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DEPRESSION AND SOCIAL SUPPORT AS MODERATORS OF WITHIN-
PERSON RELATIONSHIPS BETWEEN DAILY EVENTS AND DAILY
ADJUSTMENT DURING ADOLESCENCE

by

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A Dissertation Submitted to the Faculties of

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Eastern Virginia Medical School
Norfolk State University
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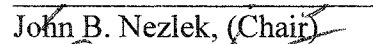
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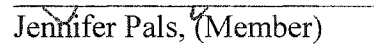
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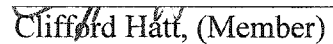
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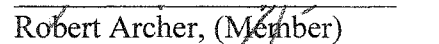
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ABSTRACT

DEPRESSION AND SOCIAL SUPPORT AS MODERATORS OF WITHIN-PERSON RELATIONSHIPS BETWEEN DAILY EVENTS AND DAILY ADJUSTMENT DURING ADOLESCENCE

Rebecca M. Plesko

The Virginia Consortium Program in Clinical Psychology, 2002

Chair: Dr. John B. Nezlek, The College of William and Mary

Everyday for 2 weeks, adolescents described the events that occurred each day and provided measures of their daily self-esteem and depressogenic adjustment. Adolescents also provided trait measures of depression and social support. Within-person relationships were found between social and achievement, positive and negative daily events and daily adjustment. Depression and social support moderated specific within-person relationships. Less well-adjusted adolescents were more reactive to social positive events than better-adjusted adolescents, but surprisingly, better-adjusted adolescents were more reactive to social negative events than less well-adjusted adolescents. Better-adjusted adolescents were also more reactive to achievement positive events than less well-adjusted adolescents. Girls were more reactive to social negative events than boys, a difference that was not accounted for by gender differences in trait depression. Finally, adolescents with high social support satisfaction were less reactive to achievement negative events and social positive events than adolescents with low social support satisfaction.

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INTRODUCTION

Within personality and social psychology there has been an increasing interest in the within-person relationships between daily events and daily adjustment, and in how the strength of such within-person relationships is moderated by between-person differences in depression and social support. Existing research has focused on the reactivity of young adults and adults to daily positive and negative events. The present study focused on the reactivity of adolescents to social and achievement, positive and negative daily events. Adolescents' gender, level of depression, and social support were also examined as potential moderators of the strength of within-person relationships between events and adjustment. For example, were less well-adjusted adolescents more reactive to social and achievement negative events than better-adjusted adolescents? Were adolescents with lower levels of social support more reactive to social and achievement negative events than adolescents with higher levels of social support? It was important to examine these within-person relationships during adolescence because adolescents are still developing their cognitive processes and sense of self, developmental factors that might influence daily reactivity and, in turn, overall adjustment.

There are multiple factors involved in adolescent well-being including biological development, gender role intensification, stressful life events, parent and peer support, and coping responses (Compas, 1987a; Compas, Hinden, & Gerhardt, 1995; Leadbeater, Blatt, & Quinlan, 1995; Nolen-Hoeksema, 1994; Petersen, Sarigiani, & Kennedy, 1991; Rice, Herman, & Petersen, 1993; Wenz-Gross, Siperstein, Untch, Widaman, 1997). The

The *American Psychological Association Publication Manual: Fifth Edition*, 2001 was the model for this dissertation.

present study focused on the experience of daily events during adolescence, and the relationship of this experience to trait protective and risk factors. Daily events are everyday events such as arguments with a girlfriend or difficulties in school, as opposed to major events such as parental divorce or normative life events such as the transition to high school. Research with adult participants has found that stressful daily events were associated with lower levels of daily adjustment, and that higher levels of depression and neuroticism or lower levels of social support were related to greater reactivity to daily events (Affleck, Tennen, Urrows, & Higgins, 1994; Butler, Hokanson, & Flynn, 1994; Clark & Watson, 1988; DeLongis, Folkman, Lazarus, 1988; Marco & Suls, 1993; Nezlek & Gable, in press; Nezlek & Plesko, 2001; Suh, Diener, & Fujita, 1996; Suls, Martin & David, 1998; van Eck, Nicolson, & Berkhof, 1998). Research with adolescent participants has not examined within-person relationships between daily events and daily adjustment, but daily events have been strongly related to trait levels of adjustment (Allgood-Merten, Lewinsohn, & Hops, 1990; Compas, 1987b; Compas, Howell, Phares, Williams, & Giunta, 1989; Windle & Windle, 1996). In fact, daily events have had a stronger relationship with trait emotional and behavioral adjustment for adolescents than for adults (Allgood-Merten et al., 1990; Wagner, Compas, & Howell, 1988; Windle & Windle, 1996). In addition, the relationship between major life events and trait adjustment has been weaker, or nonexistent, for adolescents as compared to adults (Allgood-Merten et al., 1990; Cohen, Burt, & Bjorck, 1987; Dumont & Provost, 1999; Swearington & Cohen, 1985; Wagner et al., 1988; Windle & Windle, 1996).

Daily Within-person Relationships

During the last decade there has been an increased appreciation for the demand of daily events or chronic hassles on well-being, with some research finding daily events were better predictors of adjustment than major life events in adults (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982). These day-to-day designs represent a recent trend in the study of individual differences that focuses on state rather than trait relationships. Traits are individual differences that are assumed to be more or less stable across time and to have some more or less regular relationship to other measures such as overt behavior. In contrast, states are assumed to be somewhat transient, changing across time and settings. Moreover, the same construct can be conceptualized at both the state and trait levels.

Within-person relationships among constructs at the state level in adults have been conceptualized from two different perspectives, with a focus on the daily variability in affect or on the daily variability in self-based constructs such as self-esteem or self-concept clarity (e.g. Butler et al., 1994; DeLongis et al., 1988; Nezlek & Plesko, 2001; Nezlek & Plesko, in press). Studies focusing on the daily variability in affect have traditionally examined daily relationships between negative events and mood (Affleck et al., 1994; Bolger & Shilling, 1991; Clark & Watson, 1988; Marco & Suls, 1993; Suh et al., 1996; Suls et al., 1998; van Eck et al., 1998), although more recently relationships between positive events and mood have been included (David, Green, Martin, & Suls, 1997). Affect-based researchers hypothesize that people who are high in neuroticism are more easily aroused and therefore have a greater affective response to daily stress. These studies have consistently found daily within-person relationships among negative events,

negative affect, and physical symptoms, and occasionally among negative events and positive affect or agitation (Clark & Watson, 1988; David et al., 1997; DeLongis et al., 1988; Marco & Suls, 1993; Suh et al., 1996; vanEck et al., 1998). The within-person relationship between daily stress and negative mood has been well-documented, with some researchers reporting that 19-20% of the variance in daily mood was associated with the presence of daily stress (Bolger, DeLongis, Kessler, & Schilling, 1989).

The association between daily positive events and daily affect has not been as strong or as researched as that of negative daily events and daily affect. Taylor (1991) noted that negative events are more salient and provoke more physiological, affective, cognitive, and behavioral reactivity than neutral or positive events. Negative events have also been the primary interest of researchers examining the stress-health relationship or the moderating role of Neuroticism (Cohen, Tyrrell, & Smith, 1993). Nevertheless, positive events are an important aspect of daily experience and are essential to consider when the goal is to better understand the day-to-day life of adolescents. In adult studies that included positive daily events, adults have reported increased positive affect and subjective well-being and decreased negative affect on days with increased positive events (Clark & Watson, 1988; David et al., 1997; Nezlek & Gable, in press; Nezlek & Plesko, 2001; Suh et al., 1996).

There has also been an emphasis on individual differences in the extent to which self-based constructs fluctuate in relation to positive and negative daily events (Butler et al., 1994; Clark & Watson, 1988; David et al., 1997; DeLongis et al., 1988; Marco & Suls, 1993; Nezlek & Gable, in press; Nezlek & Plesko, 2001; Nezlek & Plesko, in press; Suh et al., 1996; vanEck et al., 1998). The theoretical basis for some of this research

concerns the relationship between a person's sense of self-worth and their self-concept, and the feedback they receive from the environment (such as daily events). In agreement with Roger's (1961) theory of the self, an important condition leading to feelings of self-worth is unconditional positive regard because this allows a person to internalize a positive sense of self. Without out this positive sense of self, a person's self-concept is more conditional upon the feedback they receive from the environment.

Utilizing a broader framework of self-based daily adjustment, within-person relationships have been found among both positive and negative daily events, and daily positive and negative affect, daily self-esteem, self-concept clarity, depressogenic adjustment, anxiety, subjective well-being, and self-consciousness (Butler et al., 1994; Nezlek, in press; Nezlek & Gable, 1999; Nezlek & Plesko, in press; Nezlek & Plesko, 2001; Suh et al., 1996). Overall, this research suggests that it is important to consider more than one construct when examining relationships between daily events and daily well-being. A negative daily event might be related to negative mood, but it also may provoke doubts about self-worth, confusion about identity, feelings of anxiety or depression. These self-based or cognitively focused measures of daily well-being may be correlated with mood, but also make independent contributions to one's daily life experience (Nezlek & Plesko, in press). Self-based measures of daily adjustment, specifically self-esteem and depressogenic adjustment, were included in the present study because adolescence is a time when the self-concept and feelings of self-worth are still developing.

Daily events were separated into social and achievement domains because academic and social performance have been identified as the primary domains of self-

evaluation during adolescence (DuBois, Felner, Meares, & Krier, 1994; Rae-Grant, Thomas, Offord, & Boyle, 1989; Repetti, 1996; Walker & Greene, 1986). Adolescents test their skills across settings and place varying levels of importance on academic achievement, peer relationships, family relationships, athletic skills, and popularity when developing their self-concept and self-worth (DuBois et al., 1994; Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). Social and achievement events may also elicit different responses from friends and family that are related to daily adjustment. For example, Repetti (1996) found that academic failure during the day was associated with behavioral and emotional problems for children and with increased reports of disapproving and punishing responses from parents, whereas peer or social failure during the day was only associated emotional and behavioral problems for children. On a day that a child receives a bad grade, parents may be more likely to give a lecture or strong messages that improvement is necessary. In contrast, on a day that a child is rejected by friends parents may offer reassurance and emotional support.

Within-person Relationships Between Events and Adjustment During Adolescence

Thus far, the research on the impact of daily events during adolescence has focused only on trait level relationships. Nevertheless, there has been an increased focus on measuring daily events and their relationship to trait characteristics. As stated above, the relationship between daily events and trait adjustment has been stronger for adolescents than adults. Specifically, negative daily events have been related to higher levels of depression and anxiety, lower grade point averages, less effective coping strategies, lower perceived health status, lower self-esteem and greater delinquency during adolescence (Allgood-Merten et al., 1990; Cohen, Burt, & Bjork, 1987; De Maio-

Esteves, 1990; Dubois et al., 1992; Ebata & Moos, 1994; Wagner, Compas, & Howell, 1988; Windle & Windle, 1996). In contrast, the relationship between major life events and adolescent adjustment has been comparable (Dubois et al., 1992; Windle & Windle, 1996) or notably weaker than that between daily events and adjustment (Compas, 1987; Dubois et al., 1994; Dumont & Provost, 1999; Swearington & Cohen, 1985; Wagner et al., 1988). In support of this finding, daily events have been significant predictors of adolescent depression and anxiety in prospective designs (Allgood-Merten et al., 1990; Dubois et al., 1992; Dubois et al., 1994; Swearington & Cohen, 1985; Wagner et al., 1988). Studies exploring the impact of daily positive events on trait adjustment in adolescents have found an association between positive events and decreased depression, higher grade point averages and surprisingly, increased alcohol use and delinquency (Windle & Windle, 1996).

