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Social Support, Depression, and Anxiety in Female Adolescents: Associations and Profiles

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Abstract

Background Robust research indicates that social support is negatively associated with depression and anxiety. Less work has investigated social support as a network of support across sources like parents and classmates. Past work suggests that sources of support have differential associations with internalizing outcomes. More work exploring the differential associations between each source along with the cumulative network of social support and internalizing symptoms is warranted.

Objectives In a sample of female adolescents, the current study explored (1) what patterns of social support across sources emerged, and (2) how do depressive and anxiety symptoms vary based on those social support patterns?.

Method The study utilized Latent Profile Analysis on a sample of female adolescents from four different high schools ($N = 143$) to identify patterns of social support across sources.

Results Parent support emerged as a unique, individual predictor of depressive symptoms. Five unique profiles of social support emerged. Profile membership was associated with reports of depression but not with reports of anxiety. Reports of depression differed by profile such that profiles with moderate support from most sources and low support from siblings had the highest levels of depressive symptoms.

Conclusions Social support is associated with symptoms of depression in female adolescents. The study highlights the importance of parent–child relationships for female adolescents and suggests that additional work on sibling support is warranted. The study promotes that the network of social support is an important factor to consider when researching associations between social support and internalizing outcomes.

Keywords Social support · Internalizing · Adolescents · Latent profile analysis

Internalizing Outcomes of Social Support

Depression and anxiety are serious health concerns in adolescence. Data from the World Health Organization annual report emphasizes the growing public concern for depression among youth, especially adolescent samples (Merikangas et al., 2010; World Health

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Organization, 2018). The concern seems especially salient for adolescent females (Galambos, Leaedbeater, & