clear advantage in convergent validity over the AFARS PA scale across all analyses" (Chorpita & Daleiden, in press).

Procedure

Active parental consent was obtained for all participants via three separate rounds of participant recruitment. Specifically, all third and sixth graders from both participating schools took home to their parents a brief letter describing this investigation (see Appendix D) along with two copies of a consent form (see Appendix E) for this study approximately one month before data was collected. Two copies of the consent form were sent home so that parents could keep one copy for their personal records and turn one copy in to their child's school if they desired to do so. Children were rewarded a $3 McDonalds gift certificate for returning a completed consent form, regardless of whether or not their parents provided consent to their participation in the study. The second and third rounds of participant recruitment involved asking only those children whose parents did not respond (i.e. 'yes' or 'no') to previous rounds of participant recruitment to take home a friendly reminder (see Appendix F and Appendix G, respectively) along with another copy of the consent form (see Appendix E) to their parents.

Data collection occurred during normal school hours. Children with parental consent were excused from their respective classrooms and reported to their school library (for School 1) or cafeteria (for School 2) at the predetermined date and time. Once there, the primary researcher and trained graduate students greeted the children and read them a brief explanation and set of instructions regarding the study (see Appendix I). Children were then asked to read and sign an assent form (Appendix J) prior to completing any questionnaires. Only those students who did so were allowed to complete the questionnaires. As mentioned earlier, one sixth-grade student from School 2 whose parents provided parental consent, and later went on to become classified as popular, did not assent to his participation in the study. All participants were presented with three measures, Coie et al.'s (1982) peer nomination task, the RCADS (Chorpita et al., 2000), and the PANAS-C (Laurent et al., 1999), with the order of presentation systematically varied for fatigue effects. Students completed questionnaires at their own pace. Trained graduate students were available throughout the testing period to answer questions and provide help as needed. All participants were assured of the strict confidentiality of their answers and that these measures were not tests and that they did not have any right or wrong answers. Completion time for the questionnaires was approximately 20 minutes.

Results

Trends in Return Rates of Parental Consent Forms

As previously mentioned, active parental consent was obtained for all participants via three separate rounds of participant recruitment. The first round or participant recruitment occurred approximately one month before data was scheduled to be collected, the second round of participant recruitment occurred approximately one week after the first round of participant recruitment, and the third round of participant recruitment occurred approximately two weeks after the second round of participant recruitment. Table 4 indicates the specific trends in the return rates for the parental consent forms in this investigation. As illustrated in the table, utilizing more than one round of participant recruitment substantially increased this investigation's overall response rate (i.e. both participation- and rejection-rate).

Parents were encouraged to contact the primary investigator [see parental consent form (Appendix E)], either via the telephone or email, if they had any concerns or questions regarding any aspect of this study. In all, the primary investigator received two telephone calls (from a mother of one child and a father of a different child), one email, and one written comment on a returned parental consent form, concerning the peer sociometric nomination task. All concerns raised from parents directed towards the primary investigator came from School 2. The email (see Appendix H) was received between the second and third round of recruitment from a parent who had consented earlier to his (or her) child's participation in the study, but then later decided to withdraw consent, because of concerns regarding the sociometric nomination task. Both telephone calls, while not confrontational or accusatory, were from parents of two different children who were very curious about the potential benefits of an investigation that asked children to nominate three peers they liked most and three peers they liked least. One phone call was received between the second and third round of participant recruitment and one phone call was received after the third round of recruitment, but before the data collection date. Another parent raised their concerns regarding sociometric nomination research by writing the comments, "I do not believe in research being done at the cost of others' feelings. I do not see any benefit to my child," at the bottom of his/her child's completed consent form.

Self-reported Levels of Affect and Anxious and Depressive Symptomatology among Children from Varying Sociometric Status Groups

In order to examine the levels of NA, PA, and levels of anxious and depressive symptomatology among children from various sociometric status groups, a total of eight separate 3 (sociometric status) x 2 (school) x 2 (grade) x 2 (gender) between-subjects ANOVAs were used to examine scores on the two aforementioned questionnaires, the RCADS (Chorpita et al., 2000) and the PANAS-C (Laurent et al., 1999). Specifically, six separate ANOVAs were used to examine scores on each factor of the RCADS (Chorpita et al., 2000) (e.g. SOC = Social Phobia, SAD = Separation Anxiety Disorder, PD/A = Panic Disorder/Agoraphobia, GAD = Generalized Anxiety Disorder, OCD = Obsessive Compulsive Disorder, and DEP= Depression). Also, two separate ANOVAs, one for NA and one for PA were performed. Only average (n = 30), rejected (n = 17), and popular children (n = 23) were included in this portion of the investigation. As mentioned above, no children were identified as neglected in this sample. The controversial sociometric group was excluded from this portion of the investigation for two reasons. First, this sample contained an extremely small number of controversial children (n = 5). Secondly, unlike the average, rejected, and popular sociometric groups, no specific a priori predictions were made for the controversial sociometric group with regard to self-reported scores of affect and anxious and depressive symptoms (see Table 1).

A small number of participants failed to fully complete all question items on the RCADS and/or PANAS-C. Specifically, 0.4% of all RCADS data and 1.4% of all PANAS-C data were missing. This investigation could not afford to delete any cases and/or variables with missing data, given its small sample size (n = 98). As such, since only a small percentage of the data matrix was missing, and the pattern of missing data appeared to be random, all missing data were estimated through mean substitution procedures (Tabachnick & Fidell, 2001). Specifically, RCADS and PANAS-C scale raw scores (e.g. SOC, SAD, PD/A, GAD, OCD, DEP, and NA and PA, respectively) containing missing data were estimated with a mean generated specific to a particular participant and a particular factor. For example, if a particular participant failed to answer one question, out of a total nine questions, which added towards his RCADS Social Phobia raw score, his RCADS Social Phobia raw score was estimated by examining those eight RCADS Social Phobia questions that he did answer. More specifically, in this case, the numerical values for those eight completed RCADS Social Phobia questions were summed up, multiplied by nine (i.e. the total number of RCADS Social Phobia questions), and divided by eight (i.e. the number of RCADS Social Phobia Questions completed by this particular participant).

Statistical analyses examining self-reported levels of affect and anxious and depressive symptoms.

Initial ANOVA results indicated that sociometric status was not related to measures of affect and symptoms of anxiety and depression, such that all eight omnibus F tests were insignificant. There were no significant interactions between peer status, school, grade, or gender. Please see Table 5 for each group's specific means, standard deviations, F-ratios, significance levels, and effect sizes on all dependent variables. These results were yielded from 30 average (13 third graders and 17 sixth graders), 23 popular (11 third graders and 12 sixth graders), and 17 rejected (10 third graders and 7 sixth graders) participants across Schools 1 and 2.

Given that the current investigation clearly specified a priori predictions on all dependent variables across the average, popular, and rejected peer status groups, eight Dunnett's Tests were performed in spite of failing to achieve significance on any of the eight omnibus F tests. The average sociometric status group served as the reference group for all eight Dunnett's Tests. As mentioned earlier, a new significance level of .00625 was computed via a Bonferroni-type correction (i.e. an alpha level of .05/eight Dunnett's Tests) to protect the experimentwise error rate.