The increased importance of daily events during adolescence has been discussed from different perspectives. First, researchers have proposed an integrative model of psychosocial stress during adolescence in which negative daily events mediate the relationship between major life events and psychological adjustment (Compas, 1987; Dumont & Provost, 1999; Johnson & Sherman, 1997; Wagner et al., 1988). In one study, adolescents reported their major life events, daily hassles, and psychological adjustment at three intervals during the transition from high school to college (Wagner et al., 1988). Using the integrative model, there were significant paths from major life events to daily hassles (ranging from .24 - .45) and from daily hassles to psychological adjustment (.37 - .59) at all three time periods. The paths from major events to psychological adjustment were not significant, suggesting that a major event increased the number and/or meaning

of minor daily events to influence well-being. Another study that investigated the mediating role of daily hassles in the relationship between major life events and psychopathology reported that this mediation effect was present, and that “daily hassles predicated subsequent levels of overall psychiatric symptoms one and two months later, even after current psychiatric symptomology was controlled statistically, while major life events failed to do so” (Johnson & Sherman, 1997, p. 399).

Another possible explanation for the different role of daily events during adolescence is that adolescents are still developing, and the cognitive, self, and affective processes unique to this life stage may mediate within-person relationships. Some researchers have noted that the normative level of adolescent cognitive development leads to an increased focus on their own experience and the here-and-now, which may increase their sensitivity to daily events (Compas, 1987; De Maio-Esteves, 1990; Wagner et al., 1988).

Drawing from both the affect and self-based models of within-person relationships between daily events and adjustment in adults, and on the research findings regarding life events and trait adjustment during adolescence, the following hypotheses were made: daily social and achievement negative events would be associated with lower levels of daily self-esteem and higher levels of daily depressogenic adjustment, while daily social and achievement positive events would be associated with higher levels of daily self-esteem and lower levels of daily depressogenic adjustment.

Potential Moderating Effects of Between-person Differences on Within-person Relationships

When investigating within-person relationships between daily events and daily adjustment, another important issue to consider is whether between-person differences or trait characteristics moderate these within-person relationships. Various between-person differences in depression, neuroticism, social support, coping styles, and negative affect have moderated within-person relationships in adult or college student populations (Bolger & Shilling, 1991; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Marco & Suls, 1993; Martin & Suls, 1982; Nezlek & Gable, in press). The present study investigated the potential moderating effects of between-person differences in depression, social support, and gender in an effort to explore both risk and protective trait factors for daily adjustment during adolescence.

Between-person differences in depression. Much of the research on the daily events of adults has focused on the moderating role of neuroticism (N). In some studies, individuals with higher levels of N (generally feeling a sense of malaise, anxiety, and depression) were more reactive to daily stress and took longer for their mood to recover (Bolger & Schilling, 1991; David et al., 1997; Marco & Suls, 1993), whereas other studies have not found this moderating effect (Affleck et al., 1994; David et al., 1997). People high in N also tend to be exposed to (or report) more daily stress; however, the reactivity component is twice as important as exposure when considering within-person relationships between daily mood and stress (Bolger & Schilling, 1991). This line of research has not found that level of N moderated daily relationships between positive events and mood.

Depression, a related but distinct aspect of well-being, has also been investigated as a moderator of daily relationships between events and adjustment, particularly in research based on the self-based models discussed above (Butler et al., 1994; Nezlek & Allen, 2001; Nezlek & Gable, in press; Nezlek & Plesko, in press; van Eck et al., 1998). According to this model, depression is hypothesized to make someone more vulnerable to environmental stress because depressed people have a less secure self-concept. This finding is supported by Roger's (1961) theory of the self in which a person's adjustment is partially defined as a function of how conditional or dependent upon environmental events his or her self-worth is. Individuals with lower levels of adjustment are expected to have stronger reactions to external events. For example, a negative event (such as a problem with spouse, friend, or at work) threatens the primary source of a maladjusted person's self-esteem because their self-worth is more dependent on external feedback than an internal, stable sense of self.

In support of this theory, Butler, Hokanson, and Flynn (1994) found that people who were previously depressed had a more labile self-esteem than people who were never depressed, and that self-esteem lability combined with high external stress predicted depressive episodes. These authors suggest that depression stemming from dependency needs and depression based on perfectionist strivings will make people more susceptible to social disappointments and achievement failures, respectively. In studies with adult or college student participants, depression moderated the within-person relationships between daily events and daily adjustment. Nezlek and Gable (in press) reported that people who were depressed had a stronger daily covariation between both positive and negative events and daily self-esteem. In other words, on days rated with high negative

event scores the less well adjusted person experienced greater decreases in daily self-esteem than the better adjusted person. On days rated with higher positive event scores, the less well adjusted person had greater increases in daily self-esteem than the better adjusted person. The moderation of within-person relationships between daily positive events and adjustment has been replicated in some research (Nezlek & Plesko, in press), but not in others (Nezlek & Allen, 2001).

The present study included risk for depression as a possible moderator for the daily covariations between events and adjustment in adolescents. Depression as a construct has been more widely validated and measured in adolescents than Neuroticism and has been identified as a trait level risk factor in young adults (Nezlek & Gable, 1999). Additionally, adolescent trait depression has been linked to exposure to daily stress in a number of studies (Allgood-Merten et al., 1990; Dubois et al., 1994; Dubois et al., 1992; Dumont & Provost, 1999; Wagner et al., 1988; Windle & Windle, 1996). It was hypothesized that similar to young adults, less well adjusted adolescents would be more reactive to daily events than better adjusted adolescents. Specifically, it was expected that less well adjusted adolescents would experience greater changes in daily self-esteem and depressogenic adjustment on days with high positive and negative, social and achievement event scores than better adjusted adolescents.

Gender differences. Gender differences in depression during adolescence are well documented (Allgood-Merten et al., 1990; Leadbater et al., 1995; Nolen-Hoeksema, 1994; Nolen-Hoeksema & Girgus, 1994; Nolen-Hoeksema, Girgus, & Seligman, 1992; Petersen et al., 1991) and the present study included gender as a between-person difference to determine if there were gender differences in reactivity to daily events above

and beyond those accounted for by gender differences in depression. It is not clear from adult research whether women are more reactive to daily events, and this was the first in-depth examination of daily reactivity with adolescents.

In a few studies, adolescent girls reported a greater number of stressful recent and daily events (Allgood-Merten et al., 1990; Compas, 1987a; Leadbeater, Blatt, & Quinlan, 1995; Windle & Windle, 1996) and rated events as more stressful than boys (Compas, 1987). Directly relevant to the issue of increased vulnerability, a few studies found the relationship between negative events and psychological well-being was stronger for adolescent girls (Compas, 1987; Greenberger et al., 1982). Again, research on adolescent gender differences in reactivity to daily events has relied upon trait or dispositional level comparisons.

There has been some support for the idea that type of event is important when differentiating reactivity to events by gender. Bolger and colleagues (1989) separated the impact of different types of events on mood in adults, and found that daily interpersonal conflicts had twice the impact on mood as compared to other daily stressors. In this study, women were more sensitive to argument with a spouse, arguments with multiple people, and problems in transportation than men. Men were more sensitive to daily financial problems. Leadbater, Blatt, and Quinlan (1995) reviewed the impact of an interpersonal depressive style on reactivity to events during adolescence. Their summary indicated adolescent girls were more sensitive to negative interpersonal events than boys, but were comparable to boys in their reactivity to negative events threatening to the self (achievement oriented). Overall, it was expected that girls would have a slightly greater reactivity to daily social negative events.

Between-person differences in social support. Although the prediction that access to social support buffers the impact of stress is intuitively appealing, there has been mixed support in adult and adolescent research. There is some evidence that among people with lower social support, there is a stronger relationship between daily hassles and same day negative mood than among people with high social support (DeLongis et al., 1988). Caspi and colleagues (1987) found that social support did not buffer the effects of daily stress on same day mood in adults, but did mitigate the effects of stress from the previous day. Specifically, the negative impact of stress from the previous day on mood was reduced by 2/3 if the person had access to social support. Affleck, Tennen, Urrow, and Higgins (1994) also found that social support moderated the relationship between negative events and next day negative mood, and this moderating effect was stronger for people with lower social support. Nezlek and Allen (2001) found that college students who reported lower levels of support from friends had a stronger relationship between daily negative events and daily adjustment (self-esteem, depressogenic adjustment, and mood) than college students who reported with more support from friends. Very little research has examined the impact social support has on daily relationships between positive events and daily adjustment, although Nezlek & Allen (2001) found that friend and family social support did not moderate the positive event and daily adjustment relationships.

The impact of social support on trait well-being in adolescence is also mixed. High levels of social support have been related to lower levels of psychological distress and conduct problems (DuBois et al., 1994; Herman-Stahl & Petersen, 1996; Ystgaard, 1997). The buffering impact of social support has been more specific in some studies.

Social support interacted with bad major events such that bad major events predicted increased absences and school suspensions when family support was low, but not when family support was high (DuBois et al., 1994). Wenz-Gross, Siperstein, Untch, and Widaman (1997) reported that family emotional support weakened the relationship between peer stress and depression when peer stress was high, but not when it was low. Dubois and colleagues (1993) also found that social support was related to lower levels of psychological distress and daily hassles. However, support from school personnel was the only significant predictor of distress at the follow-up, and there was an interaction such that major events were more related to psychological distress in adolescents reporting low school support. Social support from friends and family did not moderate later relationships between events and distress. Other research has also failed to find a buffering effect for social support on the relationship between negative events and emotional and behavioral functioning (Dumont & Provost, 1999; Walker, Garber, Smith, Van Slyke, Claar, 2001; Windle & Windle, 1996).

Given the mixed findings, social support was hypothesized to moderate the day-to-day relationships of daily negative (social and achievement) events and daily adjustment in the present study, with increasing levels of support buffering the effect of negative events on daily adjustment. No predictions were made regarding social support as a moderator of the daily relationship between positive events and daily adjustment.

In summary, the present study investigated the day-to-day covariations of positive and negative, social and achievement daily events and daily adjustment (self-esteem and depressogenic adjustment) during adolescence. It was hypothesized that daily social and achievement negative events would be associated with lower levels of daily self-esteem

and higher levels of daily depressogenic adjustment, and daily social and achievement positive events would be associated with higher levels of daily self-esteem and lower levels of daily depressogenic adjustment. The second set of hypotheses concerned whether trait differences such as gender, depressogenic adjustment, and social support would moderate these day-to-day covariations. With respect to gender, it was hypothesized that girls would have a slightly greater reactivity to daily social negative events. It was also hypothesized that adolescents with higher levels of depression would experience greater changes in daily self-esteem and depressogenic adjustment on days with increased positive and negative, social and achievement events than adolescents who reported lower levels of depression. Finally, it was expected that high levels of social support would buffer the effect of negative events on daily adjustment.

