

Communication and attributions: The interrelations of parent and peer support,
disclosure, and learned helpless attributions

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Conrad Baldner

Abstract

Previous research has shown benefits of adolescents' disclosure of activities to parents in reducing risk of deviant child behavior (Kerr & Stattin, 2000; Stattin & Kerr, 2000). In the current study I examine the effect of disclosure on learned helpless attributions, through the mediators of paternal, maternal, and peer support in sample of college undergraduates enrolled in psychology classes. In two online data collection points, participants completed measures on peer, paternal, and maternal support, disclosure, and negative attributions. In order to examine associations among these variables, I tested three general models: 1) disclosure would predict negative attributions through support, 2) support would predict negative attributions through disclosure, and 3) support would moderate the relations between disclosure and learned helpless attributions. Results demonstrated interrelations of disclosure with peer, maternal, and paternal support. Disclosure, peer support, and maternal support were negatively correlated with learned helpless attributions. However, the first and second models were not supported. The third model was partially supported in regard to maternal support. When maternal support was low, greater disclosure was associated with greater learned helpless attributions. Future longitudinal and experimental research is needed to further discern pathways of association for these constructs.

Table of Contents

List of Tables and Figures.....	v
List of Appendices.....	vi
Chapter 1 –Introduction.....	1
1.1 – Overview.....	1
1.2 – Learned Helplessness.....	3
1.3 – Social Support.....	5
1.3.1 – Parental Support.....	6
1.3.2 – Peer Support.....	6
1.4 – Disclosure.....	7
1.5 – Current Project.....	9
1.6 – Hypothesis.....	10
Chapter 2 – Methods.....	11
2.1 – Participants.....	11
2.2 – Measures.....	11
2.2.1 – Distress Disclosure.....	11
2.2.2 – Parental and Peer Support.....	12
2.2.3 – Learned Helplessness.....	13
2.2.4 – Negative Events.....	14
2.3 – Procedure.....	14
Chapter 3 – Results.....	15
3.1 – Change over Time.....	15
3.2 – Normality.....	15

3.3 – Descriptive Statistics.....	15
3.4 – Sex Differences.....	16
3.5 – Bivariate Correlations.....	16
3.6 – Analytic Strategy.....	17
3.7 – Hypothesis 1.....	18
3.7.1 – Peer Support.....	18
3.7.2 – Maternal Support.....	18
3.7.3 – Paternal Support.....	19
3.8 – Hypothesis 2.....	19
3.8.1 – Peer Support.....	19
3.8.2 – Maternal Support.....	19
3.8.3 – Paternal Support.....	20
3.9 – Hypothesis 3.....	20
Chapter 4 – Discussion.....	22
4.1 – Hypothesis 1.....	22
4.2 – Hypothesis 2.....	22
4.3 – Hypothesis 3.....	23
4.4 – Strengths.....	24
4.5 – Limitations.....	24
4.6 – Future Directions.....	26
4.7 – Conclusions.....	27
References.....	28

List of Tables and Figures

Table 1 – Descriptive Statistics and Gender Difference t-values.....	35
Table 2 – Comparison to Previous Studies.....	36
Table 3 – Bivariate Correlations.....	37
Table 4 – Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Social Support.....	38
Table 5 – Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Negative Attributions.....	39
Table 6 – Hypothesis 2: Standard Coefficients and Standard Errors for Predictors of Disclosure.....	40
Table 7 – Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Negative Attributions.....	41
Table 8 – Hypothesis 3: Standard Coefficients and Standard Errors for Predictors of Negative Attributions.....	42
Figure 1--Hypothesis 3: Moderation model of disclosure on negative attributions, moderated by maternal support.....	43

List of Appendices

Appendix A—Online Study Posting.....	44
Appendix B—Informed Consent.....	45
Appendix C— Distress Disclosure Index.....	47
Appendix D— Inventory of Parent and Peer Attachment.....	50
Appendix E— Attributional Style Questionnaire.....	54
Appendix F— Brief Adolescent Life Events Scale.....	63

Communication and attributions: The interrelations of parent and peer support, disclosure, and learned helpless attributions.

Chapter 1—Introduction

1.1--Overview

Learned helplessness (LH) is characterized by reduced effort and task avoidance in the face of chronic aversive events. Individuals who experience LH in a certain domain may assume that success is impossible in that domain. Because they have learned that any actions made in this domain will only lead to failure, their effort will decrease (Mikulincer, 1994). Research has connected LH to internalizing problems such as negative affect and decreased perceived ability (Cole et al., 2007). Thus, LH has important implications for academic and social development. LH can lead to a harmful cycle: Individuals with LH will give less future effort, which can reinforce LH. Individuals with LH in a domain would then be at risk for falling behind in that domain. Therefore, it is important to study how to reduce the risk of experiencing LH.

In this study I examine how parental and peer support may influence LH. Most previous work on support provided to adolescents and children has focused on parental support — specifically, maternal support (Ellis, Marsh, & Craven, 2009; Vaughan, Foshee, & Ennett, 2010). The family represents a beneficial source of support for typically-developing children. For example, Ryan and Lynch (1989) found that positive family environments that promoted parental support were associated with perceived competence and self-worth in samples of high school and college students. However, individuals may turn more to parents less for support in later adolescence (Van Well et al., 2002). Although less research has been conducted on peer support, evidence points to the importance of peers in promoting positive adolescent outcomes.

For instance, Vaughan and colleagues (2010) found that both parental and peer support uniquely predicted less depressive symptoms in a sample of middle adolescents. Further, Ellis and colleagues (2009) found that a peer support intervention aimed at the transition to high school was associated with more positive self-concept in younger adolescents during this transition period. Thus, although LH may be brought about by problems that adolescents experience independent of their relationships with peers or parents, LH may be reduced by the effect of support from both parents and peers.

I chose to work with a sample of college students not only for convenience but also because this is a developmentally interesting sample. This time represents a middle ground between adolescence and adulthood--these “emerging adults” are beginning to leave their familial homes, are entering new environments, and are forming new relationships (Salmelo-Aro et al., 2008). Social support systems become particularly salient during this transition period. In a study of 172 incoming freshman, Parade and colleagues (2010) found that students with higher levels of support also had lower levels of social anxiety. The authors argued that, in addition to the direct effect of parental support, students with better parental support were likely to be more confident in forming new peer relationships. Despite variation in proximity to parents and well-known friends amongst college students, the transition to college generally represents a stressful period. This, in turn, may be relevant to the experience of LH.

In the following sections I will first discuss the effects of LH on motivation and achievement. I then turn to the positive effects of parental and peer support on achievement. The relation between support and disclosure of distressful events will then follow, as well as the potential benefits of distress disclosure. Specifically, I will discuss potential pathways linking parental and peer support, disclosure, and LH.

1.2--Learned Helplessness

Individuals at risk for LH may, in the face of repeated failure, stop attempting to succeed at a given task. These individuals may also feel that their lack of success will spread into many areas of their life (Peterson et al., 1982). Thus, LH appears to be a significant problem with broad deleterious effects. Not surprisingly, LH has been robustly linked with low academic achievement in both children (Evans, Lepore, Shejwal, & Palsane, 1998; Fincham, Hokoda, & Sanders, 1989) and college students (Shell & Husman, 2008). Meyer and colleagues also found significant associations between learned helplessness attributions and depressive symptoms in college students (Meyer, Barton, Baur, & Jordan, 2010).

Two interrelated factors seem key in the experience of LH. The first is individuals' chronic experience of failure, and the second are the attributions made for success and failure. In an early study of LH, Dweck (1975) found that children who attribute outcomes to effort are less likely to experience LH in response to failure. A similar result has been found in research conducted with older adolescents and young adults. Yee and colleagues (2003) conducted a semester-long longitudinal study with an introductory psychology class. In this study, students who experienced modest failure on the first exam tended to show increased performance. However, students who showed a high level of failure on the first exam did not show this increase. Interestingly, both groups of students reported a learned helpless attribution following the first exam. The authors suggest that the students who only had a modest failure on the first exam were more likely to believe that increasing performance was possible, and so may have believed that increased effort would lead to success. In another semester-long longitudinal study of college freshman, Peterson and Barrett (1987) found that students who explained negative events with internal and stable causes were more likely to have lower grades. These students

were also less likely to have specific academic goals, and were less likely to use academic advising. These may be signs that these students exerted lower effort, which may mediate the relationship between LH and academic outcomes.