Dunnett's Tests revealed one significant difference between the average peer status group and the rejected peer status group on the RCADS Depression Scale raw scores. Rejected children were found to have significantly higher RCADS Depression Scale raw scores than the average children ($p=.003$). No other significant differences between the average, popular, and rejected children were found on any of the other dependent variables. Rejected children's RCADS Depression Scale raw scores were converted to T-scores using norms from a large sample of children ($N = 1641$; Chorpita et al., 2000). Four of the 17 rejected children scored in the clinical range for this RCADS subscale, such that their T-scores for this section were 70 or higher. Specifically, two sixth grade boys from School 1 (T=86 and T=75, respectively), one third grade girl from School 2 (T=76), and one sixth grade boy from School 2 (T=86), scored in the clinical range.

Relation of Affect to Symptom Measures of Anxiety and Depression as Mediated by Social Impact (SI) and Social Preference (SP)

The second goal of this study was to assess whether or not the underlying and defining components of peer status, Social Impact (SI) and Social Preference (SP) (Coie et al., 1982) mediated the relationship between levels of affect and symptoms indicative of social anxiety and/or depression. Unlike the first cluster of analyses (i.e. eight separate ANOVAs) performed above, the analyses in this portion of the investigation utilized all participants ($N = 98$) who filled out the three questionnaires. The specific mediational models that were originally specified to be tested can be seen in Table 2 of the Introduction. Because correlation of the mediator with the dependent variable is a precursor to establishing mediation, testing Mediational Models 1 – 4, as originally planned, was not performed at this time. Initial results (see Table 6) indicated that RCADS Social Phobia Scale raw scores were not significantly correlated with either the SI or SP variables.

Mediational Models 5 – 8 were tested as originally proposed, however, with three tests suggested by Baron and Kenny (1986). As previously stated in the Introduction, the three conditions under which one may infer mediation are as follows. First, the independent variable must significantly predict the mediator. Second, the independent variable must significantly predict the dependent variable. Third, in a multiple regression predicting the dependent variable from the independent variable and mediator, the slope of the independent variable should be lower than that in the test for the second condition for mediation effects. Perfect mediation holds if the slope of the independent variable is zero in the test for the third relationship condition. As can be seen in Table 7, Mediational Models 5 – 8 sought to assess whether or not the SI and SP variables (Coie et al., 1982) mediated the relationship between self-reported levels of affect and depressive symptoms. In all, 10 separate regression equations were tested for Mediational Models 5 – 8. To protect the experimentwise error rate, analyses were performed at an alpha level of .01.

Standard regression analyses indicated that one of the three relationship conditions for mediation effects was satisfied for Mediational Model 5 (see Table 8). Specifically, the independent variable, PANAS-C Positive Affect scale raw scores (PA), failed to significantly predict the mediator, sociometric social preference scores (SP), thus failing to satisfy the first relationship condition [$R^2 = .02$; $F(1,96) = 1.46$, $p=.23$]. The second relationship condition also did not hold significantly in its predicted direction, such that the independent variable, PANAS-C Positive Affect scale raw scores (PA), failed to significantly predict the dependent variable, RCADS Depression scale raw scores (DEP), in the second regression analysis [$R^2 = .04$; $F(1,96) = 4.41$, $p=.04$]. The third relationship condition was satisfied, however, such that a multiple regression analysis predicting the dependent variable, DEP, from the mediator, SP, and the independent variable, PA, indicated that the standardized slope of the independent variable, PA, was lower than that of the second equation [$R^2 = .16$; $F(2,95) = 9.34$, $p<.001$; beta = .17]. This pattern of results suggests that, while sociometric social preference scores (SP), when taken in combination with the independent variable, PANAS-C Positive Affect scale raw scores (PA), significantly predicted the criterion RCADS Depression scale raw scores (DEP), SP did not mediate the relation between PA and DEP (see Figure 2, panel A).

Two of the three relationship conditions for mediation effects were satisfied for Mediational Model 6 (see Table 9). Specifically, the independent variable, PANAS-C Negative Affect scale raw scores (NA), failed to significantly predict the mediator, sociometric social preference scores (SP), in the first standard regression analysis, thereby failing to satisfy the first relationship condition [$R^2 = .04$; $F(1,96) = 4.44$, $p=.04$]. The independent variable, PANAS-C Negative Affect scale raw scores (NA), did, however, significantly predict the dependent variable, RCADS Depression scale raw scores (DEP), in the second regression equation, thus satisfying the second relationship condition for mediation [$R^2 = .34$; $F(1,96) = 50.05$, $p<.001$; beta = .59]. Finally, in a multiple regression analysis predicting the dependent variable, DEP, from the mediator, SP, and the independent variable, NA, the standardized slope the independent variable, NA, was lower than that in the second equation [$R^2 = .41$; $F(2,95) = 32.53$, $p<.001$; beta = .53], thus satisfying the third relationship condition. This pattern of results suggests that both sociometric social preference scores (SP) and PANAS-C Negative Affect scale raw scores (NA) significantly and independently predicted the criterion RCADS Depression scale raw scores (DEP), but SP did not mediate the relation between NA and DEP (see Figure 2, panel B).

Standard regression analyses for Mediational Model 7 indicated that no relationship conditions for mediation effects were satisfied (see Table 10). Specifically, the first relationship condition for mediation was not satisfied, such that the independent variable PANAS-C Positive Affect scale raw scores (PA), failed to significantly predict the mediator, sociometric social impact scores (SI), in the first regression equation [$R^2 < .01$; $F(1,96) = .26$, $p=.61$]. The independent variable, PANAS-C Positive Affect scale raw scores (PA), also failed to significantly predict the dependent variable, RCADS Depression scale raw scores (DEP), in the second regression analysis, thus failing to satisfy the second relationship condition [$R^2 = .04$; $F(1,96) = 4.41$, $p=.04$]. Finally, the third relationship condition for mediation effects was not satisfied, given that a multiple regression analysis predicting the dependent variable, DEP, from the mediator, SI, and the independent variable, PA, indicated that the standardized slope of the independent variable, PA, was not lower than that of the second equation [$R^2 = .13$; $F(2,95) = 7.24$, $p=.001$; beta = -.23]. This pattern of results suggests that, while, sociometric social impact scores (SI), when taken in combination with the independent variable, PANAS-C Positive Affect scale raw scores (PA), significantly predicted the criterion RCADS

Depression scale raw scores (DEP), SI did not mediate the relation between PA and DEP (see Figure 2, panel C).