METHOD

Participants

Thirty-five high school sophomores participated in this study in the spring semester, and 39 high school sophomores participated in the fall semester. Of those 74 students, 48 (17 male and 31 female adolescents) were included in the final analyses. Twenty-seven of those participants included in final analyses participated in the fall data collection, and 21 of the students participated in the spring. Participants were excluded for incomplete participation, missing data, and computer failure. Exclusion criteria are detailed below. Grade point averages were presented in Table 1, racial distributions for participants and the participating high school were presented in Table 2. Parental education and employment status was presented in Table 3.

Table 1

Demographic Characteristics of Participants

Variable	Participant Percentage	
<u>Grade Point Average</u>		
	4.0	13.3
	3.5	31.1
	3.0	26.7
	2.5	22.2
	2.0	6.7

Note. Participant GPA was self-reported, while GPA distribution for the high school was unavailable.

Table 2

Racial Background of Participants

<u>Racial Background</u>	Participant Percentage	High School Percentage
Asian or Pacific Islander	4	.5
African American	4	1.4
Caucasian	62	78.3
Hispanic/ Biracial/ Other	8	.2

Note. Racial background was omitted by 10 participants in the present study, racial background for the high school is calculated based on the entire school population of 2,107 students.

Table 3

Demographic Characteristics of Participants' Parents

Variable	Mothers	Fathers
<u>Parental Employment</u>		
Full Time	71.1%	93%
Part Time	13.3%	8
Not Employed	13.3%	8
<u>Parental Education</u>		
Less than High School	2.2%	2.2%
High School	33.3%	31.1%
College Degree	40.0%	48.9%
Graduate Degree	24.0%	17.8%

Measures

Daily events. Daily events were measured using 26 of the 40 items from the Daily Events Survey modified for use with high school students (DES; Butler, Hokanson, & Flynn, 1994). Thirteen positive and 13 negative events were measured, with 14 social events and 10 achievement events represented. These events included: "Had especially good time or talk with friend(s) or peers." (social positive), "Tried to do homework and couldn't understand it" (achievement negative), "Did well on a school or home task (such as test, homework, chores)" (achievement positive), "Had plans fall through to spend time with someone special" (social negative). Two items were added to the list to include interactions with family: "Had problems or arguments with parents or siblings" (social negative) and "Had a good time doing things or spending time with family members" (social positive). In addition to items from the DES, four items, each representing a combination of positive-negative and social-achievement, were created to measure other events that may have occurred. For example, other positive social events were measured using the item "Had other type of pleasant event (not listed above) with friends, family, or date".

A total of 26 events were measured, 7 positive-social, 6 positive-achievement, 7 negative-social, and 6 negative-achievement. Each day, participants rated each event using the following scale: 0 = did not occur, 1 = occurred and not important, 2 = occurred and somewhat important, 3 = occurred and pretty important, 4 = occurred and extremely important. For each day, ratings of the 14 positive events were averaged to create a positive event composite score, and ratings of the 12 negative events were averaged to create a negative event composite score. Event ratings were also averaged for each day to

create a social positive event score, a social negative event score, an achievement positive event score, and an achievement negative event score. The daily event measure was presented in Appendix A.

Depression. Depression was measured at the trait level with the 20 item Center for Epidemiological Studies Depression scale (CESD; Radloff, 1991) and the 30 item Reynold's Adolescent Depression Inventory (RAD; Reynolds, 1987). In previous research, the reliability of the CESD was adequate with adolescents and young adults (.85 - .87) and has established validity in correlating with other measures of depression and depressive symptoms (Doerfler, Felner, Rowlison, Evans, & Raley, 1988; Radloff, 1991). The reliability of the RAD for 10th graders has been adequate (.90 - .92), and the measure also has established validity in correlating with other measures of depression and depressive symptoms (Reynolds, 1987). Participants completed the CESD at the beginning of the study and the RAD at the end of the study. The CESD was presented in Appendix B and the RAD was presented in Appendix C.

Depressogenic adjustment was measured using three items representing the essential elements of Beck's (1972) theory of depression: negative view of self, negative view of life in general, and negative view of the future. The questions were "Overall, how positively did you feel about yourself today?", "Thinking of your life in general, how well did things go today?", and "How optimistic are you about how your life (in general) will be tomorrow?". Participants responded on a 7 point scale where 1 = very negatively/pessimistic and 7 = very positively/optimistic. The daily cognitive triad, or depressogenic adjustment, measure was operationalized as the mean response across the three items. The depressogenic adjustment measure was presented in Appendix D.

Social support. Perceived quantity and satisfaction with social support was measured with the Social Support Questionnaire (Sarason, Levine, Bashman, & Saranson, 1983). Example items included, “Whom can you really count on to distract you from your worries when you feel under stress?” and “Whom can you count on to care about you, regardless of what is happening to you?” Participants were asked to provide the number of people relevant to each item and also rate their satisfaction with that support on a 7 point scale, where 1 = very dissatisfied and 7 = very satisfied. Two indicators of social support were then calculated, the total number of people that each participant identified (SSQ-N) and their mean satisfaction with that support (SSQ-S). In previous research, the SSQ-N had an internal consistency of .97 and the SSQ-S had an internal consistency of .94, and test retest reliabilities of .90 and .83 respectively (Saranson, Saranson, Shearin, & Pierce, 1987). Social support was measured at the beginning of the study. The Social Support Questionnaire was presented in Appendix E.

Self-esteem. Trait and state self-esteem was measured with the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The trait measure used a 5 point scale with endpoints of 1 = strongly disagree and 5 = strongly agree, and participants completed a trait version of the scale at the beginning of the study (Appendix F). Daily self-esteem was measured using items 3 “All in all, I am inclined to feel like a failure.”, 6 “I take a positive attitude toward myself.”, 7 “On the whole, I am satisfied with myself.”, and 10 “At times I think I am no good at all.” on the trait scale reworded to refer to how participants felt about themselves that day (Appendix G). Daily self-esteem was operationalized as the mean daily response across the four items.

Procedure

The procedure was the same for the spring and fall data collections. Information about the study was handed out in the first ten minutes of physical education classes. Study information sheets, parental consent forms, and adolescent consent forms were sent home with 200 students in spring and with 400 students in the fall. Participants who returned both the parental and adolescent consent forms were eligible for participation. Participation was voluntary and confidential. Analyses were conducted to determine if there were differences between students who participated in the spring and in the fall, there were no differences and their responses have been combined for remaining analyses.

Participants were provided with incentives for participation. Participants who completed at least one day of measures received a Blockbuster movie rental pass, those who completed at least 10 days of measures also received a movie theater pass, and those who completed all 14 days of measures also had their name entered into a raffle for a gift certificate to a local music store.

High school sophomore participants described their positive and negative daily events, and rated their daily self-esteem and depressogenic adjustment every night for two weeks. The participants also completed dispositional questionnaires at the beginning and the end of the two weeks. Participants were offered the opportunity to answer the questionnaires on the internet or on paper. Many participants did not complete the entire study. Their responses were excluded from data analyses if they completed less than 6 days of daily measures, if the daily measures were answered before 5:00PM, and if the daily event measure was consistently missing. In the spring, 21 students provided enough information on the computer to be included in the final analyses. High school personnel

accidentally threw out the paper questionnaires for students in the spring. In the fall, 22 students provided complete questionnaire packets on the computer, and 5 students provided complete packets on paper.

RESULTS

Overview of Data Analyses

The data from this study were multilevel, in that within-person observations (daily relationships between events, self-esteem, and depressogenic adjustment) were nested within between-person analyses (individual differences in the within-person relationships). Accordingly, the data was analyzed with a series of multilevel random coefficient models (MRCM) using the program HLM (Bryk, Raudenbush, & Congdon, 1998; Version 4.03a). MRCM was chosen over ordinary-least-squares methods such as using within-person correlations to measure within-person relationships because MRCM provides better parameter estimates than OLS methods (Bryk & Raudenbush, 1992).

Models and analyses are described using the nomenclature standard to multilevel modeling, and within this terminology, the primary analyses were 2-level models. Within-person relationships were modeled with what is referred to as Level 1 in multilevel analyses. Within-person daily responses were nested within each individual person, and for each person, coefficients were estimated representing the day-to-day relationships between daily events, depression, self-esteem, and academics. For example, did daily self-esteem covary with the events that occurred each day? Individual differences in these within-person relationships were modeled at Level 2. For example, did the relationship between daily self-esteem and events vary as a function of between person differences (depression or social support)?

Validity and reliability of daily measures of adjustment

Descriptive statistics and the validity and reliability of the daily adjustment measures were examined first. Reliability estimates, defined as true variance divided by

total variance, for these measures were estimated automatically by HLM. All measures were reliable at .84 or above (see Table 4). The validity of the daily adjustment measures was operationalized in two ways. First, the estimates of fixed effects provided by HLM were examined to determine if the trait level of a construct (self-esteem or depression) was related to the day level of the same construct. This relationship is significant if the level 2 γ_{00} coefficient is significant. Next, the random parameter estimates, error variances, were examined to determine how much of the between person variance in daily adjustment was accounted for by the trait adjustment construct (Bryk & Raudenbush, 1992, p.65).

Table 4

Daily Measure Summary Statistics

Measure	Mean	Standard Deviation	Between person variance	Within person variance	Reliability	Validity
Self-esteem	5.58		.40	.80	.84	.47
Triad	5.26		.45	.87	.84	.48
Social positive events	1.73	.11	.43	.55	.92	
Social negative events	.69	.07	.24	.25	.90	
Achievement positive events	1.44	.09	.38	.57	.87	
Achievement negative events	.72	.07	.24	.30	.89	

Preliminary analyses, termed “totally unconditional” models, were conducted for both daily self-esteem and daily depressogenic adjustment. These models are called “totally unconditional” because daily measures are not modeled as a function of day or person level variables. Totally unconditional models provide estimates of within- and between-person variances that are used to evaluate the results of future analyses. The basic level 1 model was:

$$Y_{ij} = \beta_{0j} + r_{ij}.$$

In this analysis, β_{0j} is a random coefficient representing the mean of y (daily self-esteem or daily depressogenic adjustment) for person j across the i number of days each person completed the daily measures, r_{ij} represents the error associated with each measure of daily adjustment, and the variance of r_{ij} equals the within-person or day level residual (or error) variance. The basic level 2 model was:

$$\beta_{0j} = \gamma_{00} + u_{0j}.$$

For this model, γ_{00} represents the grand mean of the daily adjustment measures (mean of the person level means in the level 1 model), u_{0j} is the error of β_{0j} , and the variance of u_{0j} is the between-person or level 2 residual variance.

Validity of the daily measures was first examined by considering the relationship between within-person or day level means of self-esteem or depressogenic adjustment and trait level measure of self-esteem or depression. In this model, day level means (β_{0j} from the level 1 model) were modeled at level 2 as a function of the trait measure of the same construct. The level 2 model was:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{TRAIT}) + u_{0j}.$$

Validity of daily measures was verified by examining the significance tests of the coefficients (γ_{01}), which is similar to an unstandardized regression coefficient, and by examining the reduction in error variances between the totally unconditional model and the level 2 model which includes the corresponding trait measure. The γ_{01} coefficient of .31 for the relationship between daily self-esteem and trait self-esteem was significantly different from 0 ($t = 3.49, p < .001$), indicating that daily and trait measures of self-esteem were positively related. All trait measures were standardized prior to analyses so that a 1.0 increase was equal to 1 standard deviation. For every 1.0 increase in trait self-esteem ($M = 3.64; SD = .77$), mean daily self-esteem increased .31.

To determine the validity of daily depressogenic adjustment, separate analyses were completed using both the RAD and the CESD as trait measures of depression. For analyses including the RAD as trait depression, the γ_{01} coefficient of -.35 was significantly different from 0 ($t = -4.6, p < .001$). For every 1.0 increase in trait depression (RAD; $M = 61.4, SD = 16.6$), daily depressogenic adjustment decreased -.35. For analyses including the CESD as trait depression, the γ_{01} coefficient of -.29 was significantly different from 0 ($t = -3.56, p < .001$). For every 1.0 increase in trait depression (CESD; $M = 20.55, SD = 8.96$), daily depressogenic adjustment decreased -.29.

Validity of the daily measures was also verified by examining the reduction in error variance that occurred when daily adjustment means were modeled with the trait level of the corresponding construct. The mean daily self-esteem score was estimated to be 5.54. The variance in self-esteem within days was .40 ($SD = .64$), and the variance in self-esteem between-persons was .80 ($SD = .89$). When trait self-esteem was included in

the analysis, the variance in self-esteem within days reduced by 2.25% to .31 ($SD = .56$). Therefore, there was a .47 correlation (square root of 2.25%) between daily self-esteem and trait self-esteem. The day level variance accounted for 33% of the total self-esteem variance (1.20) indicating there was enough day level variability to model.

The same process was used to determine the validity of daily depressogenic adjustment. The mean daily depressogenic adjustment score was estimated to be 5.26. The variance in depressogenic adjustment within days was .45 ($SD = .67$), and the variance in depressogenic adjustment between- persons was .87 ($SD = .93$). When trait depression measured by the RAD was included in the analysis, the variance in depressogenic adjustment within days was reduced by 2.4 % to .34 ($SD = .59$). The correlation between daily depressogenic adjustment and trait depression (RAD) was .48. When trait depression as measured by the CESD was included in the analysis, the variance in depressogenic adjustment within days was reduced by 1.5 % to .38 ($SD = .61$). The correlation between daily depressogenic adjustment and trait depression (CESD) was .38. The day level variance accounted for 34.1% of the total depressogenic adjustment variance (1.32) indicating there was enough day level variability to model. Results of these analyses were presented in Table 4.

Within-person Covariation between Daily Events and Daily Measures

This series of analyses examined the within-person relationships between daily events, self-esteem, and depressogenic adjustment. In essence, for each person a regression equation was estimated describing the relationships between daily events and daily self-esteem and depressogenic adjustment. In this model, daily self-esteem and depressogenic adjustment were dependent measures and social and achievement, positive

and negative event scores were independent measures. The basic within-person (or Level 1 model) was:

$$y_{ij} = \beta_{0j} + \beta_{1j}\text{SocPosEvent} + \beta_{2j}\text{SocNegEvent} + \beta_{3j}\text{AchPosEvent} + \beta_{4j}\text{AchNegEvent} + r_{ij}$$

in which y is a score for person j on day i , β_{0j} is a random coefficient representing the intercept for person j , β_{1j} SocPosEvent is a random coefficient (referred to as a slope to distinguish it from an intercept) for social positive events, β_{2j} SocNegEvent is a random coefficient (slope) for social negative events, β_{3j} AchPosEvent is a random coefficient (slope) for achievement positive events, β_{4j} AchNegEvent is a random coefficient (slope) for achievement negative events, and r_{ij} represents error. Separate analyses were conducted for self-esteem and the triad measure. Event scores were group mean centered to reduce the influence of individual differences on parameter estimates (some individuals report or experience more daily events than others). As a result, the coefficients (or slopes) for an individual represents relationships between deviations between the individual's mean event score and deviations from his or her mean self-esteem or triad score.

The coefficients or slopes from the Level 1 model were then analyzed at the person level (Level 2). The Level 2 model was:

$$\text{Intercept:} \quad \beta_{0j} = \gamma_{00} + u_{0j}$$

$$\text{Social Positive Events:} \quad \beta_{0j} = \gamma_{10} + u_{1j}$$

$$\text{Social Negative Events:} \quad \beta_{0j} = \gamma_{20} + u_{2j}$$

$$\text{Achievement Positive Events:} \quad \beta_{0j} = \gamma_{30} + u_{3j}$$

$$\text{Achievement Negative Events:} \quad \beta_{0j} = \gamma_{40} + u_{4j}$$

In these models, γ_{00} represents the mean intercept, γ_{10} represents the mean social positive event slope, γ_{20} represents the mean social negative event slope, γ_{30} represents the mean achievement positive event slope, and γ_{40} represents the mean achievement negative event slope. Error is represented by u_{ij} . The results of these analyses were presented in Table 5.

Table 5

Within-person Relationships Between Events and Daily Measures

Measure	Intercept	Social Positive	Social Negative	Achievement Positive	Achievement Negative
Self-esteem	5.53	.40*	-.42*	.20*	-.50*
Depressogenic Adjustment	5.25	.33*	-.41*	.13*	-.32*

Note. Coefficients marked with * were significantly different from 0 at $p < .01$ or beyond.

For self-esteem analysis the error terms for SN and AP events were fixed. For triad analysis, the error terms for SP and AP events were fixed.

Using self-esteem as the dependent variable, all slopes were significantly different from zero: for the social positive event slope, γ_{10} , $t(47) = 5.87$, $p < .001$, for the social negative event slope, γ_{20} , $t(527) = -4.45$, $p < .001$, for the achievement positive event slope, γ_{30} , $t(527) = 4.80$, $p < .001$, and for the achievement negative event slope, γ_{40} , $t(47) = -5.04$, $p < .001$. Using depressogenic adjustment as the dependent variable, all slopes were also significantly different from zero: for the social positive event slope, γ_{10} , $t(527) = 5.00$, $p < .001$, for the social negative event slope, γ_{20} , $t(47) = -3.7$, $p < .001$, for the achievement positive event slope, γ_{30} , $t(527) = 2.82$, $p < .005$, and for the

achievement negative event slope, $\gamma_{40}, t(47) = -3.41, p < .005$. These slopes can be interpreted as mean within-person unstandardized regression coefficients.

As predicted, daily levels of self-esteem and depressogenic adjustment covaried with positive and negative social and achievement events. In general people felt better (higher levels of daily self-esteem or depressogenic adjustment) on days when positive event scores were high, and felt worse (lower levels of daily self-esteem and depressogenic adjustment) on days when negative event scores were high, although there were differences in the strength of these relationships based on the type of event.

The strength of within-person relationships between social positive events and adjustment and within-person relationships between achievement positive events and adjustment were compared using tests of fixed effects (Bryk & Raudenbush, 1991; pp. 48-52). Social positive events were associated with greater increases in daily self-esteem than achievement positive events, $X^2(1, N = 48) = 5.02, p < .02$, and greater increases in depressogenic adjustment than achievement positive events, $X^2(1, N = 48) = 5.34, p < .02$. In other words, adolescents were more reactive to positive events that were socially oriented than achievement oriented. Daily self-esteem increased .40 above a person's daily self-esteem mean on days when social positive event scores were 1.0 points above his or her average (mean) social positive event score, and similarly, daily depressogenic adjustment increased .33 above a person's mean daily depressogenic adjustment score when social positive event scores were 1.0 above average.

In comparison, daily self-esteem only increased .20 above the mean daily self-esteem score on days when achievement positive events were 1.0 above the average achievement event score, and daily depressogenic adjustment only increased .13 on days

when achievement positive event scores were 1.0 points above a person's mean achievement positive event score.

Within-person relationships between social and achievement negative events and daily self-esteem and depressogenic adjustment and were not significantly different, $X^2(1, N = 48) = .33, p > .50$ and $X^2(1, N = 48) = .36, p > .50$ for daily self-esteem and depressogenic adjustment respectively. On days when social negative event scores were 1.0 points above a person's mean social negative event score, his or her daily self-esteem decreased -.40 below his or her mean daily self-esteem score, and similarly, his or her daily depressogenic adjustment decreased -.41 below his or her mean daily depressogenic adjustment score.

When achievement negative event scores were 1.0 points above a person's mean achievement positive event score, his or her daily self-esteem decreased -.50 below his or her mean daily self-esteem score. On these days a person's daily depressogenic adjustment decreased -.32 below his or her mean daily depressogenic adjustment score.

Trait Level Moderators of Within-person Relationships

To determine if within-person relationships varied as a function of trait level depression or social support, coefficients from the day level models were analyzed at the person level. The level 2 model was:

$$\text{Intercept:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{TRAIT}) + u_{0j}$$

$$\text{Social positive events} \quad \beta_{1j} = \gamma_{10} + \gamma_{11}(\text{TRAIT}) + u_{1j}$$

$$\text{Social negative events:} \quad \beta_{2j} = \gamma_{20} + \gamma_{21}(\text{TRAIT}) + u_{2j}$$

$$\text{Achievement positive events:} \quad \beta_{3j} = \gamma_{30} + \gamma_{31}(\text{TRAIT}) + u_{3j}$$

$$\text{Achievement negative events:} \quad \beta_{4j} = \gamma_{40} + \gamma_{41}(\text{TRAIT}) + u_{4j}$$

As in the previous analysis, β_{0j} , β_{1j} , β_{2j} , β_{3j} , and β_{4j} represented the coefficients generated in the Level 1 models, the relationships between measures of daily adjustment and events. In this model, γ_{01} represented the relationship between a specific trait level moderator (depression or social support) and the intercept for each person (mean daily self-esteem or mean daily triad), γ_{11} represented the relationship between a trait level moderator and the social positive event slope, γ_{21} represented the relationship between a trait level moderator and the social negative event slope, γ_{31} represented the relationship between a trait level moderator and the achievement positive event slope, and γ_{41} represented the relationship between a trait level moderator and the achievement negative event slope. If the γ_{q1} coefficient was significant, then the trait variable (depression or social support) moderated the day level covariations. All trait measures were standardized prior to inclusion in analyses so that a 1.0 increase in score equaled an increase in 1 standard deviation. Trait level summary statistics were presented in Table 6. For equations using daily self-esteem as the dependent measure, the results were presented in Table 7. For equations using depressogenic adjustment as the dependent measure, the results were presented in Table 8.

Moderating role of depression. Within-person relationships between social positive events and daily self-esteem were moderated by depression, as measured by both the CESD and RAD. On days with high social positive event scores, less well adjusted participants had a greater increase in their daily self-esteem than better adjusted participants. All moderating effects were interpreted by calculating the predicted slopes for participants 1 SD above the mean trait score, and the predicted slope for participants 1 SD below the mean trait score. For example, for every 1.0 increase in depression as

measured by the RAD, the social positive event slope for daily self-esteem increased .16. The mean social positive event slope for self-esteem was .40. The predicted social positive event slope for a person 1 SD above the RAD mean was .56 [.40 +.16(1)] and the predicted

Table 6

Trait Level Summary Statistics

Measure	<u>Present Study</u>	<u>Other Studies</u>			
	Mean (SD)	Reynolds (1987)	Dalley (1985)	Allgood-Merten et al. (1990)	Windle & Windle (1996)
<u>Depression</u>					
RAD	61.4 (16.6)	60.18 (14.29)	62.60 (14.59)		
CESD	20.55 (8.96)			19.12 (11.74)	16.27 (10.41)
<u>Social Support</u>					
Number	5.54 (4.65)				
Satisfaction	4.57 (1.08)				
<u>Self-esteem</u>	3.64 (.77)				

Note. CESD = Center for Epidemiological Studies - Depression scale. RAD = Reynold's Adolescent Depression Scale. Rosenberg's self-esteem score was standardized.

Table 7

Depression and Social Support as Moderators of Within-person Relationships

Daily Self-Esteem as the Dependent Variable

Trait	Social Positive	Social Negative	Achievement Positive	Achievement Negative
<u>Depression</u>				
RAD	.16*	.01	.02	.03
CESD	.16*	.06	.07*	.06
<u>Social Support</u>				
Number	-.08	-.05	-.02	-.04
Satisfaction	-.12	-.04	-.02	.21*

Note. For coefficients that are marked with * = $p < .05$.

Table 8

Depression and Social Support as Moderators of Within-person Relationships

Daily Depressogenic Adjustment as the Dependent Variable

Trait	Social Positive	Social Negative	Achievement Positive	Achievement Negative
<u>Depression</u>				
RAD	.14*	.21	.04	-.07
CESD	.14*	.19*	.04	-.04
<u>Social Support</u>				
Number	-.11	-.07	-.06	.05
Satisfaction	-.14*	-.09	-.06	.02

Note. * $p < .05$

social positive event slope for a person 1 SD below the RAD mean was .24 [.40 +.16(-1)]. Therefore, less well adjusted participants experienced a .56 increase in daily self-esteem for every 1.0 increase in social positive event scores. In contrast, better adjusted participants experienced only a .24 increase in daily self-esteem for every 1.0 increase in social positive event scores.

Depression as measured by the CESD moderated the relationship between social positive events and daily self-esteem in a similar manner. The mean social positive event slope for self-esteem was .40. Again, participants 1 SD above the CESD mean experienced a .56 increase in daily self-esteem for every 1.0 increase in social positive event scores, whereas participants 1 SD below the CESD mean experienced only a .24 increase in daily self-esteem for every 1.0 increase in social positive event scores.

Within-person relationships between social positive events and depressogenic adjustment were also moderated by depression (as measured by both the RAD and CESD). Less well adjusted participants had stronger within-person relationships between social positive events and depressogenic adjustment than better adjusted participants. The mean social positive event slope for depressogenic adjustment was .31. Participants 1 SD above the RAD mean experienced a .45 increase on the depressogenic adjustment measure for every 1.0 increase in social positive event scores, whereas participants 1 SD below the RAD mean only experienced a .17 increase on the daily depressogenic adjustment measure for every 1.0 increase in social positive events. When depression was measured by the CESD, the moderating effect was identical to the effect produced when depression was measured by the RAD.

Within-person relationships between social negative events and daily depressogenic adjustment were also moderated by depression, although in a different direction. In this instance, better adjusted participants had stronger within-person relationships between social negative events and depressogenic adjustment than less well adjusted participants. The mean social negative event slope for depressogenic adjustment was $-.42$. Participants 1 SD above the RAD mean experienced a $-.21$ decrease in depressogenic adjustment when social negative event scores increased by 1.0 , however, better adjusted participants experienced a $-.63$ decrease on the daily depressogenic adjustment measure when social negative event scores increased by 1.0 .

When depression was measured by the CESD, the moderating effect was similar. Participants 1 SD above the CESD mean experienced a $-.23$ decrease in depressogenic adjustment when social negative event scores increased by 1.0 , and better adjusted participants experienced a $-.61$ decrease on the daily depressogenic adjustment measure when social negative event scores increased by 1.0 .

Within-person relationships between achievement positive events and daily self-esteem were also moderated by depression (as measured by the CESD). Again the moderating effect was contrary to that hypothesized, with better adjusted participants having stronger within-person relationships than less well adjusted participants. The mean achievement positive event slope for self-esteem was $.20$. Participants 1 SD above the CESD mean experienced a $.13$ increase in daily self-esteem for every 1.0 increase in achievement positive event scores, whereas participants 1 SD below the CESD mean experienced a $.27$ increase in daily self-esteem for every 1.0 increase in achievement positive events scores.

Within-person relationships between social or achievement negative events and daily self-esteem were not moderated by depression, and neither were the within-person relationships between positive or negative achievement events and daily depressogenic adjustment.

Table 9

Moderating Effects of Depression on Daily Self-esteem

Predicted Event – Self-Esteem Slopes on Days with Specific Events

Events	At-Risk for Depression	Well-adjusted
Social Positive	.56	.24
Achievement Positive	.13	.27

Note. Moderating effects are based upon trait CESD scores.

Table 10

Moderating Effects of Depression on Daily Depressogenic Adjustment

Predicted Event – Depressogenic Adjustment Slopes on Days with Specific Events

Events	At-Risk for Depression	Well-adjusted
Social Positive	.45	.17
Social Negative	-.23	-.61

Note. Moderating effects are based upon trait CESD scores.

Moderating role of social support. The number of people participants reported as a social support (SUPNUM) did not moderate any of the event slopes. The within-person

relationships between social or achievement, positive or negative events and daily self-esteem or depressogenic adjustment were unrelated to the number of social supports an adolescent reported. Nevertheless, the level of satisfaction participants reported with their social support did moderate the relationships between social positive events and daily adjustment, and between achievement events and daily adjustment.

As hypothesized, social support satisfaction weakened the within-person relationships between achievement negative events and daily self-esteem. The mean achievement negative event slope for self-esteem was $-.49$. Participants who were 1 SD above the mean support satisfaction score only experienced a $-.28$ decrease in daily self-esteem when achievement negative event scores increased by 1.0, while participants who were 1 SD below the support satisfaction mean experienced a $-.70$ decrease in daily self-esteem when achievement negative events scores increased by 1.0. Support satisfaction did not moderate the within-person relationships between daily self-esteem and social positive events, social negative events, or achievement positive events.

Within-person relationships between social positive events and depressogenic adjustment were also moderated by social support satisfaction. Again, support satisfaction weakened the within-person relationships between social positive events and depressogenic adjustment. The mean social positive event slope for the triad measure was $.31$. Participants who were 1 SD above the support satisfaction mean only experienced a $.17$ increase in depressogenic adjustment when social positive event scores increased by 1.0, while participants 1 SD below the support satisfaction mean experienced a $.45$ increase in depressogenic adjustment when social positive event scores increased by 1.0.

Gender differences in the within-person relationships. Another purpose of this study was to investigate whether there were gender differences in the within-person relationships between daily events and daily adjustment, as well as whether there were gender differences in how depression moderated the day level relationships. Gender differences in the within-person relationships between daily events and daily adjustment were analyzed using the same level 1 model as in previous analyses:

$$y_{ij} = \beta_{0j} + \beta_{1j}\text{SocPosEvent} + \beta_{2j}\text{SocNegEvent} + \beta_{3j}\text{AchPosEvent} + \beta_{4j}\text{AchNegEvent} + r_{ij}.$$

Similar to the analyses exploring the moderating effects of trait depression and social support, coefficients from the day level model were then analyzed at the person level. The level 2 model was:

$$\text{Intercept:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{SEXCNT}) + u_{0j}$$

$$\text{Social positive events:} \quad \beta_{1j} = \gamma_{10} + \gamma_{11}(\text{SEXCNT}) + u_{1j}$$

$$\text{Social negative events:} \quad \beta_{2j} = \gamma_{20} + \gamma_{21}(\text{SEXCNT}) + u_{2j}$$

$$\text{Achievement positive events:} \quad \beta_{3j} = \gamma_{30} + \gamma_{31}(\text{SEXCNT}) + u_{3j}$$

$$\text{Achievement negative events:} \quad \beta_{4j} = \gamma_{40} + \gamma_{41}(\text{SEXCNT}) + u_{4j}$$

The trait level variable of gender (SEXCNT) was a dummy coded variable where women were set to 1 and men were set to -1. In this model, γ_{01} represented the relationship between gender and the intercept for each person (mean daily self-esteem or mean daily triad), γ_{11} represented the relationship between gender and the social positive event slope, γ_{21} represented the relationship between gender and the social negative event slope, γ_{31} represented the relationship between gender and the achievement positive event slope, and

γ_{41} represented the relationship between gender and the achievement negative event slope.

Results of these analyses were presented in Table 11.

Table 11

Gender Differences as a Moderator of Within-person Relationships

Dependent Measure	Social Positive	Social Negative	Achievement Positive	Achievement Negative
Self-esteem	.12	-.20*	.01	.21
Depressogenic adjustment	.11	.04	-.04	.10

Note. * $p < .05$

The only within-person relationship moderated by gender was between social negative events and daily self-esteem. Social negative events were associated with greater decreases in daily self-esteem for female participants than for male participants. The mean social negative event slope for daily self-esteem was -.31. On days when social negative event scores increased by 1.0, female participants experienced a -.51 decrease in daily self-esteem, and male participants only experienced a -.10 decrease in daily self-esteem.

Gender differences in trait level moderators. The second part of investigating gender differences in day level relationships concerned whether depression moderated the day level relationships differently for female and male participants. To answer this question clearly, a series of analyses were first completed to determine whether depression mediated the day level relationships, given the strong correlation of trait

depression and gender during adolescence. To explore the mediating effects of depression and gender the following level 2 model was used:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{SEX}) + \gamma_{02}(\text{DEP}) + u_{0j}$$

In all of these analyses (including self-esteem and depressogenic adjustment as dependent measures, and both trait measures of depression) the moderating effects of gender and depression that were present in previous analyses remained significant. There were small changes in the significance levels of the event-adjustment coefficients, suggesting that depression effects were mildly mediated by gender effects due to their shared variance.

To explore whether gender moderated the depression effects, the following level 2 model was used:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{SEX}) + \gamma_{02}(\text{DEP}) + \gamma_{03}(\text{TRAITSX}) + u_{0j}$$

The trait level variable TRAITSX represented the interaction term for the trait measure (depression) and gender (women were set to 1 and men were set to -1). There were no significant interaction effects of gender and depression with respect to within-person relationships.

DISCUSSION

The present study expanded previous research on daily within-person relationships with adults by applying day-to-day methodology to an adolescent population, in order to explore how developing individuals respond to daily events. Overall, the findings suggested that there are two important differences in within-person relationships between event and adjustment during adolescence. First, there were notable differences in the adolescent experience of social and achievement events, both at the within-person level and with respect to between-person moderation of within-person relationships. Second, it appeared that adult models of daily reactivity and trait adjustment do not transfer directly to the adolescent daily life experience, perhaps because adolescents are still developing mature cognitive process and their sense of self and self-worth.