LH is related to work on implicit theories of intelligence. According to Dweck and Reppucci (1973), individuals can have either an entity theory of intelligence, in which intelligence is fixed, or an incremental theory, in which intelligence is malleable. Individuals who hold entity theories of intelligence view intelligence as internal and fixed. If these individuals experience failure in academic areas they may attribute their failure to themselves, and may be at risk for LH. Similarly, Ahmavaara and Houston (2007), in their study of roughly 800 British middle adolescents, found that students who showed fixed rather than malleable theories of intelligence had significantly lower academic and occupational aspirations. Specifically, students with fixed theories of intelligence were more likely to have lower perceived academic performance, lower self-esteem, and lower confidence in their own intelligence. These factors mediated the relation between intelligence theories and future aspirations.

Because LH is associated with detrimental outcomes, it is beneficial to identify its predictors. In their study of roughly 700 younger and middle adolescents, Ciarocchi and Heaven (2008) found that adolescents with lower family support also demonstrated higher levels of pessimism, which may be associated with a pattern of learned helpless attributions. Low social support—which was primarily measured as family support—in 8th grade predicted a pessimistic explanatory style in 9th grade, which in turn predicted pessimism in 10th grade. Interestingly, pessimism was operationally defined as scores on the Children's Attributional Style

Questionnaire (CASQ; Thompson et al., 1998), which was developed to assess learned helplessness in children.

In summary, chronic failure changes individuals' cognitions—expectations, persistence, and perceived competence—which can both cause and continue negative social and academic outcomes. Individuals with a history of low performance are more likely to attribute this to low ability. These individuals are then more likely to believe that effort and performance are non-contiguous, and are less likely to put forth more effort in the future (Valas, 2001). Because LH is frequently an outcome of chronic failure, young adults who receive more social support may be less at risk for LH (Asberg, Vogel, & Bowers, 2008; Frazier, Tix, & Barnett, 2003; Ross, Lutz, & Brian, 1999). Young adults who receive more beneficial help would be expected to experience failure less often, and less experience of failure may protect young adults from LH. Because parental and peer support may buffer young adults from the experience of chronic failure, I turn to it next.

1.3--Social Support

Social support includes the “provision of psychological and material responses,” and may reduce the effect of stressful events by minimizing their perceived importance, providing solutions for these events, and influencing healthy behavioral responses (Crockett et al., 2007). Most research on social support focuses on familial support (Vaughan, Foshee, & Ennett, 2010), or does not differentiate between support from different sources—for instance, peer, parental, and maternal support (Galambos, Barker, & Krahn, 2006). Overall, past research has found that social support is associated with a myriad of positive outcomes. In this section I review research focusing on social support in terms of parents' and peers' ability to understand, respond to, and give assistance for individuals' problems.

1.3.1--Parental support

Research has shown that parental support is helpful for promoting academic achievement and healthy behavior, which may in turn act as a buffer for LH. In particular, research demonstrates concurrent associations between parental support and child achievement. For example, in their study of roughly 2,000 7th, 9th, and 11th grade youth from divorced families, Rodgers and Rose (2002) found that parental support (operationalized by availability, caring and trust) predicted higher achievement. Similarly, in a study of 270 adolescents (mean age of 15 years), Chen (2008) found that parental support, which was operationalized as being warm and democratic, positively predicted academic achievement beyond teacher and peer support. In a study of 374 African-American high school students (mean age=15.3 years), Kerpelman, Eryigit, and Stephens (2007) found that maternal, but not paternal, academic support predicted young adults' academic involvement. Parental support—in the form of a warm and supportive relationship—is well-established as an academic protective factor (Crosnoe & Elder, 2004).

Parental support also has implications for adolescents' social outcomes. In a study of 133 high school seniors (mean age=18.0), Kostelecky (2005) found that parental support negatively and uniquely predicted alcohol and illegal drug use. Longitudinal research demonstrates that earlier parental support is inversely associated with depressive symptoms throughout late childhood to middle adolescence. With roughly 3,500 individuals, Vaughan, Foshee, and Ennett (2010) measured maternal support, peer support, and depressive symptoms from age 12 years to 16 years at six-month intervals. Maternal support predicted later decreased depressive symptoms, above and beyond the effect of peer support.

1.3.2--Peer support

Although parents are an important support system for adolescents and young adults, the effect of peer support must also be considered. This is especially critical in light of research which states that peers become the primary support outlet as adolescents develop (Furman & Buhrmeister, 1992). In a study of 212 ethnic minority middle-and high-school students, Montague and colleagues (2009) found that peer support negatively predicted concurrent levels of teacher-reported internalizing problems. In a similar study of Canadian high school students, Bosacki and colleagues (2007) found that trust of friends concurrently predicted higher self-esteem, and lower depression and social anxiety. In a study of 117 college students (mean age=19.6 years), Laible (2007) found that peer support directly predicted increased empathy and emotional awareness, and indirectly predicted prosocial tendencies through emotional expression. Each of these studies measured peer support through the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). This measure was also used by the current study.

Parental and peer support are clearly linked to positive outcomes. A factor that may facilitate parents and peers giving appropriate support is disclosure. Individuals who openly communicate about their experiences (i.e., disclose) may give their parents and friends helpful cues for provision of beneficial support. I turn to this next.

1.4--Disclosure

Disclosure can be defined as an individual's talk about his or her problems (Kahn & Hessling, 2001). Previously, parents' acquisition of information about their children has been conceptualized as active parental monitoring (Dishion & McMahon, 1998). Kerr and Stattin (2000), however, found that much parental knowledge about adolescent's experiences and activities was passive—that is, it was told to parents by their own children. In fact, compared

with the active parenting strategies of parental control (monitoring behavior by setting rules and guidelines) and parental solicitation (directly asking children and other informants), disclosure to parents uniformly predicted better outcomes. In their study of roughly 900 Swedish 14-year olds, measured with child-, parent-, and teacher-reported data, Kerr and Stattin (2000) tested the utility of different monitoring techniques for the prevention of delinquency. Disclosure, but not other strategies, predicted lower child- and parent-reported delinquent acts, parent- and teacher-reported school problems, and police contact with children. One interpretation of the results is that adolescents with better parent-child relationships would be less likely to commit acts that would merit parental disapproval and therefore more likely to disclose their activities. However, whereas both disclosure and parent-child relationship independently negatively predicted delinquency, disclosure was the stronger predictor (Stattin & Kerr, 2000).

There are two points that can be taken from these results. First, the parent-child relationship and child disclosure are different, albeit theoretically related, constructs. Second, adolescents who fail to adequately disclose to their parents are likely to have under-informed parents. Kerr and Stattin (2000) showed that child disclosure was by far the most effective source of parental knowledge. A clear limitation of this study is that self-report measures, which can be subject to memory bias, were used. However, parents and children had good agreement across measures; the correlations between these reports and the outcome measures almost always fell in the same direction, and always reached the same level of significance.

Another potential criticism of Kerr and Stattin (2000) is that, although these constructs may appear to be universal, results could be a product of the sample. Eaton, Kruger, and Johnson (2009) tested this possibility by replicating Kerr and Stattin's (2000) work with a sample from the US. In the study of roughly 400 adolescents (average age 15 years), child disclosure was

more strongly correlated with parental knowledge than was any other information source. Disclosure also positively predicted adolescent well-being across gender, and negatively predicted stress reactions. As with Kerr and Stattin (2000), data came from both child- and parent-report. This supports the importance of disclosure in adolescent samples across two geographic regions.

In a study of the reasoning behind disclosure decisions, Smetana and colleagues (2009) found that adolescents would disclose to parents only if they believed that their parents would approve. This may suggest that parental support might lead to more adolescent disclosure, rather than disclosure leading to more parental support. However, Smetana et al. (2009) did not specifically address disclosure to peers. Decisions to disclose to peers and parents may reflect different thought processes.