Standard regression analyses for Mediational Model 8 (see Table 11) revealed that two of the three relationship conditions for mediation effects were satisfied. Specifically, the independent variable, PANAS-C Negative Affect scale raw scores (NA), failed to significantly predict the mediator, sociometric social impact scores (SI), thus failing to satisfy the first relationship condition [$R^2 = .03$; $F(1,96) = 2.53$, $p=.12$]. The second relationship condition, however, was satisfied, such that the independent variable, PANAS-C Negative Affect scale raw scores (NA), significantly predicted the dependent variable, RCADS Depression scale raw scores (DEP), in the second regression analysis [$R^2 = .34$; $F(1,96) = 50.05$, $p<.001$; beta = .59]. The third relationship condition was also satisfied, given that a multiple regression analysis predicting the dependent variable, DEP, from the mediator, SI, and the independent variable, NA, indicated that the standardized slope of the independent variable, NA, was lower than that in the second equation [$R^2 = .62$; $F(2,95) = 9.34$, $p<.001$; beta = .55]. This pattern of results suggests that, while sociometric social impact scores (SI), when taken in combination with the independent variable, PANAS-C Negative Affect scale raw scores (NA), significantly predicted the criterion RCADS Depression scale raw scores (DEP), SI did not mediate the relation between NA and DEP (see Figure 2, panel D).

Discussion

The first portion of the current study aimed to investigate the relationship between sociometric status and self-reported levels of affect and symptoms of anxiety and depression among a sample of grade-school children. It was specifically predicted that rejected children would report higher levels of negative affect (NA) and symptoms indicative of Social Phobia (SOC), Separation Anxiety Disorder (SAD), Panic Disorder/Agoraphobia (PD/A), Generalized Anxiety Disorder (GAD), Obsessive Compulsive Disorder (OCD), and Depression (DEP), while reporting lower levels of positive affect (PA), than their average peers. These predictions were only partially supported. Specifically, while rejected children in this investigation reported significantly higher symptom levels of Depression than their average peers, they did not report significantly higher levels of NA, SOC, SAD, PD/A, GAD, and OCD, or lower levels of PA than their average peers.

The second portion of this study aimed to assess whether or not the underlying and defining components of peer status, Social Impact (SI) and Social Preference (SP) (Coie et al., 1982), mediated the relationship between levels of affect and self-reported symptoms indicative of social anxiety and/or depression. Methodology outlined by Baron and Kenny (1986) yielded results that indicated that neither SI nor SP accounted for the significant predictive relationship between self reported levels of NA and DEP or the predictive relationship between PA and DEP. Of interest, however, was the finding that SP and NA were shown to significantly and independently contribute towards the prediction of DEP (see Mediational Model 6). In other words, sociometric social preference scores (SP) were shown in this investigation to make a significant contribution towards the prediction of RCADS Depression scale raw scores (DEP), in addition to the predictability afforded by PANAS-C Negative Affect scale raw scores (NA). Mediational Models 1 – 4, that aimed to assess whether or not SI and/or SP mediated the relationship between NA and SOC, were not tested as originally planned, given that SOC

RCADS Scale raw scores (SOC) did not significantly correlate with either the SI or SP variables in this sample.

The results from the first portion of this study partially supported findings from previous investigations in the existing literature on peer status and its relation to feelings of depression and feelings of anxiety. Specifically, while the finding that rejected children experience higher levels of depression than their average peers (Bell-Dolan et al., 1995; Cole & Carpentieri, 1990; Newcomb et al., 1993) was replicated, the finding that rejected children experience higher levels of anxiety than their average peers (Inderbitzen et al., 1997; Newcomb et al., 1993) was not. This does, however, fit with Crick and Ladd's (1993) study that did not find any differences between average, popular, and rejected children on a social anxiety measure. Also, the rejected children in this sample, while reporting elevated levels of depression, did not report elevated levels of negative affect or low levels of positive affect. This is not consistent with the current tripartite theory of emotion (Clark & Watson, 1991; Brown et al., 1998; Mineka et al., 1998), which states that NA is associated with mood (and anxiety) disorders and that low levels of PA are uniquely associated with mood disorders.

Both SI and SP variables have never been studied as potential mediators between self-reported levels of affect and symptoms indicative of social anxiety and depression. Whereas the results from the second portion of the investigation (i.e. Mediational Models 1 – 8) failed to show that either SI or SP mediated the relationships between affect and/or symptomatology indicative of social anxiety and depression, it was shown that both NA and SP can make significant and independent contributions towards to the prediction of

DEP. It may be important for future research to elucidate and expand upon the role of SP in predicting reported levels of depressive symptoms among children.

While the majority of the predictions from this investigation were not supported, at least some caution should be used in interpreting these results, and it is important to bear in mind and consider these following points when doing so.

First, the methodology employed by this investigation may have jeopardized the validity of each child's sociometric classification. Specifically, accurately placing target children into their respective sociometric status categories requires having the vast majority, if not all, target students participate in a given investigation (Coie & Dodge, 1983). The use of a truncated sample may lead to inaccurate sociometric classification because forcing participants to restrict their Like Most (LM) and Like Least (LL) votes to only those children whose parents provided active consent may lead to the inaccurate impression that some children suffer from poor peer relations when in actuality they do not (or vice versa). However, as seen above in Table 4, three separate waves of participant recruitment (using active consent procedures) resulted in only 98 students (i.e. 0.34 participation-rate) out of a possible 291 potential students participating in this study. This participation rate is atypical for a sociometric status research investigation, such that this type of research has traditionally used passive consent procedures. Passive consent procedures typically yield much higher participation rates than active consent procedures (Kearney, Hopkins, Mauss, & Weisheit, 1983; Lueptow, Mueller, Hammes, & Master, 1977; Severson & Ary, 1983; Thompson, 1984). Another potential threat to the accurate sociometric classification of children into their respective status groups is the finding that, in at least two investigations, children identified as having problematic peer relationships are less likely to participate in peer status research than those children who have not been identified as having problematic peer relationships (Beck, Collins, Overholser, & Terry, 1984; Frame & Strauss, 1987). Specifically, Beck et al. (1984) have shown that children identified by teachers as having problematic peer relationships (i.e. viewed by the teacher as being either aggressive or withdrawn with peers) are less likely to return consent forms than those youth with no problematic peer relationships. Additionally, Frame and Straus (1987) showed that socially rejected and neglected children were less likely to obtain parental consent (either in the form of not returning the consent form or being disallowed to participate) for participation in a friendship study than were their socially accepted peers.

As seen in Table 4 above, 87 children (i.e. 30% rejection-rate) were disallowed by their parents to participate in this investigation, and 98 children (i.e. 34% no-response-rate) failed to return a completed consent form at all. One can only speculate as to how these two groups of non-participants would have been sociometrically classified and scored on self-report measures of NA and PA and anxious and depressive symptomatology. This type of research question remains open to future research.

This investigation suffered from substantial no-response- (i.e. 34%) and rejection- (i.e. 30%) rates despite intensive recruitment efforts, and these no-response- and rejection-rates may be indicative of a general concern towards psychological research in school settings and/or an active opposition towards sociometric status research. Specifically, as indicated in the 'Procedure' section above, active parent consent was sought via three separate waves of recruitment letters. Each recruitment letter (along with a consent form) was sent to the home of the potential participant with the child, and children received a $3 McDonalds gift certificate for returning a signed consent form, regardless of whether or not they were allowed to participate. However, only approximately two-thirds of all eligible students returned a consent form (see Table 4), despite the fact that parents had approximately 30 days to sign the consent form and have their child return it to school. Finally, at least a few parents strongly objected to the idea of allowing their children to participate in sociometric status research and/or the idea of sociometric status research being conducted at all (see Procedures section and Appendix H). Of further note is that the no-response (i.e. 34%) and rejection (i.e. 30%) rates for this study may have been atypical for an investigation that utilized multiple rounds of recruitment, given that at least two previous investigations have indicated that active consent procedures, when supplemented with intensive follow-up efforts, can result in consent rates as high as 86% (Ellickson & Hawes, 1989) and 95% (Thompson, 1984). However, it should be noted these two previous investigations were not peer status investigations and focused on attitudes towards mainstreaming physically disabled children into regular education classrooms and examining drug use and its related attitudes and behaviors, respectively. Furthermore, the follow-up efforts employed in these studies were very intensive (i.e. five separate rounds of recruitment) and multi-modal (i.e. letters, postcards, phone-calls, parent-incentives, child-incentives, and speaking to and encouraging the child). Finally, both of these investigations occurred in the 1980s, at a time at which perhaps psychological research in the school setting was viewed differently from today.

