https://doi.org/10.24839/2325-7342.JN22.2.131

The Effects of Parental Support and Self-Esteem on Internalizing Symptoms in Emerging Adulthood

Lewie E. Moore II
Madelynn D. Shell*
The University of Virginia's College at Wise

ABSTRACT. This study examined social and individual predictors of internalizing symptoms in college students, and in particular explored the indirect effects of mother and father support through self-esteem. A total of 123 college students completed self-reported online surveys measuring mother and father support, self-esteem, and internalizing symptoms (depression and anxiety, withdrawal, and somatic symptoms). Students reported greater support from mothers compared to fathers, t (114) = 5.84, $p < .001$. On average, higher maternal (but not paternal) support (β = -0.25, p = .006) and self-esteem (β = -0.61, $p < .001$) were associated with lower internalizing symptoms. For women, self-esteem mediated the relationship between maternal support and internalizing symptoms, indicating that greater maternal support was associated with greater self-esteem, which in turn was associated with lower internalizing symptoms (F = 41.98, $p < .001$). However, this pathway was not significant for men. These results highlight the importance of exploring the influence of different sources of support separately, and suggest that improving self-esteem for both men and women, and improving maternal support for women may decrease risk for internalizing symptoms in emerging adulthood.

Internalizing disorders such as depression and anxiety are often a concern on college campuses, and even subclinical internalizing symptoms have the potential to significantly impair students' social, emotional, and academic well-being (Eisenberg, Gollust, Golberstein, & Hefner, 2007; Kessler, Foster, Saunders, & Stang, 1995; Weitzman, 2004). Internalizing symptoms often begin around the start of puberty and increase across adolescence and emerging adulthood (Bhatia & Bhatia, 2007; Crawford, Cohen, Midlarsky, & Brook, 2001; Schraedley, Gotlib, & Hayward, 1999). Identifying factors that predict internalizing symptoms, particularly at developmental turning points such as the college transition, during which these symptoms may be more likely to change, is crucial to preventing them. Emerging adults who transition to college experience dramatic shifts in sources and types of social support, therefore it is important to explore how social relationships can impact the development of psychopathology during this time. Parental support, both early in childhood and during college, may protect students from internalizing symptoms by providing them with the emotional tools such as self-esteem to help them cope with challenges on their own (Chao, 2012; Colarossi & Eccles, 2000; Lee, Dickson, Conley, & Holmbeck, 2014; Rueger, Malecki, & Demaray, 2010). Furthermore, the support received and the impact of this support may differ for men and women (Rueger et al., 2010). Thus, this investigation will explore the effects of parental support, self-esteem, and gender on the development of internalizing symptoms in college students.

*Faculty mentor

Emerging Adulthood

Emerging adulthood is a developmental period, between ages 18 to 25, in which individuals rely less heavily on their parents compared to adolescence, but have not yet achieved adult milestones such as marriage or a stable career (Arnett, 2000, 2007). One of the biggest sources of change in emerging adult development is education, and college is often a time for identity exploration (Chiang & Hawley, 2013; Germeijs, Luyckx, Notelaers, Goossens, & Verschueren, 2012). However, with this exploration may come stressors and challenges such as increased independence in financial, social, and educational decisions. When this independence is combined with less parental guidance, it could lead to the development of internalizing symptoms (Lee et al., 2014; Mattanah, Brooks, Brand, Quimby, & Ayers, 2010). Identifying predictors of such internalizing symptoms could help improve emerging adult well-being by easing the transition to college and adulthood. Although not all emerging adults enter college, over 65% of high school graduates go on to enter college, so college students are representative of a large portion of early emerging adults (Bureau of Labor Statistics and U.S. Department of Labor, 2016; U.S. Department of Education and National Center for Education Statistics, 2016). Furthermore, these processes of increased independence may be similar for emerging adults who do not attend college.

Internalizing Symptoms

Internalizing symptoms include depression, anxiety, withdrawal, and somatic symptoms that can, directly or indirectly, affect individuals' well-being (Lee et al., 2014; Telzer & Fuligni, 2013). Internalizing symptoms may affect well-being even if the individual does not meet diagnostic criteria for specific anxiety or depressive disorders, thus it is important to understand internalizing symptoms along a continuum. Previous evidence has suggested that, during emerging adulthood, internalizing symptoms are often associated with negative outcomes such as alcohol abuse, poor academic performance, and poorer social adjustment (Eisenberg et al., 2007; Kessler et al., 1995; Weitzman, 2004). Thus, it is important to identify factors that may contribute to internalizing symptoms.

Starting in puberty and continuing into adulthood, many studies have found that girls and women experience higher levels of internalizing symptoms than boys and men (Bosacki, Dane, Marini, & Youth Lifestyle Choices-Community University Research Alliance, 2007; Crawford et al., 2001; Li, Albert, & Dwelle, 2014; Rueger et al., 2010). Although some have posited that this gender gap develops as a result of hormonal differences at puberty (Bhatia & Bhatia, 2007), there is also evidence that environmental changes may be more strongly associated with internalizing symptoms in women than men. For example, girls experienced higher levels of psychological distress in response to the middle school transition (Chung, Elias, & Schneider, 1998), and were more likely than boys to experience increases in depression (Hirsch & Rapkin, 1987). Likewise, women may be more likely to experience increases in internalizing symptoms during the transition to college and may be particularly affected by external factors such as social support (Li et al., 2014; Schraedley et al., 1999). Although internalizing symptoms may have a significant effect on the well-being of both men and women, gender may play an important role in the rates and predictors of such symptoms.