1.5—Current Project

I note that the effects of different types of support (e.g., maternal support, paternal support, peer support) have not often been studied. Also, studies on the relation between disclosure and negative social outcomes have shown conflicting results. For instance, Vaughan and colleagues (2010) found that disclosure predicted fewer depressive symptoms. However, Kahn and Hessling (2001) found that disclosure was concurrently predicted by depression. The goal of the current study is to shed light on these issues. Specifically, I will analyze associations between disclosure, support (peer, maternal and paternal measured separately) and learned helpless attributions. I will test three general conceptual models, described below. In the first, the independent effects of peer, paternal, and maternal support are proposed to mediate the association between disclosure and learned helpless attributions. In the second, disclosure is

proposed as the mediator between the support types and attributions. In the third, support is hypothesized to moderate effects of disclosure on attributions.

1.6--Hypotheses

Data collection took place at two time points in order to examine temporal associations between variables. Although it was intended to measure change in these constructs across points, sufficient change across points was not found. Data for each of the constructs was aggregated across time points to create reliable measures. In the first model, I proposed that disclosure may lead to LH through the mediating mechanism of social support. I measured three different types of social support—peer support, maternal support, and paternal support. However, I made no hypotheses regarding relative strength of each type of support. The reasoning behind this model is that when individuals disclose difficulties, they may receive more beneficial help (support), and therefore experience less failure and less LH.

Second, I proposed that social support will be related to LH through the mediating mechanism of disclosure. Again, the effects of peer, paternal, and maternal support are assessed separately. In this model, it is thought that the experience of being supported may make it more likely that adolescents will disclose difficulties, and the disclosure may relieve the feeling of failure and LH. Again, I make no hypotheses regarding the different support types.

Third, I proposed that disclosure will have different effects on learned helplessness at different levels of support. In this model, it is thought that the success of adolescents' disclosure in reducing LH may be dependent on receiving sensitive and accurate social support.

Chapter 2--Methods

2.1--Participants

Participants at Time 1 were 165 university students (130 women, 33 men, 2 declined to answer) enrolled in psychology courses. Ninety participants (68 women, 22 men) were retained across both data collection points. The age of participants ranged from 18 to 23 years (mean = 19.31 years, $SD=1.17$). Participants were African American (3.6%), Asian American (9.1%), Hispanic (3%) and European American (81.8%). Four participants (2.4%) declined to answer. Thirty-three participants (20%) were freshman, 46 (27.8%) were sophomores, 49 (29.6%) were juniors, 35 (21.2%) were seniors, and 2 declined to answer (1.2%). Those who only participated at the first data collection point reported significantly higher levels of disclosure at time 1 compared with those who participated in both time points ($M_s = 39.985$ and 37.392 , $SD_s = 7.37$ and 7.77 , respectively, $t(258) = 2.1816$, $p < .01$).

There were no other attrition differences. The sample size yielded power of .73 for testing hypotheses assuming a medium effect size (calculated using GPower 3.1.2, Faul, Erdfelder, Lang, & Buchner, 2007). Participants were recruited through online advertisements. All participants received 1 extra credit point for each session completed. Further, those who completed both sessions were entered into a raffle for six prizes of \$50.

2.2--Measures

2.2.1--Distress disclosure

Participants completed the Distress Disclosure Index (DDI; Kahn & Hessling, 2001). This is a 12-item self-report measure which assesses the tendency to disclose stressful events to peers. Please see Appendix A. Participants reported the extent to which they engaged in the disclosure (or lack thereof) in the item on a 5-point Likert-type scale. Unlike previous measures

of disclosure, the DDI specifically measures disclosure of distressful events, and not disclosure of general life events. Kahn and Hessling found that those with higher distress disclosure had higher self-esteem, higher life satisfaction, and higher perceived social support. The authors found a Cronbach's alpha of .93 and a test-retest reliability of .80. The DDI also correlated positively with previous measures of self-disclosure. In this study this measure had a Cronbach's alpha of .705 at both time points, and a test-retest reliability of .861.

2.2.2--Parental and peer support

Participants completed the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). Please see Appendix B. Although the IPPA is not explicitly a measure of support, this standardized self-report measure of older adolescents' relationship with their parents and peers, based in the attachment literature, is concordant with the construct of support in this model. Previous studies have also used the IPPA to tap perceptions of emotional support (Bosacki et al., 2007; Laible, 2007). The IPPA includes three separate subscales on maternal, paternal, and peer support. Within each, there are three subscales—trust, communication, and alienation. For instance, items include “My mother respects my feelings,” “I wish I had a different father,” and “My friends listen to what I have to say.” This measure consists of 74 items—25 items each that measure attachment to mothers and fathers, and 24 that measure attachment to peers, on a 1-5 scale. This measure was originally designed for university undergraduates. Summary scores for each type of support (maternal, paternal, peer) can be calculated by summing trust and communication scores with reverse-coded alienation scores. The internal reliability for the trust, communication, and alienation scales found by Armsden and Greenberg were .91, .87, and .72, respectively. These scales were also correlated to previous measures of family self-concept, which included mother, father, and friend utilization. These

constructs were defined as the frequency that participants sought out family and friends in different emotional situations. (Armsden & Greenberg, 1987). In this sample, Cronbach's alpha was .94 and .95 for time 1 and time 2 peer support respectively, and test-retest reliability for peer support was .897. For paternal support Cronbach's alphas were .971 and .972 at times 1 and 2 respectively and test-rest reliability was .945. Maternal support had a Cronbach's alpha of .961 at both time points, and test-retest reliability of .63.

2.2.3--Learned helplessness

Participants completed the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). Please see Appendix C. This questionnaire measures attributions on three dimensions: internal/external, stable/unstable, or global/local. Failure attributions that are internal, stable, and global are concordant with a learned helpless perspective (Yee et al., 2003). Participants were given 12 scenarios. Half the scenarios were achievement scenarios--those which dealt with personal, non-social rewards (i.e., you become very rich)-- and the other half were affiliation scenarios--those that deal with social rewards (i.e., you meet a friend who compliments you on your appearance). Within each type of scenario, half depict positive outcomes, and half depict negative outcomes. Participants identified the major cause for the outcome, and answered four questions on internal/external control, stable/unstable cause, global/local effect, as well as the importance of the event. Items are answered on a one to seven Likert-type scale. Composite scores for attributions about negative and positive outcomes can be created by summing the internality, stability, and locality scores for the negative and positive scenarios. The score on the negative composite is consistent with a learned helpless attribution. Peterson (1982) found a test-retest reliability of .64 for the negative composite. Yee and colleagues (2003) found internal consistency of .80 for the negative composite. In this sample Cronbach's alphas were .72 and

.75 for negative attributions at the first and second time points respectively, with a test-retest reliability of .826.

2.2.4--Negative events

Participants completed the Brief Adolescent Life Events Scales (BALES; Shahar et al, 2003). Please see Appendix D. Participants completed the 2nd data collection point roughly halfway through the semester, as they might experience more stress during this time period. This scale is included to assess if this actually occurred. The BALES includes both negative and positive subscales, and includes items such as “I completed an important assignment on time” and “I got a poor grade”. For this study only the negative subscale was used. Participants are instructed to reflect on events that occurred over the past four weeks. Shahar and colleagues found a Cronbach’s alpha of .87 for the negative scale. In this sample Cronbach’s alphas were .814 and .826 at the first and second time points respectively, with a test-retest reliability of .817

2.3--Procedure

Online data collection occurred at two time points. The first data collection period began three weeks after the beginning of the fall semester and ended after two weeks. The second data collection period began four weeks later and also ended after two weeks. All time 1 participants were contacted regarding time 2 participation one week prior to time 2 data collection. At both time points, online participation was open for a two week window. The second data collection period occurred during mid-term exams for most classes. Because participants may have been more likely to perceive school-related distress during this time, they may have also been more likely to disclose these stressors. At each time point, after completing informed consent (please see Appendix E), participants completed the DDI, IPPA, BALES, and ASQ.

Chapter 3--Results

3.1—Change over time

Correlations and t-tests were first conducted with the participants who completed both time points to determine whether participants experienced change in their disclosure, support, and LH across the two time points. Correlations showed great consistency in each variable across time points (average $r = .81$, r_s ranged from $.67$ to $.95$), and paired t-tests showed no significant differences in each variable across time points (all $t_s < .94$, ns). Because of this lack of change composites were formed by aggregating across the two time points for participants who took part in both time points. For participants who completed only the first time point, scores from that first time point were used in analyses. Further analyses refer only to these composites and treat the research design as correlational.