A second and very important point to consider when interpreting the results of this study is the fact that this investigation may be underpowered. According to Cohen's

(1992) power analysis procedures, the optimal number of participants needed to detect a medium effect size with a power level of 0.80 and an alpha of 0.01 for this type of study (Cole & Carpentieri, 1990) ranged from 190 to 275 participants. However, as indicated in the 'Results' section above, the number of sociometrically classified participants in this study (total n = 65; average n = 30, popular n = 23, rejected n = 17, controversial n = 5, neglected n = 0) was only a fraction of the optimal number of participants needed. It should also be noted that, while mean differences did not reach statistical significance on all eight omnibus ANOVAs for the first portion of this investigation, all but one set of mean scores (i.e. PD/A) held in their predicted directions (see Table 12). Perhaps no mean differences were statistically detected on all eight omnibus ANOVAs because this study suffered from a small sample size.

The third limitation of the present study relates to the preceding problem of small sample size. The current investigation contained no neglected children and only a very small number of controversial children (n = 5) for analyses. It will be important for future research to address the second and third limitations of this study by examining self-reported levels of NA and PA, and anxious and depressive symptoms, in a large school sample that contains a significant number of neglected and controversial, as well as average, rejected, and popular children.

The results of the present study are also limited in terms of generalizability, in that all of the participants in this investigation were in the primary grades and from only two schools in the city of Honolulu on the island of Oahu in Hawaii. Thus, the results may not hold for children from other geographic areas and/or for adolescents. It may, therefore, be important to replicate these results using a broader, more diverse sample.

Fifth, while the regression analyses performed in the second portion of this investigation helped to elucidate the correlational and predictive relationships between levels of affect, SI and SP variables, and self-reported levels of depressive symptoms, it did not directly address directionality issues among these three variables.

In conclusion, the results of the present study suggest that rejected children report significantly higher levels of depressive symptoms than their average peers. Results did not, however, suggest that rejected children report significantly higher levels of anxious symptoms than their average peers, nor did it suggest that rejected children display an affective profile that conforms to the tripartite theory of emotion (Clark & Watson, 1991; Brown et al., 1998; Mineka et al., 1998). Results also suggest that neither SI nor SP mediates the relationship between self-reported levels of affect and symptoms indicative of social anxiety or depression. However, it was shown that both NA and SP can make significant and independent contributions towards the prediction of DEP. As mentioned earlier, however, these results should be interpreted with caution, in that the methodology employed in this study resulted in a small sample size that may not have placed children accurately into their respective sociometric status groups.

Perhaps as important is the suspicion that sociometric status research is on the brink of extinction. Specifically, the nation-wide termination of the use of passive consent procedures may have made it impossible for future researchers to accurately place children into their respective sociometric status groups. As previously mentioned, accurate classification requires having the vast majority, if not all, target students participate in a given investigation (Coie & Dodge, 1983). However, as can be seen in this study, and other studies that have compared acquired participation rates between passive- and active-consent procedures (Kearney et al., 1983; Lueptow et al., 1977; Severson & Ary, 1983; Thompson, 1984), active consent procedures *do not* result in having the majority of target students participate in an investigation. In fact, this study suffered from a poor participation rate despite intensive efforts at participation recruitment. Furthermore, even if future investigators can garner adequately-sized samples via active consent procedures, it would remain questionable as to whether or not the children in their samples would be accurately classified into their respective sociometric status groups. Specifically, previous research has indicated that rejected and neglected children are less likely to obtain parental consent for this type of research than their accepted peers (Frame & Strauss, 1987).

While one may argue that future sociometric status researchers must simply come to rely on teacher-based measures of peer acceptance, research in this area indicates that correlations between teacher-based measures of peer acceptance and sociometric measures are moderate at best (e.g. .35 to .55), with considerable variability (French & Waas, 1985; Landau, Milich, & Whitten, 1984; Taylor & Trickett, 1989). Furthermore, kappas are even lower, and studies have not examined teachers' abilities to identify children throughout the sociometric spectrum (i.e. these studies have only asked teachers to identify popular and rejected youth).

Perhaps modern-day attitudes towards sociometric status research are very negative. One cannot help but notice that today's political climate is at least slightly different than that of 1982, the year in which standardized sociometric status methodology first emerged (Coie et al., 1982). As previously mentioned, some parents in the current study overtly objected to their child's participation in this investigation and/or this type of research even being conducted at all. Indeed, these negative attitudes towards sociometric research may have been responsible for this study's poor participation rates. Negative attitudes towards sociometric testing may arise from commonly-held misconceptions that sociometric testing increases children's negative interactions with unpopular peers, increases the salience of social ostracism within a peer group, and increases feelings of unhappiness and/or loneliness among children (Bell-Dolan, Foster, & Sikora, 1989). Interestingly, however, studies that have investigated the effects of sociometric testing among school children have uniformly found that the negative effects, or harm encountered during and after such processes, were minimal and no more than the harm that a child might encounter in his/her daily life (Bell-Dolan et al., 1989; Hayvren & Hymel, 1984; Iverson, Barton, & Iverson, 1997; Iverson & Iverson, 1996).

The question of whether or not modern-day attitudes towards sociometric status research are negative remains open to empirical scrutiny. Future studies should investigate parents' attitudes towards sociometric testing, beliefs about the effects of sociometric testing (and maybe psychological research in general), and willingness to allow their children to participate in such testing. Given that there are currently no other methods of determining a child's peer status that yield results comparable to those produced by traditional sociometric testing, the answers to these questions may eventually determine the feasibility of conducting future peer status investigations.

Appendix A

Coie et al.'s (1982) Standard Scoring Model

Instructions: Please indicate, from the list below

1. THREE classmates you like the MOST by circling their names
2. THREE classmates you like LEAST by putting a check mark next to their names.

For example: John Doe Jack Doe √

Appendix B

REVISED CHILD ANXIETY AND DEPRESSION SCALE

Please put a circle around the word that shows how often each of these things happen to you. There are no right or wrong answers.