As expected, there were daily within-person relationships among daily events and self-esteem and depressogenic adjustment. On days with high social and achievement positive events, adolescents reported higher levels of adjustment and on days with high social and achievement negative events, adolescents reported lower levels of adjustment. Interestingly, the strength of these within-person relationships varied based on type of event. The role trait depression played in moderating the within-person relationships between events and adjustment was somewhat contrary to expectations. In previous research, less well adjusted people were more reactive to daily positive and negative events than better adjusted people (Butler et al., 1994; Nezlek & Gable, in press; Nezlek & Plesko, 2001, van Eck et al., 1998). It was hypothesized that people with higher depression scores were more dependent upon feedback in the environment to determine

their self-worth, and therefore they had stronger positive reactions to positive events and stronger negative reactions to negative events. In the present study, adolescents with higher depression scores were more reactive to social positive events than adolescents with lower depression scores, but surprisingly, adolescents with lower depression scores were more reactive to social negative events than adolescents with higher depression scores. Depression also moderated the within-person relationship between achievement positive events and daily adjustment, but in an unexpected direction. Better adjusted adolescents were more reactive to achievement positive events than less well adjusted adolescents. The within-person relationship between social negative events and self-esteem was stronger for female adolescents than for male adolescents, a finding that was not explained by gender differences in depression. Finally, satisfaction with social support moderated the within-person relationships between achievement negative events and daily adjustment, and between social positive events and daily adjustment in the hypothesized manner. Adolescents who reported higher levels of satisfaction with their social support were less reactive to these two types of events.

Success (and failure) in both social and achievement domains has been linked to the development of adolescent identity, self-esteem, and healthy psychological functioning (Bohrnstedt & Felson, 1983; Chan, 1998; Compas, 1987a; Compas, 1987b; DuBois et al., 1998; Dumont & Provost, 1999). The present results found that both social and achievement events were related to adolescent adjustment on a day-to-day basis but there were differences in these relationships based on type of event. In general, adolescents reported higher levels of adjustment on days with increased positive event scores and lower levels of adjustment on days with increased negative event scores. This

finding was consistent with the reports of young adults in similar studies (Clark & Watson, 1998; David et al., 1997; Marco & Suls, 1993; Nezlek & Plesko, 2001; Suh et al., 1996; van Eck et al., 1998). When something bad happens during the day, a person tends to feel worse about his or her self-worth and have depressogenic cognitions, and alternatively, when something good happens during the day, a person tends to feel better about his or her self-worth and think optimistically. Nevertheless, daily adolescent adjustment did not covary with all types of events comparably. When events were separated into social and achievement domains, achievement positive events were related to the smallest change in daily levels of adjustment.

Social events, both positive and negative, exerted similar changes in daily levels of adolescent adjustment, albeit in opposite directions. Social interactions are a primary mechanism through which adolescents get feedback about their acceptance by others, a key component to the development and maintenance of self-esteem and well-being. If adolescents have supportive, rewarding interactions with others (family and friends) it contributes to healthy separation from family, feelings of security about their individual social identity in their peer group, and feelings of connectedness (Baumrind, 1968; DuBois, Bull, Sherman, & Roberts, 1998; Minuchin, 1974; Piaget & Inhelder, 1969; Wagner & Greene, 1986). If adolescents have negative social experiences they may experience feelings of isolation, rejection, and low self-worth. Previous research has established that the perceived quality of one's relationship with parents and peers is a key component to global self esteem and depression in adolescents, and the present study demonstrates how this plays out on a daily basis (DuBois et al., 1998; Garber, Weiss, & Shanley, 1993; Walker & Greene, 1986). An important area for future research will be to

explore whether social events with family members and social events with peers differ in their relationship to daily well being for adolescents, as adolescence is a time when increasing importance is attributed peer relationships (DuBois et al., 1992).

The within-person relationships between achievement positive events and adjustment, and achievement negative events and adjustment varied in strength. On days with increased achievement negative event scores, adolescents reported lower levels of self-esteem and lower levels of depressogenic adjustment that were similar in magnitude to the changes in daily adjustment experienced on days with social positive and negative events. It appears that failure in school or job settings is similar in its relationship to daily adjustment as success or failure in social interactions. This supports previous research that posits global adolescent self-esteem is derived from performance in more than one domain (DuBois et al., 1998; Walker & Greene, 1986).

An unexpected finding was that the within-person relationships between achievement positive events and daily adjustment were weaker than the within-person relationships between other types of events and adjustment. It may be that the importance placed on academic success is related to individual differences not measured in the present study, such as motivation, family values, future goals, and achievement orientation. For example, negative academic events, such as failing a test, doing something wrong at work, or not understanding homework assignments, suggest one is not meeting minimum requirements. A failing grade indicates failure, whereas a "C" may be a good grade for the average student and a poor grade for the above average student. A positive achievement event may vary in definition and importance depending on academic pressure from parents, internal achievement orientation, abilities, ambitions,

and motivation. In the present study, individual differences in depression and social support moderated within-person relationships between achievement negative events and daily self-esteem and achievement positive events and depressogenic adjustment. These moderating roles are discussed in more detail below.

Depression as a Moderator of Within-person Relationships

The most remarkable finding of the present study was that depression moderated the daily relationships between adjustment and events, but in a manner that contradicted some of the previous research in this area and the study hypotheses (Bolger & Shilling, 1991; David et al., 1997; Marco & Suls, 1993; Nezlek & Gable, in press). Theories guiding existing research focus on the fragility or increased reactivity experienced by people who are less well adjusted in their daily lives. In general, the within-person relationships between daily events and daily adjustment have been stronger for less well adjusted individuals than for well-adjusted individuals, although this moderation effect is not always found (Affleck et al., 1994; Nezlek & Allen, 2001). Nevertheless, stronger within-person relationships between events and adjustment has never previously been found for better adjusted individuals as compared to less well-adjusted individuals

Compared to previous findings with adult or young adult participants, there were several important differences in the present results. First, less well adjusted adolescents only had a stronger within-person relationship between social positive events and adjustment as compared to the within-person relationships for better adjusted adolescents. In contrast, the within-person relationship between social negative events and depressogenic adjustment was stronger for well-adjusted adolescents than for less well adjusted adolescents, as was the within-person relationship between achievement positive

events and daily self-esteem. Also, the moderating effect of depression went in opposite directions for within-person relationships between social positive events and adjustment as compared to the moderating effect for within-person relationships between achievement positive events and adjustment.

A number of questions are raised when considering the differences in these results as compared to previous studies with college students. For example, do social negative and achievement positive events have a differential meaning or impact during adolescence? Does the on-going development of self-esteem, self-concept, and cognitive processes impact how adolescents interpret and experience all daily events? Do adolescents at-risk for depression have unique characteristics that decrease their responsiveness to specific types of daily events?

All these questions highlight the importance of recognizing an adolescent as a developing individual. As such, it is informative to consider Bronfenbrenner's (1979) model for development, $D_t = f_{(t-p)}(PE)_{(t-p)}$. In this model, Bronfenbrenner transforms the classic Lewin (1935) equation, $B = f(PE)$; behavior is a function of the interaction between a person and the environment, to development is a function of the interaction between a person and the environment. Bronfenbrenner (chapter) also introduced the dimension of time, explaining that person and environment characteristics can take on different meanings or exert various influences on development at different periods over the life span. Within this framework, it becomes clear that specific person characteristics (such as level of depression or social support) may interact with the environment (daily events) in a manner that is related to the individual's overall development at a given point in time. The present day-to-day research design allowed for an assessment of the internal

experience of the individual (self-esteem and depressogenic adjustment), and the relationship of internal experience to environmental interactions. The differences in the present findings as compared to previous research with young adults suggest that these within-person relationships need to be considered within the developmental context of the individual, with an emphasis on exploring the implications of within-person relationships for the individual's future growth.

Adolescents are characterized by a number of developmental processes, including the shift into formal operational thought, and separation from family and the development of a separate identity. With the shift into formal operational thought, they are able to think about the concept of the self in increasingly complex ways (Inhelder & Piaget, 1958; Piaget & Inhelder, 1969). Elkind (1979; 1996) observed that a characteristic of the adolescent transition into more abstract thinking is an increased focus on oneself or self-consciousness, which he defined as egocentrism. A second characteristic of this transition is the belief that others direct all of their attention toward the adolescent, otherwise known as the "imaginary audience". Finally, adolescents have a strong belief that they are unique and different from others, and selectively focus on information that supports this "personal fable." A common aspect of this is that many adolescents believe they are invincible, or immune to the risks associated with specific behaviors, and discount factual information that undermines this belief. In layman's terms, adolescents often think and behave as if they are the center of the universe and despite the universal frustrations of parents, this is a developmentally appropriate cognitive stage.

According to Erikson (1968), adolescents are also facing the developmental task of separation and individuation. They are attempting to establish their identity as separate

from that of their parents, a process that is facilitated by consistent, loving, and supportive responses by parents (Baumrind, 1968). Adolescents also place increasing importance on peer acceptance, trying to become an independent social being. Identity development and the shift into mature cognitive processes (decreased egocentricism) occur as function of internal growth within the adolescent, environmental characteristics, and the interaction of the adolescent and the environment (Bronfenbrenner, 1979; DuBois et al., 1994; Elkind, 1996). Encounters with family members, friends, teachers, coaches, and bosses are data for the adolescent to use in forming thoughts and feelings about the self and the world. Adolescents place different levels of importance on information gained from different sources (DuBois et al., 1998; Walker & Greene, 1986), but they are still looking for feedback and confirmation of the self. From a social ecological perspective, well-being is dependent upon the content of an adolescent's thoughts, feelings, and behavior, and upon how these characteristics fit into his or her social environment (Bronfenbrenner, 1979).

Now, consider how levels of depression moderated the daily relationships between well-being and events. The most robust finding of the present study, consistent with the study hypothesis, was that less well adjusted adolescents had stronger within-person relationships between social positive events and adjustment than better adjusted adolescents. On days with high social positive event scores, less well adjusted adolescents experienced greater increases in daily self-esteem and depressogenic adjustment than better adjusted adolescents.

Depression during adolescence has been associated with most of the same symptoms present in adults, such as low feelings of self-worth, concerns with adequacy,

feelings of vulnerability, negative automatic thoughts, dysfunctional attitudes, and negative self-evaluations (Block & Gjerde, 1990; Compas, 1995; Garber et al., 1993).

The present results suggested that adolescents with higher depression scores were more dependent upon positive interactions with others (family and friends) to experience daily positive self-esteem and more optimistic thoughts than adolescents with lower depression scores. This was consistent with previous research with young adults, and speculations that when a person is depressed their sense of self worth is more vulnerable to environmental feedback than a well adjusted person with an internally based sense of self-worth (Hammen, Marks, Mayol, & deMayo, 1985; Nezlek & Plesko, in press; Rogers, 1961). Previous research has also considered how an adolescent's self-perceptions match the perceptions of significant others contribute to well-being. Incongruity between self- and other-perceptions was not a significant predictor of psychological internalization or externalization problems for adolescents who had more negative self-evaluations than family members or peers (DuBois et al., 1998). In contrast, well-adjusted adolescents do not experience incongruity between self-and other-perceptions when positive events occur because they see themselves positively and a positive events suggests others agree with that assessment. Additionally, well adjusted adolescents may base their positive perceptions of self-worth on more internal characteristics, and therefore their daily sense of self-worth and level of depression is not as strongly related to positive events.