3.2--Normality

Variable distributions were examined to assess normality and to examine whether they were consistent with previous research. Descriptive statistics including means, standard deviations, skewness, and kurtosis of all model variables are presented in Table 1. Aggregated maternal support, aggregated paternal support, aggregated peer support, aggregate negative events, and aggregated negative attributions were deemed to have either a non-normal skewness or kurtosis value according to the criteria of Hopkins and Weeks (1990). With the exception of negative events, these variables were normalized with a square root transformation. Because negative events were only used descriptively, transformation was not deemed necessary. An alpha level of $.05$ was used for all statistical tests.

3.3—Descriptive Statistics

Means and standard deviations of all variables were collected from previously conducted studies, and are presented in Table 2. Where possible, the studies chosen are similar to the current study in sample demographics. The means for disclosure and peer support were lower than those found in previous studies, whereas the means for maternal and paternal support were higher. The mean for negative attributions was similar to that found in previous research. The number of negative events reported was much lower than that found by Shahar and colleagues (2003), albeit with a much younger sample (7th, 8th, and 9th grade students). Without heightened levels of stress, disclosure and social support may not have played as critical of a role in negative attributions.

3.4—Sex differences

T-tests were then conducted to determine if there were sex differences in any variables. Please see Table 1. Women reported significantly higher disclosure than men ($t(159)=4.03$, $p<.01$). Women also reported significantly greater peer support than men ($t(159)=3.48$, $p<.01$). None of the other differences reached significance. Because of these findings, gender was controlled for in all analyses.

3.5—Bivariate correlations

Correlations were conducted to determine if participant age is related to any variables. Please see Table 3. Age was positively correlated with disclosure. Older participants were thus more likely to disclose. Because of this, age was controlled for in all analyses.

Correlations were also examined to describe interrelations among constructs at each time point, and to describe consistency within constructs across time points. There were significant correlations of disclosure with all three types of support. As expected, disclosure was also related to negative attributions. Negative attributions were also significantly negatively

associated with peer and maternal support, as expected. There was a near-significant trend for negative attributions to be related to paternal support.

3.6--Analytic Strategy

The testing of multiple models has its roots in the lack of literature on this research area. All models were tested using SPSS to conduct regression analyses. Participant gender and age were controlled on the first step of each model.

The first model consists of a mediation effect of support on the relation between disclosure and negative attributions. Disclosure should predict negative attributions, through increased support. The second model consists of a mediation effect of disclosure on the relation between support and changes in negative attributions. Support should predict negative attributions, through increased disclosure.

The significance of all mediational models was assessed through Sobel tests. The Sobel test assesses mediation by comparing the unstandardized regression coefficients and standard errors of the 'a' path (the effect of the independent variable on the mediator) to the unstandardized regression coefficients and standard errors of the 'b' path (the effect of the mediator on the dependent variable, controlling for the independent variable). Because the Sobel test does not assume a relationship between the independent and dependent variables, it provides for more power than the Baron and Kenny (1986) method (Shrout & Bolger, 2002).

The third model proposes that support moderates the relation between disclosure and negative attributions. This was tested through three multiple regressions. For the first regression, after controlling for gender and age on the first step, disclosure and peer support were entered on the second step, followed by the interaction between peer support and disclosure on the third

step. Negative attributions were the criterion variable. This process was repeated for paternal and maternal support.

3.7--Hypothesis 1

3.7.1--Peer support

In the first regression equation, the criterion variable was peer support. Gender and age were controlled on the first step, and disclosure was entered on the second step. This model was significant, omnibus $F(3, 151) = 11.09, p < .01, R^2 = .19$. As Table 4 shows, disclosure significantly predicted peer support ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step. Disclosure was entered on the second step. Peer support was entered on the third step. This model was significant, omnibus $F(4, 150) = 3.09, p < .01, R^2 = .075$. As Table 5 shows, peer support did not significantly predict negative attributions ('b' path). As there was no evidence for mediation, a Sobel test was not run.

3.7.2--Maternal support

In the first regression equation, the criterion variable was maternal support. Gender was controlled on the first step, and disclosure was entered on the second step. This model was significant, omnibus $F(3, 151) = 6.75, p < .01, R^2 = .11$. As Table 4 shows, disclosure significantly predicted maternal support ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step. Disclosure was entered on the second step. Maternal support was entered on the third step. This model was significant, omnibus $F(4, 150) = 2.578, p < .05, R^2 = .065$. As Table 5 shows, maternal support did not predict negative attributions ('b' path). As there was no evidence for mediation, a Sobel test was not conducted.

3.7.3--Paternal support

In the first regression equation, the criterion variable was paternal support. Gender and age were controlled on the first step, and disclosure was entered on the second step. This model was significant, omnibus $F(3, 151) = 6.33, p < .01, R^2 = .11$. As Table 4 shows, disclosure significantly predicted paternal support ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step. Disclosure was entered on the second step. Paternal support was entered on the third step. This model approached significance, omnibus $F(4, 150) = 2.39, p < .10, R^2 = .06$. As Table 5 shows, paternal support did not predict negative attributions ('b' path). As there was no evidence for mediation, a Sobel test was not conducted.

3.8--Hypothesis 2

3.8.1--Peer support

In the first regression equation, the criterion variable was disclosure. Gender and age were controlled on the first step, and peer support was entered on the second step. This model was significant, omnibus $F(3, 151) = 13.11, p < .01, R^2 = .20$. As Table 6 shows, peer support significantly predicted disclosure ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step, and peer support was entered on the second step. Disclosure was entered on the third step. This model was significant, omnibus $F(4, 150) = 3.01, p < .05, R^2 = .075$. However, as Table 7 shows, disclosure did not predict negative attributions ('b' path). As there was not sufficient evidence for mediation, a Sobel test was not run.

3.8.2--Maternal support

In the first regression equation, the criterion variable was disclosure. Gender and age were controlled on the first step, and maternal support was entered on the second step. This model was significant, omnibus $F(3, 151) = 12.47, p < .01, R^2 = .19$. As Table 6 shows, maternal support significantly predicted disclosure ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step. Maternal support was entered on the second step. Disclosure was entered on the third step. This model was significant, omnibus $F(4, 150) = 2.58, p < .05, R^2 = .065$. As Table 7 shows, disclosure did not predict negative attributions ('b' path). As there was not sufficient evidence for mediation, a Sobel test was not run.

3.8.3--Paternal support

In the first regression equation, the criterion variable was disclosure. Gender and age were controlled on the first step and paternal support was entered on the second step. This model was significant, omnibus $F(3, 151) = 12.75, p < .01, R^2 = .20$. As Table 6 shows, time 1 paternal support significantly predicted time 2 disclosure ('a' path). In the second regression equation, the criterion variable was negative attributions. Gender and age were controlled on the first step. Paternal support was entered on the second step. Disclosure was entered on the third step. This model approached significance, omnibus $F(4, 150) = 2.39, p < .10, R^2 = .06$. As Table 7 shows, disclosure did not predict negative attributions ('b' path). As there was not sufficient evidence for mediation, a Sobel test was not run.

3.9--Hypothesis 3

The third hypothesis states that different levels of support will affect the relation between disclosure and negative attributions. Three separate models were run, as support was measured in three unique areas (See Table 8). Gender and age were held constant, and all predictors were

centered prior to analyses. All moderation analyses were conducted through multiple linear regression.

The regression equation predicting negative attributions with the interaction of peer support and disclosure was significant, omnibus $F(5, 149) = 2.61, p < .05, R^2 = .081$. As Table 8 shows, the main effects for peer support and disclosure approached significance.

The regression equation predicting negative attributions with the interaction of maternal support and disclosure was significant, omnibus $F(5, 149) = 3.19, p < .01, R^2 = .097$. The interaction of disclosure and maternal support was significant. To illustrate this interaction, I divided disclosure and maternal support into a low group (one standardized deviation below the mean), a moderate group (within one standard deviation of the mean), and a high group (one standardized deviation above the mean) Please see Figure 1. As Figure 1 shows, when participants reported lower maternal support, lower levels of disclosure were associated with higher negative attributions.

Finally, the regression equation predicting negative attributions with the interaction of paternal support and disclosure approached significance, omnibus $F(5, 149) = 1.95, p < .10, R^2 = .061$.