1.	I worry about things.	Never	Sometimes	Often	Always
2.	I feel sad or empty.	Never	Sometimes	Often	Always
3.	When I have a problem, I get a funny feeling in my stomach.	Never	Sometimes	Often	Always
4.	I worry when I think I have done poorly at something.	Never	Sometimes	Often	Always
5.	I would feel afraid of being on my own at home.	Never	Sometimes	Often	Always
6.	Nothing is much fun anymore.	Never	Sometimes	Often	Always
7.	I feel scared when I have to take a test.	Never	Sometimes	Often	Always
8.	I feel worried when I think someone is angry with me.	Never	Sometimes	Often	Always
9.	I worry about being away from my parents.	Never	Sometimes	Often	Always
10.	I get bothered by bad or silly thoughts or pictures in my mind.	Never	Sometimes	Often	Always
11.	I have trouble sleeping.	Never	Sometimes	Often	Always
12.	I worry that I will do badly at my school work.	Never	Sometimes	Often	Always
13.	I worry that something awful will happen to someone in my family.	Never	Sometimes	Often	Always
14.	I suddenly feel as if I can't breathe when there is no reason for this.	Never	Sometimes	Often	Always
15.	I have problems with my appetite.	Never	Sometimes	Often	Always
16.	I have to keep checking that I have done things right (like the switch is off, or the door is locked)	Never	Sometimes	Often	Always
17.	I feel scared if I have to sleep on my own.	Never	Sometimes	Often	Always
18.	I have trouble going to school in the	Never	Sometimes	Often	Always

	mornings because I feel nervous or afraid.				
19.	I have no energy for things.	Never	Sometimes	Often	Always
20.	I worry I might look foolish.	Never	Sometimes	Often	Always
21.	I am tired a lot.	Never	Sometimes	Often	Always
22.	I worry that bad things will happen to me.	Never	Sometimes	Often	Always
23.	I can't seem to get bad or silly thoughts out of my head.	Never	Sometimes	Often	Always
24.	When I have a problem, my heart beats really fast.	Never	Sometimes	Often	Always
25.	I cannot think clearly.	Never	Sometimes	Often	Always
26.	I suddenly start to tremble or shake when there is no reason for this.	Never	Sometimes	Often	Always
27.	I worry that something bad will happen to me.	Never	Sometimes	Often	Always
28.	When I have a problem, I feel shaky.	Never	Sometimes	Often	Always
29.	I feel worthless.	Never	Sometimes	Often	Always
30.	I worry about making mistakes.	Never	Sometimes	Often	Always
31.	I have to think of special thoughts (like numbers or words) to stop bad things from happening.	Never	Sometimes	Often	Always
32.	I worry what other people think of me.	Never	Sometimes	Often	Always
33.	I am afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds).	Never	Sometimes	Often	Always
34.	All of a sudden, I feel really sacred for no reason at all.	Never	Sometimes	Often	Always
35.	I worry about what is going to happen.	Never	Sometimes	Often	Always
36.	I suddenly become dizzy or faint when there is no reason for this.	Never	Sometimes	Often	Always
37.	I think about death.	Never	Sometimes	Often	Always
38.	I feel afraid if I have to talk in front of my class.	Never	Sometimes	Often	Always
39.	My heart suddenly starts to beat too quickly	Never	Sometimes	Often	Always

for no reason.

40.	I feel like I don't want to move.	Never	Sometimes	Often	Always
41.	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.	Never	Sometimes	Often	Always
42.	I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).	Never	Sometimes	Often	Always
43.	I feel afraid that I will make a fool of myself in front of people.	Never	Sometimes	Often	Always
44.	I have to do some things in just the right way to stop bad things from happening.	Never	Sometimes	Often	Always
45.	I worry when I go to bed at night.	Never	Sometimes	Often	Always
46.	I would feel scared if I had to stay away from home overnight.	Never	Sometimes	Often	Always
47.	I feel restless.	Never	Sometimes	Often	Always

Appendix C

FEELINGS AND EMOTIONS (POSITIVE AFFECT AND NEGATIVE AFFECT SCEDULE-CHILD VERSION)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word.

Indicate to what extent you have felt this way during the past few weeks.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Interested	1	2	3	4	5
Sad	1	2	3	4	5
Frightened	1	2	3	4	5
Excited	1	2	3	4	5
Ashamed	1	2	3	4	5
Upset	1	2	3	4	5
Happy	1	2	3	4	5
Strong	1	2	3	4	5
Nervous	1	2	3	4	5
Guilty	1	2	3	4	5
Energetic	1	2	3	4	5
Scared	1	2	3	4	5
Calm	1	2	3	4	5
Miserable	1	2	3	4	5
Jittery	1	2	3	4	5
Cheerful	1	2	3	4	5
Active	1	2	3	4	5
Proud	1	2	3	4	5
Afraid	1	2	3	4	5
Joyful	1	2	3	4	5
Lonely	1	2	3	4	5
Mad	1	2	3	4	5
Disgusted	1	2	3	4	5
Delighted	1	2	3	4	5
Blue	1	2	3	4	5
Gloomy	1	2	3	4	5
Lively	1	2	3	4	5

Appendix D

AGREEMENT TO PARTICIPATE IN

An Investigation on Peer Status and its Relation to the Tripartite Structure of Positive and Negative Affect in School Children

Brad J. Nakamura, Department of Psychology
University of Hawaii at Manoa
2430 Campus Road
Honolulu, HI 96822
956-9559
bradn@hawaii.edu

Dear Parents:

We are asking as many children as possible in grades 3 and 6 at your child's school to participate in the study described on the following page. We ask that you please read the attached consent form. If you agree to allow your child to participate in the described study, please print your name and your child's name and sign your name on the following page, tear it off this packet, and have your child return it to his/her teacher at school within the next week. As mentioned on the next page, children who return completed consent forms, regardless of whether or not they are allowed to participate, will be given a small gift (e.g. $3 gift certificate to McDonalds, small grab-bag of candy, or other small token of gratitude worth approximately $3). Please retain this page with contact information for the described study as well as the extra consent form attached to this packet for your own records.

If, after reading the information on the following page, you have any questions or concerns about your child's participation in this study, you are encouraged to contact me by telephone at 956-9559, or by email bradn@hawaii.edu. If no one is available to take your call at the above-mentioned number, please leave a message with your name and a phone number at which you can be reached, and your call will be returned as soon as possible.

Thank you for your time.

Sincerely,

Brad J. Nakamura
Clinical Staff Member
Center for CBT, Child and Adolescent Stress and Anxiety Program
(808) 956-9559
bradn@hawaii.edu

Bruce F. Chorpita, Ph.D.
Director, Child and Adolescent Stress and Anxiety Program
Co-Director, Center for CBT
chorpita@hawaii.edu

Appendix E

AGREEMENT TO PARTICIPATE IN

An Investigation on Peer Status and its Relation to the Tripartite Structure of Positive and Negative Affect in School Children

Brad J. Nakamura, Department of Psychology
University of Hawaii at Manoa
2430 Campus Road
Honolulu, HI 96822

We (Brad Nakamura, BA, and associates from the Department of Psychology, University of Hawaii at Manoa) are interested in children's feelings, emotions, and friendships, and how they relate to the development of anxiety and depression. Finding out more about children's feelings, emotions, and friendships may make it possible to help children who have few friends or lack friendship skills. We are asking you for permission to allow your child to participate in a research project that will take place at his/her school with third and sixth grade children on (***May 29th, 2003 for School 2; May 30th, 2003 for School 1***)

This project will involve your child filling out a total of three questionnaires. One questionnaire will involve your child rating other children in his/her grade that he/she does and does not like. Your child will also be rated by his/her classmates in his/her grade to determine how he/she is liked by others. There is a possibility that your child may experience some mild discomfort in the process of identifying children that he/she does not like. Further, although children will be instructed not to share any of their answers on any of their questionnaires, there exists the possibility that some children will discuss some of their answers with some of their peers. This may in turn hurt the feelings of some children and in turn cause them to experience feelings of anxiety, sadness, and/or rejection. The other two questionnaires your child will be asked to complete will tell the investigators about their feelings and emotions. All information collected will remain confidential and will not be made known to his/her teacher or the other children in the class. Questionnaires will be filled out at your child's school during normal class hours and will take approximately 30 minutes.