Parental Support

Parental support can come in many forms including emotional support expressed through positive affection and instrumental support in the form of financial or other assistance (Chao, 2012; Lee et al., 2014). Parental support may influence how students cope with stressors associated with college. Many previous studies have combined parental support with other sources of support such as peers and romantic partners, and in general, evidence has suggested that social support decreases internalizing symptoms (Lee et al., 2014; Schraedley et al., 1999; Zhao, Kong, & Wang, 2013; Zhou, Zhu, Zhang, & Cai, 2013). In addition, evidence has suggested that, in adolescence, decreased parental support may be a stronger predictor of internalizing symptoms than changes in other sources of support (Hughes & Gullone, 2008; Rueger, et al., 2010). Because parental relationships are particularly likely to change in emerging adulthood as children become more independent, it is important to explore the independent effects of parental support during college.

In addition to separating parents from other sources of support, it may be beneficial to explore the differences in the amount and function of support from mothers versus fathers. Evidence has suggested that mothers often provide higher levels of support compared to fathers (Furman & Buhrmester, 1992; Phares, Renk, Duhig, Fields, & Sly, 2009; see Colarossi & Eccles, 2000 for an

exception) and that maternal versus paternal support may play a more important role in protecting children from internalizing symptoms (Anderson, Salk, & Hyde, 2015). In addition, there may be differences in the levels of parental support perceived by men versus women. Although some studies have found no such gender differences (Phares et al., 2009; Rueger et al., 2010), others have found that adolescent boys perceive more father support and girls perceive more mother support (Robinson, 1995) and report having both more positive and more negative interactions with family members (Telzer & Fuligni, 2013). Perhaps as a result of differing interaction quality, parental support may have a greater impact on women's versus men's internalizing symptoms (Schraedley et al., 1999). Thus, mother versus father support may uniquely impact internalizing symptoms, and these effects could differ for women versus men.

Mediating Effects of Self-Esteem

In addition to parental support directly impacting internalizing symptoms, it may also indirectly affect internalizing symptoms by helping emerging adults develop personal characteristics that decrease the likelihood that stressors will lead to internalizing symptoms. One such characteristic is self-esteem, or positive evaluations of one's abilities and worth (Geng & Jiang, 2013). Such positive self-evaluations may help emerging adults continue to persist in the face of social or academic stressors, thus be associated with lower internalizing symptoms (Orth, Robbins, Meier, & Conger, 2016). Because self-esteem may develop as a result of parental support (Rueger et al., 2010), it may be the mechanism by which parental support reduces internalizing symptoms. Thus, self-esteem may be a mediating variable, which helps to explain how external events (parental support) take on psychological significance (internalizing symptoms, Baron & Kenny, 1986). Consistent with this, Lee and colleagues (2014) identified that low social support from family, friends, and significant others in the beginning of college was associated with lower self-esteem, which in turn led to increased depressive symptoms at the end of the first year of college. In addition, friendship quality and insecure adult romantic attachment have been associated with lower self-esteem, which is subsequently associated with higher internalizing symptoms (Bosacki et al., 2007; Roberts, Gotlib, & Kassel, 1996). Similarly, self-esteem may mediate the relationship between parental support and internalizing symptoms.

The Present Study

This study explored the role of maternal and paternal support on college students' internalizing symptoms (i.e., depression and anxiety, somatic symptoms, and withdrawal) and the indirect influences of gender and self-esteem on this relationship. In contrast to previous research, this study explored the separate influences of maternal and paternal support on internalizing symptoms. Furthermore, this study added to previous research by exploring separate paths to internalizing symptoms for men versus women. Self-report surveys assessed maternal and paternal support, self-esteem, and internalizing symptoms among students at a small liberal arts college. It was hypothesized that maternal support would be more predictive of internalizing symptoms than paternal support. Furthermore, it was expected that students with greater maternal support would have higher self-esteem and fewer internalizing symptoms, and that self-esteem would mediate the relationship between maternal support and internalizing symptoms. However, these pathways may differ between men and women given that women are more likely to experience internalizing symptoms.

Method

Participants

An initial group of 123 college students (71 women, 58%; 52 men, 42%) enrolled in psychology courses at a small, public liberal arts college completed the survey. In exchange for their participation, the students received extra credit in one course. Participants ranged in age from 18 to 27 (M_{age} = 19.88, SD = 1.64) and class year (40.7% first-year students, 22.8% sophomores, 23.6 % juniors, and 13% seniors). Participants were 76% European American, 17% African American, 2% Latino, 2% Asian American, and 2% other. Although this sample contained slightly more women and first-year students than the general campus population, the ethnicity distribution was approximately equivalent to the campus as a whole. Out of 123 students who initiated the survey, 112 completed the three questionnaires used in this study. The final participants did not differ significantly from the initial sample in terms of age, $t(118) = -0.91$, $p = .36$, college year, $X^2(3) = 4.20$, $p = .24$, or race/ethnicity, $X^2(4) = 7.09$, $p = .13$. However, women were significantly more likely than men to have completed all three surveys, $X^2(1) = 4.59$, $p = .03$. All study measures and procedures were reviewed and approved by the Institutional Review Board of

the University of Virginia's College at Wise.

Measures

Parental support. The Network of Relationships Inventory was used to measure parental support (Furman & Buhrmester, 1985). Individuals indicated their primary mother and father figure (biological/adoptive, step, or other), then indicated how true each statement was for both mother and father, from 1 (*little or none*) to 5 (*the most*). All participants with complete data identified a mother figure (95% biological or adopted, 2.5% stepmother, 2.5% other) and father figure (88% biological or adopted, 7% stepfather, 5% other). Maternal and paternal support composites were computed from an average of the following subscales (with three questions each): Instrumental Aid (e.g., "How much does this person help you when you need to get something done?"), Emotional Support (e.g., "How often do you turn to this person for support with personal problems?"), Reassurance of Worth (e.g., "How much does this person treat you like you're admired and respected?"), Seeking and Providing Safe Haven (e.g., "How much do you seek out this person when you're upset?"), and Seeking and Providing Secure Base (e.g., "How much does this person show support for your activities?").

Self-esteem. The Self-Perception Profile for College Students (Neeman & Harter, 2012) was used to measure global self-esteem on a six-item scale. The self-esteem subscale was developed based on Rosenberg's (1979) construct of self-esteem. However, it was designed to specifically assess college student self-esteem (Neeman & Harter, 2012). This measure has been used to assess self-esteem in adolescence and emerging adulthood, and previous publications have reported that the measure has acceptable reliability (Onwuegbuzie, 2000; Pittman & Richmond, 2008; Wichstrøm, 1995). Participants were asked to select between descriptions of two types of students, one indicating high self-esteem and one indicating low self-esteem, and identify which description best fits them. For example, "Some students like the kind of person they are BUT other students wish that they were different." After making the decision of which part of the statement best describes them, participants then chose whether the statement was *really true* or *sort of true* about them. Each item was scored on a scale from 1 through 4, with 1 or 4 corresponding to *really true*, and 2 and 3 indicating *sort of true*. A score of 1 indicated low self-esteem ("…wish they were different" was *really true*), and 4 indicated high self-esteem ("…like the kind of person they are" was *really true*). These statements force a choice between two alternatives, but also give the opportunity for participants to rate how "true" their choice is. This format helps to reduce social desirability and improve the chances of participants responding honestly (Neeman & Harter, 2012; Wichstrøm, 1995).

Internalizing symptoms. The Adult Self-Report (Achenbach & Rescorla, 2003) was used to measure internalizing symptoms. Participants indicated how well each item described them in the past six months on a scale of 0 (*not true*), 1 (*somewhat true*), or 2 (*very true*). Participants answered 17 questions that assessed depression and anxiety (e.g., "There is very little that I enjoy" and "I worry a lot"), nine that assessed withdrawal (e.g., "I would rather be alone than with others"), and 12 that assessed somatic symptoms (e.g., "I feel dizzy or lightheaded"). The mean of the three subscales was used to obtain the total internalizing symptoms score.

Procedure

Participants completed a series of online surveys. Students who expressed interest following in-class announcements were e-mailed the link to an online survey and were asked to complete the questionnaires in one sitting in a quiet environment. The questionnaires took approximately 1 hour, and students were given 2 weeks to complete the survey.

Results

First, descriptive statistics and correlations were conducted for all variables (see Table 1). Next, relationships between maternal and paternal support were explored. Then, hierarchical linear regression analyses identified predictors of internalizing symptoms. Finally, regressions were used to

TABLE 1

Descriptive Statistics and Intercorrelations Among All Variables

		1	2	3	4	5
M		-0.15	3.55	2.91	3.13	0.40
SD		0.99	1.08	1.13	0.65	0.31
1	Gender	1.00				
2	Maternal support	0.02	1.00			
3	Paternal support	0.14	0.43**	1.00		
4	Self-esteem	0.00	0.30**	0.27 **	1.00	
5	Internalizing symptoms	-0.32**	-0.27**	-0.18	-0.63 **	1.00

Note. $N = 123$. ***$p < .001$. **$p < .01$. *$p < .05$. †$p < .10$.

assess whether self-esteem mediated the relationship between parental support and internalizing symptoms.

Descriptive statistics and tests for internal consistency were computed for each scale (see Table 1). For the Network of Relationships Inventory, higher scores indicated higher levels of perceived support (Maternal: $M = 3.55$, $SD = 1.08$, Cronbach's $\alpha = .94$; Paternal: $M = 2.91$, $SD = 1.13$, $\alpha = .94$). For the Self-Perception Profile for College Students, composites were calculated such that higher scores indicated higher self-esteem ($M = 3.13$, $SD = 0.65$, $\alpha = .83$). Finally, for the Adult Self-Report, high scores indicated higher levels of internalizing symptoms ($M = 0.40$, $SD = 0.31$, $\alpha = .74$).

A series of analyses were conducted to explore differences between maternal and paternal support. First, gender differences in the level of support were explored. There were no differences between men and women in perceived maternal support ($M_{men} = 3.57$, $M_{women} = 3.54$, $t(114) = -1.67$, $p = .87$), or paternal support ($M_{men} = 2.78$, $M_{women} = 3.10$, $t(114) = -1.47$, $p = .15$). Next, the relationship between maternal versus paternal support was explored. Maternal support and paternal support were positively correlated ($r = 0.43$, $p < 0.001$) indicating that higher perceived maternal support was associated with higher paternal support. However, paired-sample t tests indicated that perceptions of maternal support were significantly higher than paternal support ($M_{maternal} = 3.55$, $M_{paternal} = 2.91$, $t(114) = 5.84$, $p < .001$).

Next, hierarchical linear regressions were conducted to identify significant predictors of internalizing symptoms (see Table 2), and test whether self-esteem mediated the relation between parental support and internalizing symptoms. According to Baron and Kenny (1986), mediation requires that three criteria are met. First, the independent variable (parental support) must directly predict the mediator (self-esteem, Path A). Next, the mediator (self-esteem) must directly predict the dependent variable (internalizing symptoms, Path B). Finally, when Paths A and B are taken into account, a previously significant relation between the independent variable (parental support) and dependent variable (internalizing symptoms) is no longer significant (Path C).

First, consistent with expectations, women

TABLE 2

Hierarchical Regression of Internalizing Symptoms on Gender, Maternal Support, and Self-Esteem

	Combined Model					Women					Men				
Variable	*B*	*SE(B)*	*β*	*ΔR2*	*F*	*B*	*SE(B)*	*β*	*ΔR2*	*F*	*B*	*SE(B)*	*β*	*ΔR2*	*F*
Step 1				0.08	10.58										
Gender	-0.09	0.29	-0.30**												
Step 2				0.06	9.59***				0.08	5.58*				0.04	1.95
Gender	-0.09	0.03	-0.30**												
Maternal Support	-0.07	0.03	-0.25**			-0.08	0.03	-0.28*			-0.05	0.04	-0.21		
Step 3				0.34	34.52***				0.49	41.98***				0.23	7.57**
Gender	-0.09	0.02	-0.30***												
Maternal Support	-0.02	0.02	-0.07			-0.03	0.02	-0.09			0.00	0.04	-0.02		
Self-esteem	-0.29	0.03	-0.61***			-0.37	0.04	-0.72***			-0.18	0.05	-0.51**		
Step 4				0.04	30.52***										
Gender	-0.41	0.10	-1.28***												
Maternal Support	-0.02	0.02	-0.07												
Self-esteem	-0.27	0.03	-0.58***												
Gender x Self-esteem	0.10	0.03	1.02**												
Final R^2				0.53					0.56					0.27	

Note. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

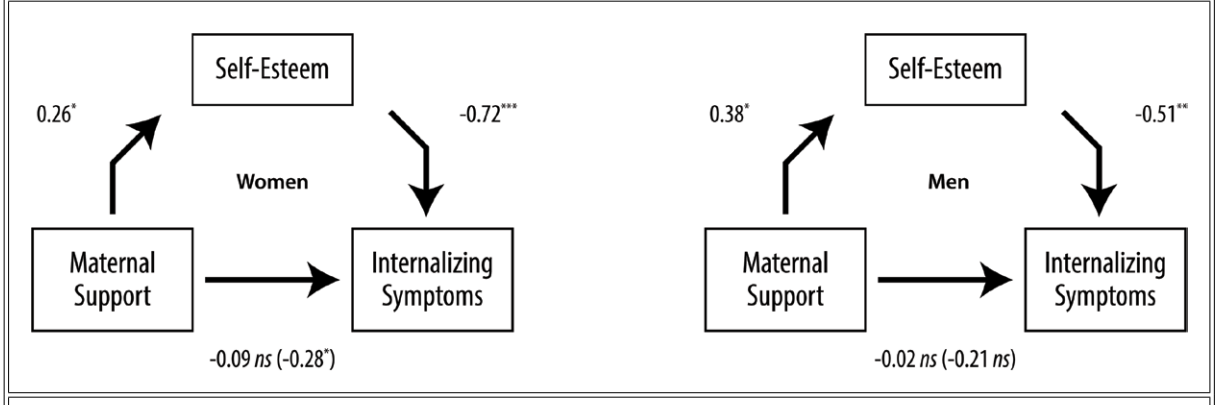
reported greater levels of internalizing symptoms than men (β = -0.30, p < .001), thus gender was retained in the subsequent models. At Step 2, the effects of maternal and paternal support were added to the model. Maternal, but not paternal, support was significantly associated with lower internalizing symptoms (β = -0.25, p = .006), so paternal support was dropped from subsequent analyses. In addition, to test for mediation, the relationship between maternal support and self-esteem was explored. As expected, college students with higher maternal support had higher self-esteem (β = 0.30, p = .001, Path A). Thus, in Step 3, self-esteem was added to the model predicting internalizing symptoms. In the resulting model, self-esteem (β = -0.61, p < .001) was associated with significantly lower internalizing symptoms (Path B), but maternal support no longer significantly predicted internalizing symptoms (β = -0.07, p = .32, Path C). This indicated that the link between maternal support and internalizing symptoms was partially accounted for by increased self-esteem. Finally, to assess whether gender influenced this indirect relationship, interactions between all variables were tested in Step 4. A significant Gender × Self-Esteem interaction emerged (β = 1.02, p = .002). This indicated a moderated mediation effect (final R^2 for full model = 0.53, F = 30.52, p < .001), suggesting that the mediational effects of self-esteem vary by gender (Baron & Kenny, 1986).

To probe the Gender × Self-Esteem interaction, analyses were re-run separately for men and women. For women, maternal support was associated with lower internalizing symptoms (β = -0.28, p = .02). However, once self-esteem was added to the model, the pathway between maternal support and internalizing symptoms was no longer significant (β = -0.09, p = .28), indicating that self-esteem mediated the relationship between maternal support and internalizing symptoms for women (see Figure 1, Sobel test = 2.31, p = .02). In contrast, for men, maternal support was not a significant predictor of internalizing symptoms (β = -0.21, p = .17) and remained nonsignificant when self-esteem was entered in the model, thus conditions for mediation were not met (β = -0.02, p = .91; see Figure 1, Sobel test = 1.32, p = .19). These models explained significant portions of the variability in internalizing symptoms, particularly for women (final R^2 for women = 0.56, F = 41.98, p < .001; for men = 0.27, F = 7.57, p = .002).

Discussion

This study provided important information about factors that contribute to internalizing symptoms during college. In particular, it highlighted the importance of separating different sources of social support and identified the essential role that mothers play in the transition to college. College students reported more support from mothers versus fathers, although mother and father support were correlated. Women, in general, had higher levels of internalizing symptoms and, consistent with hypotheses, mother (but not father) support was associated with lower internalizing symptoms in women. However, this relationship was mediated by self-esteem, indicating that maternal support may have protected women from internalizing symptoms through high self-esteem. In contrast, neither maternal nor paternal support predicted internalizing symptoms in men.

FIGURE 1



Effects of maternal support and self-esteem on internalizing symptoms for women and men. Full mediation was found for women (Sobel test = 2.31, p = .02), but there were no significant mediation effects for men (Sobel test = 1.32, p = .19). Numbers indicated standardized regression coefficients. *p < .05, **p < .01, ***p < .001, *ns* = nonsignificant.