An unexpected finding of the present study was that well-adjusted adolescents had stronger within-person relationships between social negative events and depressogenic adjustment than less well adjusted adolescents. Previous research with young adults has

reported mixed findings with respect to the moderating role of depression on within-person relationships between daily adjustment and negative events. These within-person relationships have been stronger or equal for depressed adults as compared to daily covariations of well-adjusted adults, but never weaker (Butler et al., 1994; Nezlek & Gable, in press; Nezlek & Plesko, in press). This suggests that social negative events have a different role during adolescence than during young adulthood, although further research is necessary to verify this finding.

In general, adolescents report that social rejection is highly stressful and is associated with lower levels of trait adjustment (Daniels & Moos, 1990; Fenzel, 1989; Ham & Larson, 1990; Walker & Greene, 1986). There may be a number of factors differentiating the experience of a social negative event for less well adjusted and better adjusted adolescents. For example, rejection or disappointment when interacting with friends or family may interfere with the normative developmental task of separation, leading to feelings of pessimism about the self and the future. Healthy adolescents are trying to develop their social identity, move closer to peer relationships and establish themselves as independent from parents (Baumrind, 1968; Compas, 1987b; Erikson, 1968). For the well-adjusted adolescent, a social negative event may represent a failure of these developmental tasks. In contrast, less well adjusted adolescents may not be successfully engaging in these normative developmental tasks. Overall, depressed adolescents tend to have poor peer relationships, a greater likelihood of family dysfunction, low mastery orientation in social situations, and social helplessness (Compas et al., 1995; Nolen-Hoeksema et al., 1992). Their level of depression may prevent them from engaging in the normal developmental tasks of separation and identity development,

or the factors that contribute to normal development (supportive family environment, good social skills) may be missing. It is possible that social negative events are more relevant for normal development and therefore, healthy adolescents experience greater changes in well-being with increased negative events. Additionally, depressed adolescents may not be engaged in this developmental task in the same way as healthy adolescents (possibly because the factors fostering development are missing and related to their depression).

It is also possible that social negative events are associated with greater increases in depression for well-adjusted adolescents because social negative events indicate an incongruity between an individual and his or her environment. Well-adjusted adolescents feel positively about themselves and a social negative event suggests that others do not completely agree with their self-assessment. A section of the literature of self-esteem development focuses specifically on the importance of one's personal self-evaluations matching with the evaluations of significant others (friends, family). DuBois and colleagues (1998) found that social-contextual incongruity (specifically when adolescents had higher self views than parents or peers) was a significant predictor of internalizing and externalizing psychological problems in adolescents. Incongruity in this direction may be particularly salient for an adolescent due to their heightened egocentricism (assumption that everyone views them as they view the self). Alternatively, a less well adjusted adolescent feels poorly about his or herself and does not experience incongruity between self- and other- evaluations when a negative social event occurs. Therefore, the less well adjusted adolescents experience smaller decreases in daily adjustment on days with social negative events.

Finally, consider the interaction between the well-adjusted developing adolescent and social contextual incongruity that occurs when a social negative event occurs. As mentioned above, adolescents are characterized by a sense of egocentricism that gradually dissipates with age. Inhelder and Piaget (1955, 1958) and Elkind (1996) identify social interaction as the mechanism through which more realistic self-appraisals are developed. They explain that adolescents construct egocentric conceptions regarding the self or the world, which are later challenged through social interactions where others disagree with these conceptions about the self. The “social disconfirmation of our egocentric conceptions. . .is the critical dynamic of decentration” (Elkind, 1996, p. 218). It is possible that the present results illustrate the how the developmental shift from healthy egocentricism to more “objective, socialized view of reality” occurs daily (Elkind, 1996). Alternatively, the less well adjusted adolescents are not experiencing this developmental process in a similar way because of their depressive cognitions.

The second unexpected finding was that the moderating effect for depression on within-person relationships between achievement positive events and adjustment was opposite from the moderating effect of depression on within-person relationships between social positive events and adjustment. Better-adjusted adolescents reported greater increases in daily self-esteem on days with high achievement positive event scores than less well adjusted adolescents. This finding was also contrary to the original hypothesis that less well adjusted adolescents would be more reactive to all types of events, due to higher dependence on the environment for feedback about their self-worth. In addition, depression did not moderate the within-person relationships between achievement negative events and daily adjustment.

Again the differences in the present findings as compared to previous research with young adults was explored from a social-ecological perspective, with an emphasis on understanding how achievement events are experienced during adolescence. The within-person relationships between achievement positive events, or academic success, and daily self-esteem was stronger for better adjusted adolescents than for less well adjusted adolescents. Very little research in this area has investigated the emotional and cognitive response of adolescents to daily academic success, as researchers are often guided by the stress and coping theories which focus on response to failure (Johnson & Sherman, 1997; Taylor, 1991; Ystgaard, 1997). The present finding may reflect increased investment in academic success on the part of well-adjusted adolescents who are still developing their self-esteem by gauging success in multiple domains, or it may reflect decreased investment in academics on the part of less well adjusted adolescents. The literature on self-esteem development during adolescence emphasizes the importance balancing the basis on self-esteem across multiple domains, including family, peers, school achievement, and athletics (DuBois et al., 1998; Koenig, Howard, Offer, & Cremerius, 1984; Walker & Greene, 1986). A strong orientation toward peers alone, or a strong orientation toward school and family in the absence of peers, has been associated with poor trait adjustment (DuBois et al., 1998; Harter, Marold, & Whitesell, 1992). It may be that during adolescence, when a person is still testing their abilities and formulating their feelings of self-worth, academic success is particularly relevant to daily self-esteem.

It is also possible that less well adolescents differ from the participants of less well adjusted college students in existing research with respect to academic attitudes.

College students are by definition pursuing higher education goals, and are more likely to be invested in academic success than young adults who never went to college. Less well adjusted adolescents tend to have low mastery in achievement settings and helplessness in the face of academic challenges, which cause them to place less emphasis on academic success (Nolen-Hoeksema et al., 1992). Less well adjusted adolescents may never go to college due to these lower academic values or abilities, characteristics that are correlated with lower levels of adjustment and that differentiate them from less well adjusted college students. There may be other person and environment characteristics related to their level of depression (such as low motivation, uninvolved parents) which decrease the relationship between academic success and daily self-esteem. Clearly, further research is needed to replicate this finding and explore both person and environment characteristics contributing to the differential daily experience of social positive and achievement positive events for depressed adolescents.

Depression did not moderate the within-person relationships between achievement negative events and adjustment, perhaps because achievement negative events are a salient event for all adolescents given the current pressure to attend college. Ystgaard (1997) reported academic problems were “the most common and only stressor that contributed significantly to variation in psychological distress for girls and boys, controlling for other variables” in a sample of high school adolescents (p.282). Other research has indicated that academic failure was related to child difficulty and may evoke specific rejecting responses from parents, whereas problems with peers were only associated with child difficulties. Repetti (1996) asked children to record their mood, social behavior, positive and negative events, and parent-child interaction measures three

times a day for 2 days. In this study “children described both mothers and fathers as engaging in more negative or disapproving responses to their behavior after days in which they described more academic problems at school”, and this finding was only partially mediated by the child’s increased behavior problems those days (Repetti, 1996, p. 1476). In contrast, parents tend to be sympathetic and supportive if an adolescent states he or she had an argument with a friend (social negative event). Overall achievement negative events, such as failing a test or not understanding homework, appear to be relevant for adolescents irrespective of depression level.

Social Support as a Moderator of Within-Person Relationships

The role of social support in mitigating the effects of daily stress has been mixed across research with adults and adolescents (Affleck et al., 1994; Caspi et al., 1987; DuBois et al., 1992; DuBois et al., 1994; Dumont & Provost, 1999; Nezelek & Allen, 2001, Walker et al., 2001; Windle & Windle, 1996), and the present study is no exception. The number of people adolescents identified as social supports did not moderate any of the day level relationships, but satisfaction with social support did moderate some specific daily adjustment – event within-person relationships. It was hypothesized that high levels of social support would decrease the psychological distress experienced in relation to daily negative events, as adolescents have more people available to help them cope with daily stressors. This was confirmed only with respect to achievement negative events. Specifically, adolescents with high support satisfaction reported smaller decreases in daily self-esteem on days with high achievement negative event scores than adolescents with low support satisfaction. This finding was consistent with research examining trait level relationships among social support, adjustment, and

negative life events in adolescence, where high levels of support decreased the effect of negative life events (DuBois et al., 1994; Herman-Stahl & Petersen, 1996; Wenz-Gross et al., 1997; Ystgaard, 1997). Interestingly, high support satisfaction did not moderate the daily within-person relationships between adjustment and social negative events. This lack of effect is consistent with the mixed findings in this area, and underscores the importance of separating types of events (social and achievement) as well as sources of support (friend and family) in order to understand the social support buffering effect (Compas, 1997; Compas et al., 1986; Gad & Johnson, 1980; Petersen et al., 1991; Ystgaard, 1997).

Support satisfaction also moderated the daily within-person relationship between depressogenic adjustment and social positive events. Adolescents with lower support satisfaction experienced greater decreases in depressogenic adjustment on days with social positive events than adolescents with high support satisfaction. No predictions were made with respect to positive events as very little research has investigated how social support relates to positive life experiences, but upon examination this finding makes sense. A social positive event may be more meaningful (i.e. decrease feelings of pessimism about the self and the future) for an adolescent with lower support satisfaction because that adolescent may view positive social interactions as unusual. An adolescent with high support satisfaction by definition feels good about the social interactions that have already occurred in his or her life. A single social positive event may be one of many positive and rewarding social experiences, and not as salient in isolation.

Gender Differences

The emergence of gender differences in depression during adolescence has been widely documented phenomena (Nolen-Hoeksema & Girgus, 1994; Nolen-Hoeksema et al., 1991; Nolen-Hoeksema, 1994; Petersen et al., 1991). Adolescent girls are more likely to become depressed than adolescent boys, due to increased psychosocial stressors with the onset of puberty and transition to middle school, increased vulnerability for sexual abuse, and a tendency toward ruminative coping (Brooks-Gunn & Petersen, 1991; Nolen-Hoeksema, 1994; Petersen et al., 1991). While these trait level differences have been widely researched, less attention has been given to the investigation of gender differences in reactivity to daily events. The present study included gender as a between person variable to explore whether male and female adolescents experienced daily events differently, and whether these differences were accounted for by the correlation of gender and depression. Female adolescents did have stronger within-person relationships between social negative events and daily self-esteem than male adolescents. This finding was consistent with previous research examining the relationship between life events and trait levels of adjustment. Colten et al. (1991) found that adolescent girls had stronger associations between negative events that occurred within family and friend relationships and trait somatic complaints and behavioral problems than adolescent boys. Leadbater, Blatt, and Quinlan (1995) suggest that girls may be more likely to have heightened interpersonal depressive vulnerability, due to stronger emphasis on emotional closeness and fear of abandonment. They indicate girls are more sensitive to interpersonal difficulties, but experience reactions to achievement oriented negative events that are similar to boys. They highlight the increased emphasis women place on relationships in

general, whereas men and women place equal emphasis on achievement success. Bolger and colleagues (1989) also found that stressful interpersonal events, including arguments with a spouse and arguments with multiple others, had a greater negative impact on the daily mood of women than of men.