Although this research study may be of no direct benefit to your child, this study may help other children who have few friends. As mentioned on the previous page, children who return consent forms to their teachers, regardless of whether or not they participate in this research, will receive a small gift (e.g. $3 gift certificate to McDonalds, small grab-bag of candy, or other small token of gratitude worth approximately $3). Your child will not be penalized in any way for not returning this consent form.

Please note that if you agree to allow your child to participate in this project, he/she will also be asked for their permission to participate before we ask him/her to fill out any questionnaires. Your child can withdraw from the project at any time and will not be penalized in any way. Further, you may also withdraw consent and discontinue participation in this project at any time free of penalty.

Please check one

_______ I certify that I have read and that I understand the foregoing, that I have been given satisfactory answers to my inquiries concerning project procedures and other matters and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time without prejudice. I consent to the participation of my minor child in this project with the understanding that such consent does not waive any of my legal rights, nor does it release the principal investigator or the institution or any employee or agent thereof from liability for negligence.

_______ I do not consent to the participation of my minor child in this project

______________________________ ______________________________

Print Legal Guardian's Name Print Child's Name

______________________________ Date ______________
Signature of Legal Guardian

Thank you very much for your consideration. If you have any questions or would like any further information, please feel free to contact Brad J. Nakamura at (808) 956-9559.

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this study, contact: Committee on Human Studies, University of Hawaii, 2450 Maile Way, Honolulu, Hawaii 96822. Phone: (808) 956-5007

Appendix F

AGREEMENT TO PARTICIPATE IN

An Investigation on Peer Status and its Relation to the Tripartite Structure of Positive and Negative Affect in School Children

Brad J. Nakamura, Department of Psychology
University of Hawaii at Manoa
2430 Campus Road
Honolulu, HI 96822

Dear Parents,

I hope you have had a chance to look over the consent forms sent to you earlier. This is just a friendly reminder to tell you that we will be asking children to fill out questionnaires on friendships and feelings on (***May 29th, 2003 for School 2; May 30th, 2003 for School 1***). Therefore, if you agree to allow your child to participate in the previously mentioned study, please sign and have your child return the consent form to his/her teacher. As mentioned earlier, your child will receive a small gift (e.g. $3 gift certificate to McDonalds, small grab-bag of candy, or other small token of gratitude worth approximately $3) upon returning this consent form to his/her teacher, regardless of whether or not he/she is allowed to participate in this research. There is another consent form attached to this paper if you have mistakenly misplaced the other one.

If you have any questions or concerns regarding your child's participation in this study, please feel free to contact me by telephone at 956-9559 or by email at bradn@hawaii.edu. If no one is available to take your call at the above-mentioned number, please leave a message with your name and a phone number at which you can be reached, and your call will be returned as soon as possible.

Thank you for your time,

Sincerely,

Brad J. Nakamura
Clinical Staff Member
Center for CBT, Child and Adolescent Stress and Anxiety Program
(808) 956-9559
bradn@hawaii.edu

Bruce F. Chorpita, Ph.D.
Director, Child and Adolescent Stress and Anxiety Program
Co-Director, Center for CBT
chorpita@hawaii.edu

Appendix G

AGREEMENT TO PARTICIPATE IN

An Investigation on Peer Status and its Relation to the Tripartite Structure of Positive and Negative Affect in School Children

Brad J. Nakamura, Department of Psychology
University of Hawaii at Manoa
2430 Campus Road
Honolulu, HI 96822

Dear Parents,

I hope you have had a chance to look over the consent forms sent to you earlier. This is one last friendly reminder to tell you that we will be asking children to fill out questionnaires on friendships and feelings on (***May 29th, 2003 for School 2; May 30th, 2003 for School 1***). Therefore, if you agree to allow your child to participate in the previously mentioned study, please sign and have your child return the consent form to his/her teacher. As mentioned earlier, your child will receive a small gift (e.g. $3 gift certificate to McDonalds, small grab-bag of candy, or other small token of gratitude worth approximately $3) upon returning this consent form to his/her teacher, regardless of whether or not he/she is allowed to participate in this research. There is another consent form attached to this paper if you have mistakenly misplaced the other one.

If you have any questions or concerns regarding your child's participation in this study, please feel free to contact me by telephone at 956-9559 or by email at bradn@hawaii.edu. If no one is available to take your call at the above-mentioned number, please leave a message with your name and a phone number at which you can be reached, and your call will be returned as soon as possible.

Thank you for your time,

Sincerely,

Brad J. Nakamura
Clinical Staff Member
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(808) 956-9559
bradn@hawaii.edu

Bruce F. Chorpita, Ph.D.
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Co-Director, Center for CBT
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Appendix H

Email from a Concerned Parent

I am writing to let you know that I have decided to withdraw permission for our daughter to take part in the study.

We received only one set of consent form/letter, about May 7th. I did not "mistakenly misplace" the other one; there WAS no other one that I know of, and that my daughter knows of.

First of all, while I think your intentions are good, have we seen or heard of how any of your findings over the last 20 some years that you have done this study have helped to improve the cliques and "cattiness" that I see in school? Perhaps the TRIBES program is an offshoot of your findings? I would"ve like to see how this study would be used IN OUR SCHOOL to improve it.

Also, I think that this kind of study invites students to gossip and talk about their responses, even if they are discouraged from doing so. It will make negative feelings all the more intense. How about considering doing this study by mail, or even at the end of the school year, the last day perhaps, or even by email, so that the students don't have access to each other immediately after doing the questionaire survey.

Just thought you may want some feedback as to why some parents have reconsidered and have withdrawn their child from this study.

Regards,

Note: the following reply was sent to this parent via email within 36 hours of receiving this email.

Mr. and Mrs. ---

Thank you very much for your feedback and sharing your concerns. Your daughter will be removed from the list of approved participants and the appropriate persons will be notified to ensure that your daughter will NOT be approached on the survey day. As mentioned earlier, your daughter will not be penalized in any way for not participating. Again, thank you very much for your feedback and sharing your concerns.

Aloha,
Brad Nakamura

Appendix I

Information to Be Read to the Participants

The following was read to all participants prior to the administration and subsequent completion of (1) Peer Sociometric Nomination Task (Coie et al., 1982), (2) RCADS (Chorpita et al., 2000), (3) PANAS-C (Laurent et al., 1999).