Parental Support During College

Overall, the evidence demonstrated some differences between mother and father support. Consistent with much of previous evidence, there were no differences between men and women in the amount of perceived parental support (Phares et al., 2009; Rueger et al., 2010). Nonetheless, college students consistently reported that mothers provided more emotional, instrumental, and relational support than fathers (consistent with Furman & Buhrmester, 1992; Phares et al., 2009). This may be the long-term outcome of early attachment relationships that often form with mothers first (Lamb, 2002; Lewis, Feiring, & Weinraub, 1981). Despite reporting more support from mothers, there was also a strong correlation between maternal and paternal support, indicating that, if students received support from one parent, they often also received it from the other (Lewis et al., 1981). This evidence suggests that students who come from a more supportive home will experience greater support from both mothers and fathers, thus parents may have related but independent roles in emerging adult development.

Predictors of Internalizing Symptoms During College

Several social and individual factors emerged as important predictors of internalizing symptoms. First, gender had a significant impact on the pathways to internalizing symptoms. Consistent with previous research, women reported more internalizing symptoms compared to men (Bosacki et al., 2007; Crawford et al., 2001; Li et al., 2014; Rueger et al., 2010). In emerging adulthood, as in adolescence, men may be more likely to experience externalizing, rather than internalizing symptoms as a result of stress (Hicks et al., 2007; Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). Furthermore, both social factors (maternal support) and individual factors (self-esteem) contributed to internalizing symptoms for women, although these same pathways were not significant for men.

Parental support and internalizing symptoms. Results demonstrated that maternal support, but not paternal support, was associated with increased internalizing symptoms in college students, consistent with previous work (Anderson et al., 2015). Mothers are often more involved in day-to-day activities throughout development (Lamb, 2002; Lewis et al., 1981). During emerging adulthood, this may take the form of more contact, reassurance, and encouragement, which may help mothers prevent, identify, or intervene should students develop internalizing symptoms. Alternatively, mothers and fathers may provide different types of support (e.g., mothers may provide more emotional aid whereas fathers provide more instrumental aid; Lewis et al., 1981) and the type of support that mothers provide may be particularly protective for internalizing symptoms. However, father support could be just as (or more) important for other aspects of well-being. Nonetheless, identifying the influence of mothers, but not fathers, highlights the importance of exploring these sources of support separately, rather than combined as they have been in previous research.

This evidence suggested that, in general, maternal support was positive. However, other evidence has found that it is possible to experience too much support. For example, helicopter parenting, when parents become overly involved in their children's lives, is associated with increased depression and less life satisfaction in college students (Schiffrin et al., 2014). One explanation for this discrepancy could be that some components of parental support have positive impacts, while others have negative impacts (Larose & Boivin, 1998; Roberts et al., 1996). Thus, it is necessary to explore how different components of parental support contribute to internalizing symptoms. An additional variable that could influence the relationship between parental support and internalizing symptoms is the context. It is expected that these findings generalize to emerging adults who are not in a college setting, however this would need to be explicitly explored. Because emerging adults not enrolled in college do not have the institutional supports that are available on a college campus, parental support could be even more important for these emerging adults.

The mediating role of self-esteem. Consistent with previous research, high self-esteem was associated with fewer internalizing symptoms in both men and women, indicating that positive self-perceptions may serve to protect college students from psychopathology (Li et al., 2014; Orth et al., 2016; Rosenberg, Schooler, & Schoenbach, 1989). Self-esteem may play a particularly important role during college as students are facing increased academic and social stressors with less structured social support from family, teachers, and peers. Those who have high self-esteem may be more likely to have the confidence to persist in the face of failure, rather than experiencing feelings of helplessness and hopelessness that can lead to

internalizing symptoms (Nolen-Hoeksema, Girgus, & Seligman, 1986).

Furthermore, evidence suggested that higher self-esteem could explain the relationship between maternal support and lower internalizing symptoms for women. Thus, women with greater maternal support were more likely to have higher self-esteem, which was associated with lower levels of internalizing symptoms. In contrast, women who had lower self-esteem, possibly as a result of poor maternal support, may have been less able to cope with stressors and challenges associated with college life, and therefore experienced more internalizing symptoms. This gender difference is consistent with previous work identifying that stress and social support were particularly important in predicting depression in adolescent girls compared to boys (Schraedley et al., 1999), however it demonstrates that these patterns can continue into emerging adulthood. Women may experience greater benefits (protection from internalizing symptoms) from social support compared to men.

In contrast, for men, maternal support was not directly or indirectly associated with internalizing symptoms. Although no gender differences were found in the amount of parental support in this study, previous research has identified that men report fewer positive and negative interactions with their parents (Telzer & Fuligni, 2013), potentially resulting in a lower impact of parental interactions on men's well-being. Instead, other sources of support such as peers may become more important than parents during emerging adulthood for men (Rueger et al., 2010), and therefore may be more predictive of men's internalizing symptoms. Furthermore, because low self-esteem, but not parental support, was associated with increased internalizing symptoms for men, it is possible that other sources of support may influence the development of self-esteem for men. In addition, other factors such as genetic predispositions or personality traits may predict men versus women's internalizing symptoms (Kendler, Gardner, & Prescott, 2006).

Contributions and Limitations

This study highlighted the importance of exploring both social and individual factors in predicting internalizing symptoms in college students. The different effects of maternal versus paternal support demonstrated the necessity of separating individual types of support, rather than combining them as in previous research (Chao, 2012; Lee et al., 2014; Schraedley et al., 1999; Zhao et al., 2013; Zhou et al., 2013), and highlighted the importance of maternal support in particular. In addition, this study demonstrated the importance of self-esteem in predicting internalizing symptoms for both men and women, suggesting that positive self-image may serve a buffering role against negative outcomes that could result from many stressors that emerging adults face during college. Finally, gender differences in this study highlight the importance of exploring individual trajectories of internalizing symptoms. Although these results were specific to emerging adults currently enrolled in college, the same processes may occur for emerging adults who do not attend college.

Despite these strengths, there are several limitations to these findings. First, all data was collected at one point in time, but in order to test for complete mediation, the temporal order of effect needs to be established. Thus, maternal support would need to be tested first, then self-esteem, and then internalizing symptoms. In addition, assessing these constructs longitudinally would allow for an exploration of whether these processes work in the same way immediately after the transition to college (when students may be relying more heavily on parent support) versus later in their college careers when they also have established peer support networks. A second limitation is that the study relied exclusively on self-reports, thus shared-method variance could have affected the findings such that students who experienced more internalizing symptoms might have perceived lower social support as a result of distorted perceptions. Adding parent-reports could further corroborate these findings. A third limitation is that data was collected online, and only from students in psychology courses on a small campus. Greater control over the response setting, samples from more diverse campuses, and the inclusion of emerging adults not attending college could have made the data more generalizable. Finally, although a clear pathway emerged for women, further exploration is needed to identify variables that may predict internalizing symptoms for men.

Despite limitations, these findings suggest two potentially important points of intervention to decrease internalizing symptoms in emerging adulthood. First, interventions that improve self-esteem may decrease internalizing symptoms for both men and women. Although it appears that women develop high self-esteem as a result of positive maternal support, an increase in self-esteem for any reason could decrease internalizing symptoms.

Programs at the college- or high school-level that promote positive self-evaluation may result in students being less likely to experience anxiety, depression, or withdrawal in the face of stressors. In addition, programs designed to increase maternal support (particularly for women) may help to increase self-esteem, and as a result decrease internalizing symptoms in emerging adulthood. Teaching mothers about providing age-appropriate support may help them develop positive relationships with their daughters, and as a result, students may be better able to cope with the challenges associated with college. Because internalizing symptoms can negatively influence academic, social, and emotional adjustment in emerging adulthood (Eisenberg et al., 2007; Kessler et al., 1995; Weitzman, 2004), it is necessary to continue to identify how to minimize the development of such symptoms. College administrators may use these findings to develop programs to help identify students at risk for internalizing symptoms and create intervention programs based on risk factors.

References

Achenbach, T. M., & Rescorla, L. A. (2003). *Manual for the ASEBA adult forms and profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Anderson, S. F., Salk, R. H., & Hyde, J. S. (2015). Stress in romantic relationships and adolescent depressive symptoms: Influence of parental support. *Journal of Family Psychology, 29*, 339–348. http://dx.doi.org/10.1037/fam0000089

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late through the twenties. *American Psychologist Association, 55*, 469–480. http://dx.doi.org/10.1037//0003-066X.55.5.469

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives, 1*, 68–73. http://dx.doi.org/10.1111/j.1750-8606.2007.00016.x

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182. http://dx.doi.org/10.1037/0022-3514.51.6.1173

Bhatia, S. K., & Bhatia, S. C. (2007). Childhood and adolescent depression. *American Academy of Family Physicians, 75*, 73–80, 83–84. http://dx.doi.org/10.1037/e552642011-001

Bosacki, S., Dane, A., Marini, Z., & Youth Lifestyle Choices-Community University Research Alliance (2007). Peer relationships and internalizing problems in adolescents: Mediating role of self-esteem. *Emotional and Behavioural Difficulties, 12*, 261–282. http://dx.doi.org/10.1080/13632750701664293

Bureau of Labor Statistics and U.S. Department of Labor. (2016). *College Enrollment and Work Activity of 2015 High School Graduates* (USDL-16-0822). Retrieved from https://www.bls.gov/news.release/pdf/hsgec.pdf

Chao, R. C. (2012). Managing perceived stress among college students: The roles of social support and dysfunctional coping. *Journal of College Counseling, 15*, 5–21. http://dx.doi.org/10.1002/j.2161-1882.2012.00002.x

Chiang, S., & Hawley, J. (2013). The role of higher education in their life: Emerging adults on the crossroad. *New Horizons in Adult Education and Human Resources Development, 25*, 3–13. http://dx.doi.org/10.1002/nha3.20027

Chung, H., Elias, M., & Schneider, K. (1998). Patterns of individual adjustment changes during middle school transition. *Journal of School Psychology, 36*, 83–101. http://dx.doi.org/10.1016/S0022-4405(97)00051-4

Colarossi, L. G., & Eccles, J. S. (2000). A prospective study of adolescents' peer support: Gender differences and the influence of parental relationships. *Journal of Youth and Adolescence, 29*, 661–678. http://dx.doi.org/10.1023/A:1026403922442

Crawford, T. N., Cohen, P., Midlarsky, E., & Brook, J. S. (2001). Internalizing symptoms in adolescents: Gender differences in vulnerability to parental distress and discord. *Journal of Research on Adolescence, 11*, 95–118. http://dx.doi.org/10.1111/1532-7795.00005

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry, 77*, 534–542. http://dx.doi.org/10.1037/0002-9432.77.4.534

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21*, 1016–1022. https://doi.org/10.1037/0012-1649.21.6.1016

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103–115. http://dx.doi.org/10.1111/j.1467-8624.1992.tb03599.x

Furman, W., & Buhrmester, D. (2009). The network of Relationships Inventory: Behavioral Systems Version. *International Journal of Behavioral Development, 33*, 470–478. http://dx.doi.org/10.1177/0165025409342634

Geng, L., & Jiang, T. (2013). Contingencies of self-worth moderate the effect of specific self-esteem on self-liking or self-competence. *Social Behavior and Personality, 41*, 95–108. http://dx.doi.org/10.2224/sbp.2013.41.1.95