Chapter 4--Discussion

The current study tested the interrelations of disclosure, negative attributions, and three different types of social support in a sample of 160 college students. Past work has shown a negative relation between higher disclosure and negative social outcomes (Stattin & Kerr, 2000; Kerr & Stattin, 2000). However, the mechanism by which this association functions has yet to be studied. The current study tested three potential models which may help explain this relation. Examining these separate models is critical, as little is known about interrelations among these constructs. Support and lack of support for each model is discussed below.

4.1--Hypothesis 1

The first hypothesis stated that disclosure would be associated with negative attributions through levels of support. Because support was measured in three distinct areas, three separate models were analyzed. Though disclosure was associated with each type of support, there was no evidence that any support type mediated the relation between disclosure and negative attributions because none of the models significantly predicted negative attributions.

4.2--Hypothesis 2

The second hypothesis stated that support would predict negative attributions through disclosure. Again, because support was measured in three distinct areas, three separate models were run. Again, though each type of support was associated with disclosure, there was no evidence that disclosure mediated the association between any type of support and negative attributions.

These results were unexpected in light of Stattin and Kerr's (2000) work on disclosure and adolescent delinquency. Those authors found that child disclosure to parents had a direct, negative effect on norm-breaking behavior. Although Stattin and Kerr assessed the effect of

disclosure on norm-breaking behavior, the current study assessed the effect on negative attributions. Negative attributions, like norm-breaking, have implications for participants' social development and outcomes. Moreover, negative attributions were deemed to be relevant for a sample of college students. However, they may not be similar constructs. Norm-breaking behavior, but not negative attributions, would include transgressive and potentially illegal behavior. Perhaps disclosure has a direct effect on more extreme behavior. Also, the adolescents in Stattin and Kerr's (2000) work were living in their family home. Thus, both because of their age and because of parents' opportunity to monitor their lives on a daily basis, disclosure might be more likely to have a direct effect than in the current sample.

4.3--Hypothesis 3

The third hypothesis stated that the relation between disclosure and negative attributions would be moderated by differential levels of support. Three models were run, corresponding to the three support types, and maternal support was found to significantly interact with disclosure to predict negative attributions. Upon examination of the interaction, it appeared that when maternal support was low, participants who reported high disclosure also reported more negative attributions. Although this pattern of results was unexpected, in some ways it also replicates the way that learned helplessness is presumed to develop. For example, if a child who discloses difficulty to her mother consistently perceives a lack of supportive response, that in itself might lead to feelings of learned helplessness because effort does not lead to successful outcomes. Such an interpretation, however, will need to await longitudinal or experimental data. It is also possible that students who have more negative attributions are more likely to perceive a lack of support despite their best efforts at disclosure. The fact that this interaction did not hold for peer support or paternal support is also interesting, and may suggest a continuing role of

mothers, who are often primary attachment figures in early childhood, in undergraduates' feelings of security while exploring the college environment.

4.4--Strengths

The current study has several strengths which add to the literature on social support, disclosure, and attributions. A critical strength is that three potential pathways for the effect of disclosure on negative attributions—an important social outcome—were theorized and tested. Specifically, this study tested the mediating effect of support on the association of disclosure and negative attributions, the mediating effect of disclosure on the association of support and negative attributions, and the moderating effect of support on the association of disclosure and negative attributions. Comparing these three models can give researchers important information on the origin of disclosure and support—specifically, does support come from disclosure, or does disclosure come out of supportive relationships? Based on the pattern of results in this study, it appears that disclosure and supportive relationships are robustly associated, because a similar pattern of association was found for disclosure with peer, maternal, and paternal support. The pattern of results also suggests that disclosure and maternal support may interact to predict negative attributions, rather than one leading to the other.

The inclusion of support in the hypothesized models also benefits the literature. Measuring three distinct areas of social support (peers, mothers, and fathers) is a strength, especially for a sample of college students. Because many studies only measure familial support, or do not differentiate between support types (Galambos et al., 2008; Chen, 2008; Rodgers & Rose, 2002), the separate measurement of three types of support in the current study represents an important step towards differentiating effects of types of social support.

4.5--Limitations

This study also has some limitations which must be taken into consideration. First, the current study used a convenience sample of undergraduates. Though this age group was chosen specifically because these “emerging adults” are entering into new environments and forming new relationships, the sample is not representative of the US population in regard to ethnicity and gender. Recruitment through Psychology courses may also form a selection bias that could influence results. Although participants were not aware of the specific hypotheses, they may have been more likely to accurately predict the items which measured each variable, in addition to the ways in which these variables would be associated. Further, the type of students who would voluntarily seek out extra credit opportunities may not be representative of typical undergraduates. Thus, future work examining whether results replicate in a more diverse sample will be important.

Another potential limitation is that the study was entirely questionnaire-based. Although this allowed for a relatively large sample to be collected in a relatively short period of time, it limited assessment of the study variables. Specifically, it was hoped participants would be likely to have experienced more negative events at the second time point, and that this would lead to more disclosure and support. Data suggest that participants experienced few negative events compared with previous samples. This may have limited disclosure as there was less to disclose, and may also have limited support, because there was less need for it. In future work, laboratory protocols inducing negative experiences in participants and providing opportunities for disclosure and support in a controlled fashion might be used to identify causal associations between disclosure, support, and learned helpless attributions.

Other limitations concern the specific measures which were used in the current study. Each of the measures assesses the respective constructs across time and contexts, which is more

suitable for measurement of dispositions. This type of measurement may not be conducive to assessing change over time. Relatedly, the disclosure measure has a single scale and does not measure disclosure with regard to specific targets. It is possible that participants who score highly may disclose often to one particular target, but not to others. For example, a participant who scores highly might disclose a great deal to peers but relatively little to parents. In this case, there would be little reason to expect a relation between disclosure and parental support. Though scores on the disclosure measure were related to all three types of support, a more targeted disclosure measure might demonstrate even greater associations with matched targeted support.

4.6--Future Directions

The current study represents an important step in the literature on the relations between disclosure, support, and attributions. The current study showed that disclosure was significantly correlated with negative attributions but that it did not predict negative attributions when gender, age, and support were included. Previous studies have shown a direct relation between disclosure and norm-breaking, another social outcome (Kerr & Stattin, 2000; Stattin & Kerr, 2000). This suggests the importance of studying associations of disclosure with a variety of outcomes in more detail. For example, the negative attributions scale might be further divided into academic and social subscales. Outcomes related to both externalizing and internalizing symptoms might be examined concurrently. Additionally, the role of LH may be revised in future studies. Although the current study framed LH as an outcome, future work may frame it as a predictor. It must be emphasized that LH was currently measured with the Attributional Style Questionnaire. Attributional style, which is measured as a generalized construct across a variety of contexts, may be thought of as a disposition, and thus would not be expected to be effected by either disclosure or support in the absence of naturally-occurring stress. Finally,

experimental and longitudinal work is needed to pursue pathways that may link the development of learned helplessness.

4.7--Conclusions

The current study represents a first, exploratory step for research on the relations between support, disclosure, and attributions. Results suggest that disclosure may be detrimentally associated with attribution style when maternal support is low. Thus, results have implications both for basic research aimed at understanding relationship processes and for intervention and prevention research focused on resiliency factors for internalizing disorders.