"Good morning everyone. My name is Brad and I am from the University of Hawaii at Manoa. I am currently doing a research study on children's friendships as well as children's feelings. If you would like to do this and agree to do this you will fill out 3 questionnaires. They should take no more than thirty minutes. These are not tests. The questions on these surveys will ask you about your feelings and friendships and there are no right or wrong answers. Everything you say on these questionnaires is private and your answers will not be shared with anyone at your school. No one will know your answers unless you tell them. Please feel free to not answer any questions that make you feel uncomfortable. You may even stop participating at any time while working on the questionnaires if you do not want to complete them. Also, work at a pace that is comfortable to you. If you have any questions, please raise your hand and someone will help you. I am now going to pass out the questionnaires. Please read the first sheet (child assent form) very carefully and if you feel like helping me study children's friendships and feelings by filling out these questionnaires, please sign the bottom of the first sheet where it asks for your signature. Please read all the instructions for each questionnaire before completing it."

Table 1

Specific Predictions for Children of Varying Sociometric Status Groups with Regard to Levels of Affect and Symptoms of Selected Anxiety and Mood Disorders

	Neglected	Rejected	Popular	Controversial	Average
SOC	High (Inderbitzen et al., 1997)	High	Low	?	Average
SAD	?	High	Low	?	Average
PD/A	?	High	Low	?	Average
GAD	?	High	Low	?	Average
OCD	?	High	Low	?	Average
DEP	Low (Newcomb et al., 1993)	High	Low	?	Average
NA	?	High	Low	?	Average
PA	High	Low	High	?	Average

Note. **SOC** = RCADS Social Phobia Scale raw score, **SAD** = RCADS Separation Anxiety Disorder Scale raw score, **PD/A** = RCADS Panic Disorder/Agoraphobia Scale raw score, **GAD** = RCADS Generalized Anxiety Disorder Scale raw score, **OCD** = RCADS Obsessive Compulsive Disorder Scale raw score, **DEP** = RCADS Depression Scale raw score, **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score.

Table 2

Mediational Models 1 – 8

Mediational Model#	Independent Variable	Hypothesized Mediator	Dependent Variable
1	PA	SP	SOC
2	NA	SP	SOC
3	PA	SI	SOC
4	NA	SI	SOC
5	PA	SP	DEP
6	NA	SP	DEP
7	PA	SI	DEP
8	NA	SI	DEP

Note. **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score, **SP** = Sociometric Social Preference score, **SI** = Sociometric Social Impact score, **SOC** = RCADS Social Phobia Scale raw score, and **DEP** = RCADS Depression Scale raw score.

Table 3

Descriptive Information and Elected Actions of those Participants who Did Not Complete Coie et al.'s (1982) Peer Sociometric Nomination Procedure in its Entirety

Peer Status	Sex	School[a]	Comments
Unclassified	Female	1	Leaves entire sociometric procedure blank
Unclassified	Male	2	Completes 2/3 Like Least votes
Average	Female	2	Completes 1/3 Like Least votes
Average	Female	2	Completes only Like Most votes
Average	Male	2	Completes only Like Most votes
Rejected	Female	2	Completes only Like Most votes
Rejected	Female	2	Completes only Like Most votes
Rejected	Female	2	Completes only Like Most votes
Popular	Male	2	Did not assent to his participation for any portion of the entire investigation

[a]All eight participants who elected not to complete the peer sociometric nomination task in its entirety were in the third grade.

Table 4

Trends in the Return Rates for Parental Consent Forms

Group		Round One Responses				Round Two Responses				Round Three Responses		
		Yes	No	No Reply		Yes	No	No Reply		Yes	No	No Reply
School 1												
Grade 3		11	15	43		9	5	29		3	3	23
Grade 6		17	12	53		6	4	43		1	3	29
	Total	***28***	***27***	***96***	***Total***	***15***	***9***	***72***	***Total***	***4***	***6***	***62***
School 2												
Grade 3		13	9	46		14	14	18		0	2	16
Grade 6		14	6	52		18	13	21		0	1	20
	Total	***27***	***15***	***98***	***Total***	***32***	***27***	***39***	***Total***	***0***	***3***	***36***
	Round One Total	55	42	194	Round Two Total	47	36	111	Round Three Total	4	9	98
	Grand Total	***55***	***42***	***194***		***102***	***78***	***111***		***106***	***87***	***98***

Table 5

Between Groups Differences for Children of Varying Peer Status Groups on All Dependent Variables

Dependent Variable	Peer Status Group	*M*	*SD*	*F*	*p*	Partial η^2
SOC	Average	10.93	4.28	.20	.82	.01
	Popular	10.26	5.34			
	Rejected	11.45	4.27			
SAD	Average	4.73	3.90	1.33	.26	.06
	Popular	4.21	3.68			
	Rejected	5.04	4.30			
PD/A	Average	4.83	4.09	.03	.97	.00
	Popular	5.61	4.55			
	Rejected	6.51	4.61			
GAD	Average	7.13	4.27	.73	.49	.03
	Popular	6.48	4.35			
	Rejected	9.27	4.85			
OCD	Average	6.50	3.87	.82	.45	.03
	Popular	5.91	4.06			
	Rejected	7.24	2.44			
DEP	Average	7.00	3.33	2.51	.09	.10
	Popular	6.54	4.02			
	Rejected	11.53	5.55			
NA	Average	31.71	10.82	.43	.65	.02
	Popular	27.89	10.49			
	Rejected	32.17	11.94			
PA	Average	45.01	9.93	.38	.68	.02

Popular	47.72	7.29
Rejected	43.17	13.50

Note. **SOC** = RCADS Social Phobia Scale raw score, **SAD** = RCADS Separation Anxiety Disorder Scale raw score, **PD/A** = RCADS Panic Disorder/Agoraphobia Scale raw score, **GAD** = Generalized Anxiety Disorder Scale raw score, **OCD** = RCADS Obsessive Compulsive Disorder Scale raw score, **DEP** = RCADS Depression Scale raw score, **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score.

Table 6

Intercorrelations Between Positive Affect, Negative Affect, Social Impact, Social Preference, Social Anxiety, and Depression Scores

Scale	NA	PA	SP	SI	SOC	DEP
NA	--	-.20*	-.21*	.16	.33**	.59**
PA		--	.12	.05	-.14	-.21*
SP			--	.11	-.14	-.37**
SI				--	.12	.29**
SOC					--	.49**
DEP						--

Note. **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score, **SP** = Sociometric Social Preference score, **SI** = Sociometric Social Impact score, **SOC** = RCADS Social Phobia Scale raw score, and **DEP** = RCADS Depression Scale raw score.

* $p < .05$. ** $p < .01$.

Table 7

Mediational Models 5 – 8

Mediational Model#	Independent Variable	Hypothesized Mediator	Dependent Variable
5	PA	SP	DEP
6	NA	SP	DEP
7	PA	SI	DEP
8	NA	SI	DEP

Note. **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score, **SP** = Sociometric Social Preference score, **SI** = Sociometric Social Impact score, and **DEP** = RCADS Depression Scale raw score.