Germeijs, V., Luyckx, K., Notelaers, G., Goossens, L., & Verschueren, K. (2012). Choosing a major in higher education: Profile of students' decision-making process. *Contemporary Educational Psychology, 37*, 229–239. http://dx.doi.org/10.1016/j.cedpsych.2011.12.002

Hicks, B. M., Blonigen, D. M., Kramer, M. D., Krueger, R. F., Patrick, C. J., Iacono, W. G., & McGue, M. (2007). Gender differences and developmental change in externalizing disorders from late adolescence to early adulthood: A longitudinal twin study. *Journal of Abnormal Psychology, 116*, 433–447. http://dx.doi.org/10.1037/0021-843X.116.3.433

Hirsch, B. J., & Rapkin, B. D. (1987). The transition to junior high school: A longitudinal study of self-esteem, psychological symptomatology, school life, and social support. *Child Development, 58*, 1235–1243. http://dx.doi.org/10.2307/1130617

Hughes, E. K., & Gullone, E. (2008). Internalizing symptoms and disorders in families of adolescents: A review of family systems literature. *Clinical Psychology Review, 28*, 92–117. http://dx.doi.org/10.1016/j.cpr.2007.04.002

Kendler, K. S., Gardner, C. O., & Prescott, C. A. (2006). Toward a comprehensive developmental model for major depression in men. *American Journal of Psychiatry, 163*, 115–124. http://dx.doi.org/10.1111/add.12946

Kessler, R. C., Foster, C. L., Saunders, W. B., & Stang, P. E. (1995). Social consequences of psychiatric disorders, I: Educational attachment. *American Journal of Psychiatry, 152*, 1026–1032. http://dx.doi.org/10.1176/ajp.152.7.1026

Lamb, M. E. (2002). Infant-father attachments and their impact on child development. In C. S. Tamis-LeMonda & N. Cabrera (Eds.), *Handbook of father involvement: Multidisciplinary perspectives* (pp. 93–117). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Larose, S., & Boivin, M. (1998). Attachment to parents, social support expectations, and socioemotional adjustment during the high school-college transition. *Journal of Research on Adolescence, 8*, 1–27. http://dx.doi.org/10.1207/s15327795jra0801_1

Leadbeater, B. J., Kuperminc, G. P., Blatt, S. J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology, 35*, 1268–1282. http://dx.doi.org/10.1037//0012-1649.35.5.1268

Lee, C., Dickson, D. A., Conley, C. S., & Holmbeck, G. N. (2014). A closer look at self-esteem, perceived social support, and coping strategy: A prospective study of depressive symptomatology across the transition to college. *Journal of Social and Clinical Psychology, 33*, 560–585. http://dx.doi.org/10.1521/jscp.2014.33.6.560

Lewis, M., Feiring, C., & Weinraub, M. (1981). The father as a member of the child's social network. In M. E. Lamb (Ed.), *The role of the father in child development* (259-294). New York, NY: John Wiley and Sons, Inc.

Li, S. T., Albert, A. B., & Dwelle D. G. (2014). Parental and peer support as predictors of depression and self-esteem among college students. *Journal of College Student Development, 55*, 120–138. http://dx.doi.org/10.1353/csd.2014.0015

Mattanah, J. F., Brooks, L. J., Brand, B. L., Quimby, J. L., & Ayers, J. F. (2012). A social support intervention and academic achievement in college: Does perceived loneliness mediate the relationship? *Journal of College Counseling, 15*, 22–36. http://dx.doi.org/10.1002/j.2161-1882.2012.00003.x

Neeman, J., & Harter, S. (2012). *Self-perception Profile for College Students: Manual and Questionnaires*. Denver, CO: University of Denver.

Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. P. (1986). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. *Journal of Personality and Social Psychology, 51*, 435–442. http://dx.doi.org/10.1037//0022-3514.51.2.435

Onwuegbuzie, A. J. (2000). Statistics anxiety and the role of self-perceptions. *The Journal of Educational Research, 93*, 323–330. http://dx.doi.org/10.1080/00220670009598724

Orth, U., Robins, R. W., Meier, L. L., & Conger, R. D. (2016). Refining the vulnerability model of low self-esteem and depression: Disentangling the effects of genuine self-esteem and narcissism. *Journal of Personality and Social Psychology, 110*, 133–149. http://dx.doi.org/10.1037/pspp0000038

Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *The Journal of Experimental Education, 76*, 343–361. http://dx.doi.org/10.3200/JEXE.76.4.343-362

Phares, V., Renk, K., Duhig, A. M., Fields, S., & Sly, J. (2009). Gender differences in positive and negative feelings between adolescents and their fathers and mothers. *Journal of Child and Family Studies, 18*, 213–218. http://dx.doi.org/10.1007/s10826-008-9221-2

Roberts, J. E., Gotlib, I. H., & Kassel, J. D. (1996). Adult attachment security and symptoms of depression: The mediating roles of dysfunctional attitudes and low self-esteem. *Journal of Personality and Social Psychology, 70*, 310–320. http://dx.doi.org/10.1037//0022-3514.70.2.310

Robinson, N. S. (1995). Evaluating the nature of perceived support and its relation to perceived self-worth in adolescents. *Journal of Research on Adolescence, 5*, 253–280. https://doi.org/10.1207/s15327795jra0502_5

Rosenberg, M. (1979). *Conceiving the self*. New York, NY: Basic.

Rosenberg, M., Schooler, C., & Schoenbach, C. (1989). Self-esteem and adolescent problems: Modeling reciprocal effects. *American Sociological Review, 54*, 1004–1018. http://dx.doi.org/10.2307/2095720

Rueger, S., Y., Malecki, C. K., & Demaray, M. D. (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. *Journal of Youth and Adolescence, 39*, 47–61. http://dx.doi.org/10.1007/s10964-008-9368-6

Schiffrin, H. H., Liss, M., Miles-McLean, H., Geary, K. A., Erchull, M. J., & Tashner, T. (2014). Helping or hovering? The effects of helicopter parenting on college students' well-being. *Journal of Child and Family Studies, 23*, 548–557. http://dx.doi.org/10.1007/s10826-013-9716-3

Schraedley, P. K., Gotlib, I. H., & Hayward, C. (1999). Gender differences in correlates of depressive symptoms in adolescents. *Journal of Adolescent Health, 25*, 98–108. http://dx.doi.org/10.1016/S1054-139X(99)00038-5

Telzer, E. H., & Fuligni, A. J. (2013). Positive daily family interactions eliminate gender differences in internalizing symptoms among adolescents. *Journal of Youth and Adolescence, 42*, 1498–1511. http://dx.doi.org/10.1007/s10964-013-9964-y

U.S. Department of Education and National Center for Education Statistics. (2016). *The Condition of Education 2016* (NCES 2016-144), Immediate College Enrollment Rate. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=51

Weitzman, E. R. (2004). Poor mental health, depression, and associations with alcohol consumption, harm, and abuse in a national sample of young adults in college. *The Journal of Nervous and Mental Disease, 192*, 269–277. http://dx.doi.org/10.1097/01.nmd.0000120885.17362.94

Wichstrøm, L. (1995). Harter's self-perception profile for adolescents: Reliability, validity, and evaluation of the question format. *Journal of Personality Assessment, 65*, 100–116. http://dx.doi.org/10.1207/s15327752jpa6501_8

Zhao, J., Kong, F., & Wang, Y. (2013). Shyness and subjective well-being: The role of emotional intelligence and social support. *Social Indicators Research, 114*, 891–900. http://dx.doi.org/10.1007/s11205-012-0178-6

Zhou, X., Zhu, H., Zhang, B., & Cai, T (2013). Perceived social support as moderator of perfectionism, depression, and anxiety in college students. *Social Behavior and Personality, 41*, 1141–1152. http://dx.doi.org/10.2224/sbp.2013.41.7.1141

Author's Note. Lewie E. Moore II and Madelynn D. Shell, University of Virginia's College at Wise.

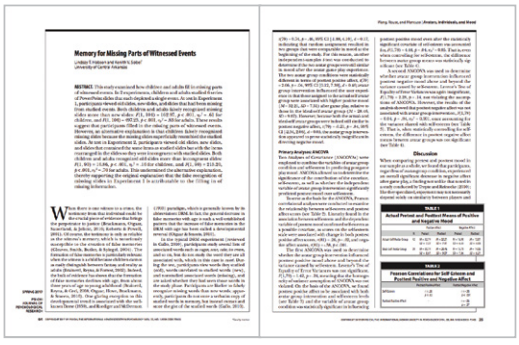
This research was funded through a Slemp Foundation Grant, which supports The University of Virginia's College at Wise Summer Scholars Program. Thank you to the students who participated in the project. Special thanks to *Psi Chi Journal* reviewers for their support.

Correspondence should be addressed to Madelynn D. Shell, 1 College Avenue, Wise, VA 24293, (276) 376-3421. E-mail: mjs5ma@uvawise.edu

PSI CHI Advertising Contract: *Psi Chi Journal*

CLIENT INFORMATION	
Advertiser	
Contact Name	
Address	Street or P.O. Box	
City	State	Zip	Country	
Phone (daytime)	E-mail
Submitted by	
Authorized Signature	

DIGITAL PUBLICATION			
Issue			
❑ Spring _____	❑ Summer _____	❑ Fall _____	❑ Winter _____
Size/Dimensions			
❑ Full page (no bleed) 6⅝" x 9¼"	Cost: $400 Black & White only	❑ Half page (horizontal) 6⅝" x 4½"	Cost: $275 Black & White only
Price: $			



OUR JOURNAL

Advertising in *Psi Chi Journal* allows you to connect with established psychology researchers and mentors, as well as undergraduates and graduate students striving to build a career in one of the many areas of research. People regularly visit our journal online to

- view current and past issues,
- submit their research for publication,
- learn about reviewing for *Psi Chi Journal*,
- share invited editorials as teaching tools in the classroom.

All issues and advertisements are permanently free online to both members and nonmembers alike. During the 2015–16 fiscal year, psichi.org received **1.67 million page views**, ensuring that high-achieving students and professionals will see your content for years to come.

To further enhance the visibility of our journal, latest issues and calls for submissions are regularly featured in *Psi Chi Digest* e-mails (**180,000+ subscribers**) and on our three social media platforms.

- Facebook (22,500+ followers)
- Twitter (4,700+ followers)
- LinkedIn (10,200+ followers)

Articles are also indexed in PsycINFO, EBSCO, and Crossref databases—essential tools that researchers use to search for millions of psychology-related articles. This makes Psi Chi Journal a key place to communicate your message with our Professional Organization's **700,000+ lifetime members** and far beyond.

AD SPECIFICATIONS

Digital format: PDF, EPS, and TIFF
Resolution: 300 dpi | B&W line art—1,200 dpi Black & white ads (no RGB or 4-color process)PDF settings: Press quality, embed all fonts

DEADLINE/BILLING

Payment due upon receipt of invoice.

CONTACT

Submit contract by e-mail to
Susan Iles
Advertising Sales
Psi Chi Central Office
E-mail: psichieye@psichi.org
Phone: 423-771-9964

See past issues of *Psi Chi Journal of Psychological Research* at http://www.psichi.org/?journal_past

Stay connected with PSI CHI
www.psichi.org

All advertisements must be scholarly and professional in nature, and Psi Chi reserves the right to reject (or cancel) any ads that are not in the best interest of the Organization or consistent with the Society's mission.

ADV-JN-DG (05-2017)

PSI CHI
THE INTERNATIONAL HONOR SOCIETY IN PSYCHOLOGY