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Table 1

Descriptive Statistics and Gender Difference t-values

Construct	Mean (SD)	Skewness	Kurtosis	t-value	<i>p</i>
Disclosure	37.44 (7.8)	-.272	-.216	3.66	<.001
Peer support	97.44 (5.52)	-.384	-.391	2.74	<.01
Paternal support	93.75 (6.75)	-.392	-.195	.503	<i>ns</i>
Maternal support	106 (4.25)	-.371	-.487	.572	<i>ns</i>
Negative events	9.72(6.48)	1.277	1.711	.735	<i>ns</i>
Negative attributions	77.4 (3.24)	-.230	2.224	.938	<i>ns</i>

Table 2

Comparison to Previous Studies

Construct	Author	n	Mean (SD)
Disclosure	Garrison & Kahn, 2010	239 (179 female)	41.76 (10.92)
Peer support	Allen et al., 2007	167 (87 female)	102.9 (12.9)
Maternal support	Branje et al., 2010	1,313 (670 female)	102.25 (22)
Paternal support	Branje et al., 2010	1,313 (670 female)	91.5 (19.75)
Negative events	Shahar et al., 2003	895(315 female)	35.2 (8.1)
Negative attributions	Yee et al., 2003	96 (41 female)	77.76 (9.54)

Table 3

Bivariate Correlations

	1	2	3	4	5	6
1 Age	-					
2 Disclosure	.19*	-				
3 Peer supp.	.04	.41**	-			
4 Pat. supp.	.04	.34**	.26**	-		
5 Mat. supp.	.05	.34**	.31**	.46**	-	
6 Neg. Att.	.09	-.18*	-.21*	-.15†	-.16*	-

Note. ** $p < .01$, * $p < .05$, † $p < .10$

Table 4

Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Social Support

Predictors	Peer support			Maternal support			Paternal support		
	β	B	SE	β	B	SE	β	B	SE
Gender	-.18*	-.079	.033	.05	.03	.04	.016	.011	.055
Age	-.04	-.006	.011	-.005	-.001	.01	-.023	-.005	.018
Disclosure	.35**	.11	.024	.35**	.14	.03	.34**	.172	.04

Note. ** $p < .01$, * $p < .05$, † $p < .10$

Table 5

Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Negative Attributions

Predictors	Peer support			Maternal support			Paternal support		
	β	B	SE	B	B	SE	β	B	SE
Gender	.001	.000	.038	.032	.015	.038	.032	.015	.039
Age	.12	.02	.013	.128	.02	.013	.13	.02	.013
Disclosure	-.15†	-.053	.029	-.17†	-.057	.029	-.15†	-.053	.03
Support	-.15†	-.16	.09	-.113	-.09	.067	-.11	-.077	.057

Note. ** $p < .01$, * $p < .05$, † $p < .10$

Table 6

Hypothesis 2: Standard Coefficients and Standard Errors for Predictors of Disclosure

Predictors	Peer support			Maternal support			Paternal support		
	β	B	SE	β	B	SE	β	B	SE
Gender	-.15†	-.245	.103	-.23**	-.31**	.10	-.25**	-.34**	.12
Age	.13†	.063	.034	.12	.057	.035	.11	.054	.034
Support	.3**	1.14	.24	.32**	.78	.17	.30**	.61	.14

Note. ** $p < .01$, * $p < .05$, † $p < .10$

Table 7

Hypothesis 1: Standard Coefficients and Standard Errors for Predictors of Negative Attributions

Predictors	Peer support			Maternal support			Paternal support		
	β	B	SE	B	B	SE	β	B	SE
Gender	.001	.000	.038	.032	.015	.038	.032	.015	.039
Age	.12	.02	.013	.128	.02	.013	.13	.02	.013
Disclosure	-.15†	-.053	.029	-.17†	-.057	.029	-.15†	-.053	.03
Support	-.15†	-.16	.09	-.113	-.09	.067	-.11	-.077	.057

Note. ** $p < .01$, * $p < .05$, † $p < .10$

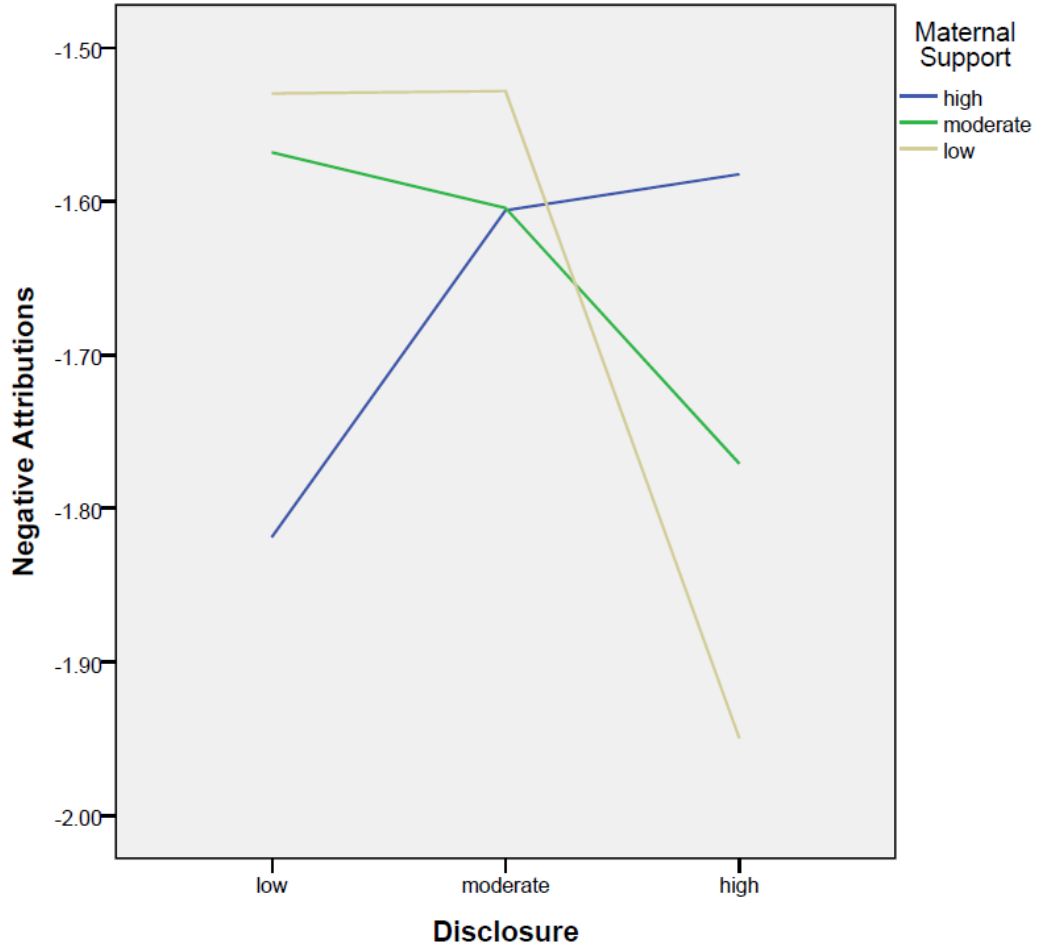
Table 8

Hypothesis 3: Standard Coefficients and Standard Errors for Predictors of Negative Attributions

Predictors	Peer support			Maternal support			Paternal support		
	β	B	SE	β	B	SE	β	B	SE
Gender	.005	.002	.038	.03	.014	.037	.033	.015	.039
Age	.13	.021	.012	.14†	.021	.012	.12	.02	.012
Disclosure	-.15†	-.051	.030	-.18*	-.004	.002	-.15	-.053	.030
Support	-.16†	-.17	.094	-.125	-.10	.067	-.11	-.078	.057
Disclosure X support	-.08	-.015	.015	.18*	.25	.11	-.038	-.039	.082

Note. † $p < .10$, * $p < .05$, ** $p < .01$.

Figure 1. Hypothesis 3: Moderation model of disclosure on negative attributions, moderated by maternal support.



Appendix A
Online Study Posting

Name: Communication and Attributions

Description: Receive 1 credit for a 1 hour study including responding to questionnaires on social support, disclosure of stressful events, and attribution styles. Must be 18 or older to participate.

Appendix B Informed Consent

Study: Communication and Attributions

Purpose: Thank you for considering participation in this research. This study session is conducted by researchers at Virginia Tech and is for academic purposes. The research examines communication with and support from parents and peers and attributions about success and failure experiences.

Procedure & Compensation: Participation in this study will take place at two time points, one within the first three weeks of the semester and one within the last two weeks of the semester. For each time point, your participation will take approximately 1/2 hour and you will be eligible for 1 point of extra credit in a Psychology course. If you complete both time points, you may also enter a raffle for one of five \$60 prizes. During this study you will be asked to respond to questionnaires about your communication with your parents and friends, support you receive from your parents and friends, and your attributions about situations in which you experience success or failure.

Risk: There is no more than minimal risk involved in this study.

Benefit: The benefit of this research is in contributing to academic knowledge in the areas of social support and attributional styles. Any such knowledge obtained during this research will be shared with the academic community via conference presentations and publication in the relevant journals. Any and all data will be reported in aggregate form. You may also have the opportunity to learn more about psychological research through your participation in this research. There is no promised benefit to you for your participation in this study.

Confidentiality and Anonymity: We will ask for your e-mail address in order to contact you about the second phase of this study. You will be contacted about the second phase within 4-6 weeks after completion of the first phase of this study. However, this information will be deleted immediately after data collection is completed. Your contact information will only be used for the purposes of this study. Only the researchers themselves will have access to your data and it will be kept on a password protected computer at all times.

Freedom to Withdraw: You are free to withdraw from the study at any time with no penalty. You are free not to answer any question should you choose not to without penalty. Should you choose to terminate your participation at any time for any reason, you will be compensated for the portion of the time you have spent in the study.

Contact Information: If you have any questions at any time about this study, please feel free to contact the graduate researcher, Conrad Baldner, at

csbaldne@vt.edu or the Principal Investigator, Dr. Julie Dunsmore, at jdunsmor@vt.edu.

If you should have any questions about the protection of human research participants regarding this study, please contact (a) Dr. David W. Harrison, Chair of Psychology Department Human Subjects Committee, telephone (540) 231-4422, email: dwh@vt.edu, address: Mail Code 0436, Department of Psychology, Virginia Tech, Blacksburg, VA 24061, or (b) Dr. David Moore, Chair Virginia Tech Institutional Review Board for the Protection of Human Subjects, telephone (540) 231-4991, email: moored@vt.edu, address: Research Compliance Office, 1880 Pratt Drive, Suite 2006 (0497), Blacksburg, VA 24061.

Subject Permission: If you wish to participate in this study please type your initials below:

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

Initials: _____

****Consent form may be administered on the computer with participants' typing in their initials serving as their consent; these initials cannot be linked to their data****

Appendix C—Distress Disclosure Index
Used under the fair use guidelines, 2011

Kahn & Hessling, 2001.

1. When I feel upset, I usually confide in my friends.

- 1-Strongly Disagree
- 2
- 3
- 4
- 5-Strongly Agree

2. I prefer not to talk about my problems.

- 1-Strongly Disagree
- 2
- 3
- 4
- 5-Strongly Agree

3. When something unpleasant happens to me, I often look for someone to talk to.

- 1-Strongly Disagree
- 2
- 3
- 4
- 5-Strongly Agree

4. I typically don't discuss things that upset me.

- 1-Strongly Disagree
- 2
- 3
- 4
- 5-Strongly Agree

5. When I feel upset or sad, I tend to keep those feelings to myself.

- 1-Strongly Disagree
- 2
- 3
- 4
- 5-Strongly Agree

6. I try to find people to talk with about my problems.

1-Strongly Disagree

2

3

4

5-Strongly Agree

7. When I am in a bad mood, I talk about it with my friends.

1-Strongly Disagree

2

3

4

5-Strongly Agree

8. If I have a bad day, the last thing I want to do is talk about it.

1-Strongly Disagree

2

3

4

5-Strongly Agree

9. I rarely look for people to talk with when I am having a problem.

1-Strongly Disagree

2

3

4

5-Strongly Agree

10. When I'm distressed I don't tell anyone.

1-Strongly Disagree

2

3

4

5-Strongly Agree

11. I usually seek out someone to talk to when I am in a bad mood.

1-Strongly Disagree

2

3

4

5-Strongly Agree

12. I am willing to tell others my distressing thoughts.

1-Strongly Disagree

2

3

4

5-Strongly Agree

Appendix D-- Inventory of Parent and Peer Attachment
Used under the fair use guidelines, 2011

Armsden & Greenberg, 1987

This questionnaire asks about your relationships with your mother. Each of the following statements asks about your feelings about your mother or the woman who has acted as your mother (e.g., a natural mother and a step-mother). Answer the questions for the one you feel has most influenced you.

	Almost Never Or Never True	Not Very Often True	Sometimes True	Often True	Almost Always or Always True
	1	2	3	4	5
1. My mother respects my feelings.				1 2 3 4 5	
2. I feel my mother does a good job as my mother.				1 2 3 4 5	
3. I wish I had a different mother.				1 2 3 4 5	
4. My mother accepts me as I am.				1 2 3 4 5	
5. I like to get my mother's point of view on things I'm concerned about.				1 2 3 4 5	
6. I feel it's no use letting my feelings show around my mother.				1 2 3 4 5	
7. My mother can tell when I'm upset about something.				1 2 3 4 5	
8. Talking over my problems with my mother makes me feel ashamed or foolish.				1 2 3 4 5	
9. My mother expects too much from me.				1 2 3 4 5	
10. I get upset easily around my mother.				1 2 3 4 5	
11. I get upset a lot more than my mother knows about.				1 2 3 4 5	
12. When we discuss things, my mother cares about my point of view.				1 2 3 4 5	
13. My mother trusts my judgment.				1 2 3 4 5	
14. My mother has her own problems, so I don't bother her with mine.				1 2 3 4 5	
15. My mother helps me understand myself better.				1 2 3 4 5	
16. I tell my mother about my problems and troubles.				1 2 3 4 5	
17. I feel angry with my mother.				1 2 3 4 5	
18. I don't get much attention from my mother.				1 2 3 4 5	

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 19. | My mother helps me talk about my difficulties. | 1 | 2 | 3 | 4 | 5 |
| 20. | My mother understands me. | 1 | 2 | 3 | 4 | 5 |
| 21. | When I am angry about something,
my mother tries to be understanding. | 1 | 2 | 3 | 4 | 5 |
| 22. | I trust my mother. | 1 | 2 | 3 | 4 | 5 |
| 23. | My mother doesn't understand what I'm going through
these days. | 1 | 2 | 3 | 4 | 5 |
| 24. | I can count on my mother when I need to get something
off my chest. | 1 | 2 | 3 | 4 | 5 |
| 25. | If my mother knows something is bothering me,
she asks me about it. | 1 | 2 | 3 | 4 | 5 |

The next set of questions asks you about your relationship with your male Parent (i.e. father or whomever takes care of you).

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 1. | My father respects my feelings. | 1 | 2 | 3 | 4 | 5 |
| 2. | I feel my father does a good job as my father. | 1 | 2 | 3 | 4 | 5 |
| 3. | I wish I had a different father. | 1 | 2 | 3 | 4 | 5 |
| 4. | My father accepts me as I am. | 1 | 2 | 3 | 4 | 5 |
| 5. | I like to get my father's point of view on
things I'm concerned about. | 1 | 2 | 3 | 4 | 5 |
| 6. | I feel it's no use letting my feelings show around
my father. | 1 | 2 | 3 | 4 | 5 |
| 7. | My father can tell when I'm upset about something. | 1 | 2 | 3 | 4 | 5 |
| 8. | Talking over my problems with my father
makes me feel ashamed or foolish. | 1 | 2 | 3 | 4 | 5 |
| 9. | My father expects too much from me. | 1 | 2 | 3 | 4 | 5 |
| 10. | I get upset easily around my father. | 1 | 2 | 3 | 4 | 5 |
| 11. | I get upset a lot more than my father knows about. | 1 | 2 | 3 | 4 | 5 |
| 12. | When we discuss things, my father cares
about my point of view. | 1 | 2 | 3 | 4 | 5 |
| 13. | My father trusts my judgment. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | |
|--|---|---|---|---|---|
| 14. My father has her own problems,
so I don't bother her with mine. | 1 | 2 | 3 | 4 | 5 |
| 15. My father helps me understand myself better. | 1 | 2 | 3 | 4 | 5 |
| 16. I tell my father about my problems and troubles. | 1 | 2 | 3 | 4 | 5 |
| 17. I feel angry with my father. | 1 | 2 | 3 | 4 | 5 |
| 18. I don't get much attention from my father. | 1 | 2 | 3 | 4 | 5 |
| 19. My father helps me talk about my difficulties. | 1 | 2 | 3 | 4 | 5 |
| 20. My father understands me. | 1 | 2 | 3 | 4 | 5 |
| 21. When I am angry about something,
my father tries to be understanding. | 1 | 2 | 3 | 4 | 5 |
| 22. I trust my father. | 1 | 2 | 3 | 4 | 5 |
| 23. My father doesn't understand what I'm going through
these days. | 1 | 2 | 3 | 4 | 5 |
| 24. I can count on my father when I need to get something
off my chest. | 1 | 2 | 3 | 4 | 5 |
| 25. If my father knows something is bothering me,
she asks me about it. | 1 | 2 | 3 | 4 | 5 |

The next set of questions asks you about your relationship with your close friends.

- | | | | | | |
|---|---|---|---|---|---|
| 1. My friends can tell when I'm upset about something. | 1 | 2 | 3 | 4 | 5 |
| 2. When we discuss things, my friends
care about my point of view. | 1 | 2 | 3 | 4 | 5 |
| 3. When I discuss things, my friends care
about my point of view. | 1 | 2 | 3 | 4 | 5 |
| 4. I wish I had different friends. | 1 | 2 | 3 | 4 | 5 |
| 5. My friends understand me. | 1 | 2 | 3 | 4 | 5 |
| 6. My friends help me to talk about my difficulties. | 1 | 2 | 3 | 4 | 5 |
| 7. My friends accept me as I am. | 1 | 2 | 3 | 4 | 5 |
| 8. I feel the need to be in touch with my friends more often. | 1 | 2 | 3 | 4 | 5 |
| 9. My friends don't understand what
I'm going through these days. | 1 | 2 | 3 | 4 | 5 |
| 10. I feel alone or apart when I'm with my friends. | 1 | 2 | 3 | 4 | 5 |
| 11. My friends listen to what I have to say. | 1 | 2 | 3 | 4 | 5 |
| 12. I feel my friends are good friends. | 1 | 2 | 3 | 4 | 5 |

13. My friends are fairly easy to talk to.	1	2	3	4	5
14. When I am angry about something, my friends try to be understanding.	1	2	3	4	5
15. My friends help me to understand myself better.	1	2	3	4	5
16. My friends care about how I am.	1	2	3	4	5
17. I feel angry with my friends.	1	2	3	4	5
18. I can count on my friends when I need to get something off my chest.	1	2	3	4	5
19. I trust my friends.	1	2	3	4	5
20. My friends respect my feelings.	1	2	3	4	5
21. I get upset a lot more than my friends know about.	1	2	3	4	5
22. It seems as if my friends are irritated with me for no reason.	1	2	3	4	5
23. I can tell my friends about my problems and troubles.	1	2	3	4	5
24. If my friends know something is bothering me, they ask me about it.	1	2	3	4	5

Response categories:

- 1= Almost never or never true
- 2= Not very true
- 3= Sometimes true
- 4= Often true
- 5= Almost always or always true

Appendix E-- Attributional Style Questionnaire

Used under the fair use guidelines, 2011

Peterson et al., 1982

Please try to vividly imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one—the *major* cause if this event happened to *you*. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the *cause* and a final question about the *situation*. To summarize, we want you to:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the *major* cause if the situation if it happened to you.
3. Write one cause in the blank provided.
4. Answer three questions about the *cause*.
5. Answer one question about the *situation*.
6. Go on to the next situation.

You meet a friend who compliments you on your appearance.

1. Write down the *one* major cause _____.

2. Is the cause of being complimented on your appearance due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when being complimented on your appearance, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences just being complimented on your appearance, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all
important 1 2 3 4 5 6 7 Extremely
important

You have been looking for a job unsuccessfully for some time.

1. Write down the *one* major cause _____.

2. Is the cause of your unsuccessful job search due to something about you or to something about other people or circumstances?

Totally due to
other people
or circumstances 1 2 3 4 5 6 7 Totally due
to me

3. In the future when looking for a job, will this cause again be present?

Will never
again be
present 1 2 3 4 5 6 7 Will always
be present

4. Is the cause something that only influences just looking for a job, or does it also influence other areas of your life?

Influences just
this particular
situation 1 2 3 4 5 6 7 Influences
all situations
in my life

5. How important would this situation be if it happened to you?

Not at all
important 1 2 3 4 5 6 7 Extremely
important

You become very rich.

1. Write down the *one* major cause _____.

2. Is the cause of becoming rich due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. If in the future you get a significant amount of money, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences just becoming rich, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

A friend comes to you with a problem and you don't try to help.

1. Write down the *one* major cause _____.

2. Is the cause of not helping your friend due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you do not help a friend in need, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences not helping a friend in need, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You give an important talk in front of a group and the audience reacts negatively.

1. Write down the *one* major cause _____.

2. Is the cause of not performing well publicly due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you do not perform well in public, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences performing in public, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You do a project that is highly praised.

1. Write down the *one* major cause _____.

2. Is the cause of completing a well-liked project due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you do good on projects, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences doing well on projects, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You meet a friend who acts hostile towards you.

1. Write down the *one* major cause _____.

2. Is the cause of a friend acting hostile towards you due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when friends act in hostile manner, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences friends acting in this way, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You can't get all the work done that others expect of you.

1. Write down the *one* major cause _____.

2. Is the cause of not completing your work due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you can not complete your work, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences not completing work, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

Your significant other has been treating you more lovingly.

1. Write down the *one* major cause _____.

2. Is the cause of being treated more lovingly due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you are treated more lovingly, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences being treated more lovingly, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You apply for a position that you want very badly (e.g., important job, graduate school admission) and you get it.

1. Write down the *one* major cause _____.

2. Is the cause of getting this position due to something about you or to something about other people or circumstances?

Totally due to
other people
or circumstances 1 2 3 4 5 6 7

Totally due
to me

3. In the future when you get an important position, will this cause again be present?

Will never
again be
present 1 2 3 4 5 6 7

Will always
be present

4. Is the cause something that only influences getting important positions, or does it also influence other areas of your life?

Influences just
this particular
situation 1 2 3 4 5 6 7

Influences
all situations
in my life

5. How important would this situation be if it happened to you?

Not at all
important 1 2 3 4 5 6 7

Extremely
important

You go out on a date and it goes badly.

1. Write down the *one* major cause _____.

2. Is the cause of a bad date due to something about you or to something about other people or circumstances?

Totally due to
other people
or circumstances 1 2 3 4 5 6 7

Totally due
to me

3. In the future when you go on a bad date, will this cause again be present?

Will never
again be
present 1 2 3 4 5 6 7

Will always
be present

4. Is the cause something that only influences going on bad dates, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

You get a raise.

1. Write down the *one* major cause _____.

2. Is the cause of getting a raise due to something about you or to something about other people or circumstances?

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------

3. In the future when you get a raise, will this cause again be present?

Will never again be present	1 2 3 4 5 6 7	Will always be present
-----------------------------------	---------------	---------------------------

4. Is the cause something that only influences getting raises, or does it also influence other areas of your life?

Influences just this particular situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--

5. How important would this situation be if it happened to you?

Not at all important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

Appendix F-- Brief Adolescent Life Events Scale

Used under the fair use guidelines, 2011

Shahar et al., 2003

Please rate the frequency with which you have experienced each event in the last four weeks with the following scale

0-Never

1

2

3- A lot

1. I argued with a family member
2. I made up with a family member
3. I got help from a family member when I needed it
4. I did NOT get help from a family member when I needed it
5. I was allowed to do something I wanted to
6. I was NOT allowed to do something I wanted to do
7. I argued with a friend
8. I made up with a friend
9. I got help from a friend when I needed it
10. I did NOT get help from a friend when I needed it
11. A friend joined me for a special event when I asked
12. A friend did NOT join me for a special event when I asked
13. A classmate teased or threatened me
14. A classmate defended me from others
15. I was invited to join in with a group event
16. I was excluded from a group event
17. I had an enjoyable romantic date
18. I had a disappointing romantic date
19. I got a bad grade in school
20. I got a good grade in school
21. I completed an important assignment (on time)
22. I did NOT complete an important assignment (or was late)
23. A teacher told me I did well on an assignment
24. A teacher told me I did poorly on an assignment
25. I discovered I can do something better than someone else
26. I discovered I can NOT do something better than someone else
27. I did something I felt embarrassed by
28. I did something I felt proud of
29. I did something outside of school that I was praised for
30. I did something outside of school that I was criticized for
31. My body changed in a way that I wanted
32. My body changed in a way that I did NOT want

33. I became sick or got injured
34. I got well after a sickness or recovered from an injury
35. Someone insulted me because of the way I look
36. Someone complimented me because of the way I look.