Table 8

Summary of Regression Analyses for Mediational Model 5

Equation #	IV	DV	B	*SE* B	β
1	PA	SP	0.02	0.02	.12
2	PA	DEP	-0.10	0.05	-.21
3	**PA**	**DEP**	**-0.08**	**0.05**	**-.17**
	SP		**-1.17**	**0.32**	**-.35****

Note. **PA** = PANAS-C Positive Affect Scale raw score, **SP** = Sociometric Social Preference score, and **DEP** = RCADS Depression Scale raw score. Relationship conditions for establishing mediation effects that were satisfied are in bold print.

*$p < .01$. **$p < .001$.

Table 9

Summary of Regression Analyses for Mediational Model 6

Equation #	IV	DV	B	*SE* B	β
1	NA	SP	-0.03	0.01	.04
2	**NA**	**DEP**	**0.26**	**0.04**	**.59****
3	**NA**	**DEP**	**0.23**	**0.04**	**.53****
	SP		**-0.86**	**0.27**	**-.26***

Note. **NA** = PANAS-C Negative Affect Scale raw score, **SP** = Sociometric Social Preference score, and **DEP** = RCADS Depression Scale raw score. Relationship conditions for establishing mediation effects that were satisfied are in bold print.

$^{*}p < .01$. $^{**}p < .001$.

Table 10

Summary of Regression Analyses for Mediational Model 7

Equation #	IV	DV	B	*SE* B	β
1	PA	SI	0.01	0.01	.05
2	PA	DEP	-0.10	0.05	-.21
3	PA	DEP	-0.11	0.05	-.23
	SI		1.45	0.47	.30*

Note. **PA** = PANAS-C Positive Affect Scale raw score, **SI** = Sociometric Social Impact score, and **DEP** = RCADS Depression Scale raw score. Relationship conditions for establishing mediation effects that were satisfied are in bold print.

*$p < .01$. **$p < .001$.

Table 11

Summary of Regression Analyses for Mediational Model 8

Equation #	IV	DV	B	*SE* B	β
1	NA	SI	0.02	0.01	.16
2	**NA**	**DEP**	**0.26**	**0.04**	**.59****
3	**NA**	**DEP**	**0.24**	**0.04**	**.55****
	SI		**0.96**	**0.40**	**.20**

Note. **NA** = PANAS-C Negative Affect Scale raw score, **SI** = Sociometric Social Impact score, and **DEP** = RCADS Depression Scale raw score. Relationship conditions for establishing mediation effects that were satisfied are in bold print.

*$p < .01$. **$p < .001$.

Table 12

Mean Scores for Rejected, Average, and Popular Children on All Dependent Variables.

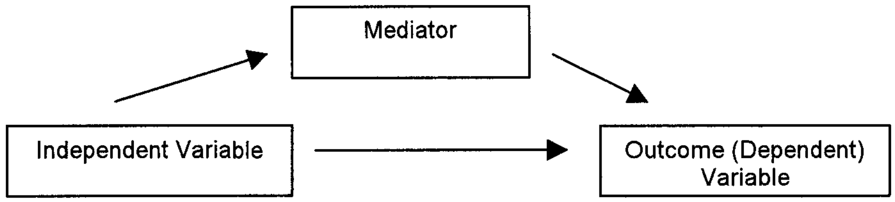
Dependent Variable	Peer Status Group				
	Popular		Average		Rejected
SOC	10.26	<	10.93	<	11.45
SAD	4.21	<	4.71	<	5.04
PD/A	5.61	>	4.83	<	6.51
GAD	6.48	<	7.13	<	9.27
OCD	5.91	<	6.50	<	7.24
NA	27.89	<	31.71	<	32.17
PA	47.72	>	45.01	>	43.17

Note. **SOC** = RCADS Social Phobia Scale raw score, **SAD** = RCADS Separation Anxiety Disorder Scale raw score, **PD/A** = RCADS Panic Disorder/Agoraphobia Scale raw score, **GAD** = RCADS Generalized Anxiety Disorder Scale raw score, **OCD** = RCADS Obsessive Compulsive Disorder Scale raw score, **NA** = PANAS-C Negative Affect Scale raw score, **PA** = PANAS-C Positive Affect Scale raw score.

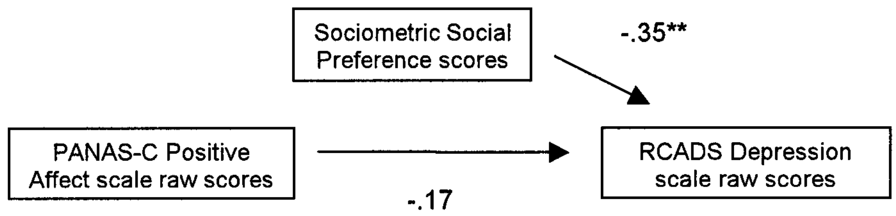
Figure Captions

Figure 1. Baron and Kenny's (1986) Mediational Model.

Figure 2. Beta values from standard multiple regression analyses performed on Mediational Models 5 through 8.

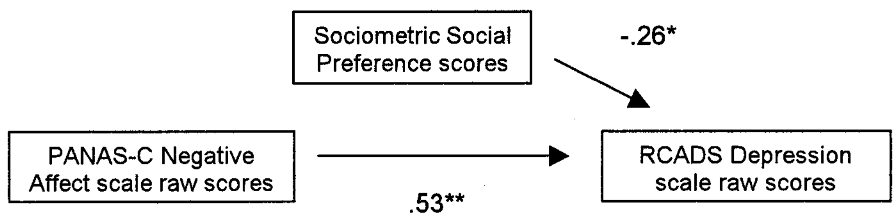

Mediator
Independent Variable
Outcome (Dependent) Variable

A



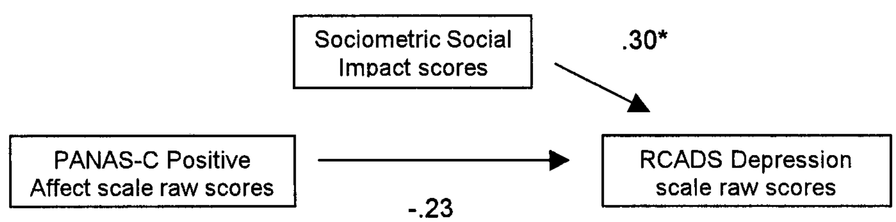
*$p < 0.01$. **$p < 0.001$.

B



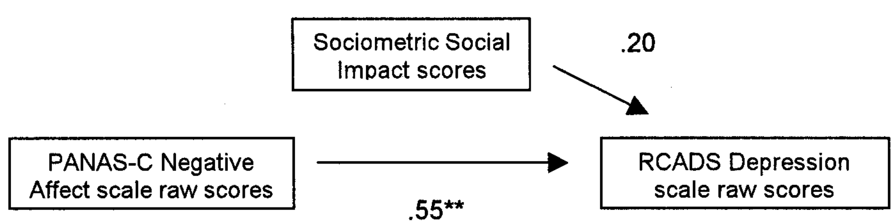
*$p < 0.01$. **$p < 0.001$.

C



*$p < 0.01$. **$p < 0.001$.

D



*$p < 0.01$. **$p < 0.001$.

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