It was interesting that the difference in reactivity only occurred for daily self-esteem, and not for daily depressogenic adjustment. The findings suggest that social rejection may stimulate more doubts about self worth for girls, but social rejection stimulates feelings of pessimism about life in general and the future equally for girls and boys. It was also noteworthy that there were no interaction effects of gender and depression as a moderator of the daily relationships. This indicated that the trait correlation between gender and depression did not account for differences in reactivity to daily social negative events. Future research may focus on clarifying whether stronger within-person relationships between daily social rejection and daily self-esteem in female adolescents than male adolescents is a risk factor for the development of trait depression. Overall, these findings suggest that the daily self-esteem of girls is more sensitive to social rejection than the daily self-esteem of boys, but that there are no interaction effects between depression and gender on the daily within-person relationships.

Limitations and Future Directions

Much of the speculation about the differences in the present results as compared to results of similar studies with young adults focused on potential developmental implications of daily events for adjustment. This type of social-ecological or transactional model has been identified as the most appropriate model for assessing the accommodation of adolescents to their environment to achieve optimal development and

psychological adjustment (Bronfenbrenner, 1979; Compas, 1987; DuBois et al., 1994; Ebata & Moos, 1994; Elkind, 1996; Leadbater et al., 1995; Wagner et al., 1988).

Previous research has found that daily events have stronger relationships to adolescent adjustment than major life events (Allgood-Merten et al, 990; Compas, 1987; Compas et al., 1989; Windle & Windle, 1996), and the present study expanded our understanding of these relationships by exploring the daily within-person relationships between events and adjustment.

Some of the within-person daily relationships between events and adjustment were different than those found with young adults, as were the moderating effects of depression on the within-person relationships. The present study did not measure developmental processes directly, such as cognitive development, level of egocentrism, and/ or the development of self-concept, and therefore cannot identify what aspects of development are related to the different within-person relationships during adolescence as compared to young adulthood. The present study also did not include direct measures of environmental characteristics (such as socioeconomic status or daily behavioral responses from parents, friends, or teachers) that may influence the experience of daily events at this developmental stage. Future research including these variables is needed to better understand the underlying mechanisms that differentiate the experience of daily events for adolescents and young adults.

The discussion of these findings has at times described the daily within-person relationships as “reactivity” to daily events, assuming a causal sequence from events to changes in daily adjustment. There has been some support for this assumption in day-to-day research with adults, and in prospective designs with adolescents. Gable, Reis, and

Elliot (1999) found that present day mood was predicted by events that occurred on the day before, but not by previous day mood. In prospective research with adolescents, daily stressors were predictive of future emotional and behavioral problems in adolescents (DuBois et al., 1994; Swearington & Cohen, 1985; Wagner, Compas, & Howell, 1988; Windle & Windle, 1996). Nevertheless, one cannot rule out the possibility that the experience of low daily adjustment causes or elicits specific daily events, or that trait differences in depression causes different types of daily events (Lakey, Baltmen, & Bentley, 1993).

Finally, generalizability of the present results should be approached with caution. Participants for the present study were recruited from an area that was middle to upper class, and many of the participants had access to a computer and the internet. Six hundred students were offered the opportunity to participate in the present research and only 48 chose to participate. It is not clear whether there were differences in participants as compared to students who declined to participate, such as higher academic standing, higher social economic status, or an increased interest in the self and their lives (study was advertised as "the daily life of adolescents").

Summary

The present study was the first to focus on the daily within-person relationships between events and adjustment and to explore how between-person differences moderate these relationships during adolescence. Within-person relationships were found between social and achievement, positive and negative daily events and daily adjustment. Trait characteristics such as depression and social support moderated specific within-person relationships. Less well-adjusted adolescents were more reactive to social positive events

than better-adjusted adolescents, but surprisingly, better-adjusted adolescents were more reactive to social negative events than less well-adjusted adolescents. Better-adjusted adolescents were also more reactive to achievement positive events than less well-adjusted adolescents. Girls were more reactive to social negative events than boys, a difference that was not accounted for by gender differences in trait depression. Finally, adolescents with high social support satisfaction were less reactive to achievement negative events and social positive events than adolescents with low social support satisfaction. The results indicated that the within-person relationships and between-person moderation of within-person relationships may be best understood within the larger context of development.

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APPENDICES

Appendix A

Daily Event Schedule

Instructions:

A series of events that commonly occur in the lives of students will follow.

Please read each carefully. Some of the events may have occurred in your life today, some may not have occurred today.

If the event did NOT occur today, enter '0'.

If the event did occur today, rate how important it was to you using the following scale:

1 = Not important

2 = A little important

3 = Pretty important

4 = Very important

1. Had especially good time or talk with friend(s) or peers.
2. Completed work on an interesting project or assignment.
3. Did poorly on school work or home task (such as test, homework, chores).
4. Did something awkward or embarrassing in a social situation.
5. Was excluded or left out by my group of friends.
6. Fell behind in homework or duties.
7. Went out/ hung out with friends/date (such as talking, party).

8. Had problems or arguments with parents or siblings.
9. Had especially good time or talk with my girlfriend or boyfriend.
10. Performed well (sports, music, speaking, drama, etc.).
11. Had a fight or problem with a close friend or girlfriend/boyfriend.
12. Classmate, teacher, parent, or friend criticized me on my abilities.
13. Did something special for a friend/date which they liked.
14. Flirted or talked to someone of the opposite sex.
15. Got caught up (or ahead) in my school work or chores.
16. Did not get along with other students or siblings.
17. Had a good time doing things or spending time with family members.
18. Parent, teacher, friend or student complimented me on my abilities.
19. Did poorly in a club, sport, or extracurricular activity.
20. Tried to do homework and couldn't understand it.
21. Did well on a school or home task (such as test, homework, chores).
22. Had plans fall through to spend time with someone special.
23. Had other type of good event (not listed above) with friends, family, or date.
24. Had other type of bad or unpleasant event (not listed above) with friends, family, or date.
25. Had other type of pleasant event (not listed above) concerning performance at school, sports, or another activity.
26. Had other type of bad or unpleasant event (not listed above) concerning performance at school, sports, or another activity.

Appendix B

Center for Epidemiological Studies - Depression Scale

Instructions:

Below is a list of the ways you might have felt or behaved. Please indicate how often you felt this way during the past week.

0 = Rarely or None of the Time (less than one day)

1 = Some or a Little of the Time (1-2 days)

2 = Occasionally or a Moderate Amount of Time (3-4 days)

3 = Most or All of the Time (5-7 days)

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.

13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get "going."

Appendix C

Reynolds Adolescent Depression Scale

Instructions:

Listed below are some sentences about how you feel. Read each sentence and decide how often you feel this way. Decide if you feel this way: almost never, hardly ever, sometimes, or most of the time. Use the scale and choose the number that best describes how you feel. Remember, there are no right or wrong answers. Just choose the answer that tells how you usually feel.

1. I feel happy.
2. I worry about school.
3. I feel lonely.
4. I feel my parents don't like me.
5. I feel important.
6. I feel like hiding from people.
7. I feel sad.
8. I feel like crying.
9. I feel that no one cares about me.
10. I feel like having fun with other students.
11. I feel sick.
12. I feel loved.
13. I feel like running away.

14. I feel like hurting myself.
15. I feel that other students don't like me.
16. I feel upset.
17. I feel life is unfair.
18. I feel tired.
19. I feel I am bad.
20. I feel I am no good.
21. I feel sorry for myself.
22. I feel mad about things.
23. I feel like talking to other students.
24. I have trouble sleeping.
25. I feel like having fun.
26. I feel worried.
27. I get stomachaches.
28. I feel bored.
29. I like eating meals.
30. I feel like nothing helps anymore.

Appendix D

State Depression Measure

1. Overall, how positively did you feel about yourself today?

1=very negatively

2=negatively

3=somewhat negatively

4=neither negatively nor positively

5=somewhat positively

6=positively

7=very positively

2. Thinking of your life in general, how well did things go today?

1=very poorly

2=poorly

3=somewhat poorly

4=neither poorly nor well

5=somewhat well

6=well

7=very well

3. How optimistic are you about how your life (in general) will be tomorrow?

1=very pessimistic

2=pessimistic

3=somewhat pessimistic

4=neither pessimistic nor optimistic

5=somewhat optimistic

6=optimistic

7=very optimistic

Appendix E

Social Support Measure

Instructions:

The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list the number of people you know, including yourself, whom you can count on for help or support in the manner described. For the second part, circle how satisfied you are with the overall support you have. If you have no support for a question put a zero (0) for the number or people, but still rate your level of satisfaction. Please answer all the questions as best you can. All your responses will be kept confidential.

1. How many people (including yourself) can you really count on to distract you from your worries when you feel under stress?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY	FAIRLY	FAIRLY	VERY
DISSATISFIED	DISSATISFIED	SATISFIED	SATISFIED

2. How many people (including yourself) can you really count on to help you feel more relaxed when you are under pressure or tense?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY	FAIRLY	FAIRLY	VERY
DISSATISFIED	DISSATISFIED	SATISFIED	SATISFIED

3. How many people (including yourself) accept you totally, including both your worst and your best points?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY	FAIRLY	FAIRLY	VERY
DISSATISFIED	DISSATISFIED	SATISFIED	SATISFIED

4. How many people (including yourself) can you really count on to care about you, regardless of what is happening to you?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY	FAIRLY	FAIRLY	VERY
------	--------	--------	------

DISSATISFIED DISSATISFIED SATISFIED SATISFIED

5. How many people (including yourself) can you really count on to help you feel better when you are generally down in the dumps?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY FAIRLY FAIRLY VERY

DISSATISFIED DISSATISFIED SATISFIED SATISFIED

6. How many people (including yourself) can you count on to console you when you are very upset?

NUMBER _____

How satisfied are you with this support?

1.....2.....3.....4.....5.....6

VERY FAIRLY FAIRLY VERY

DISSATISFIED DISSATISFIED SATISFIED SATISFIED

Appendix F

Trait Self-Esteem Measure

Instructions:

Listed below are a number of statements concerning personal attitudes and characteristics.

Please read each statement and consider the extent to which you TYPICALLY AND GENERALLY agree or disagree. All responses will be kept confidential, so please answer as honestly as possible. Remember, base your responses on the extent to which you TYPICALLY OR GENERALLY agree or disagree with each statement.

All items rated on a 5-point scale, where 1 = strongly disagree and 5 = strongly agree.

1. I feel that I am a person of worth, at least on an equal plane with others.
2. I feel like a person who has a number of good qualities.
3. All in all, I am inclined to feel like a failure.
4. I feel as if I am able to do things as well as most other people.
5. I feel as if I do not have much to be proud of.
6. I take a positive attitude towards myself.
7. On the whole, I am satisfied with myself.
8. I wish that I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Appendix G

State Rosenberg's Self-esteem Measure

Instructions:

Listed below are a number of statements concerning personal attitudes and characteristics.

Please read each statement and consider the extent to which you agree or disagree AT THIS MOMENT. All responses will be kept confidential, so please answer as honestly as possible. Remember, base your responses on the extent to which you agree or disagree with each statement AT THIS MOMENT.

All items rated on a 7-point scale, where 1 = strongly agree and 7 = strongly disagree

3. All in all, I am inclined to feel like a failure.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
10. At times I think I am no good at all.

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Publications

Nezlek, J. B., & Plesko, R. M. (in press). Affect and self based models of relationships between daily events and well-being. *Personality and Social Psychology Bulletin*.

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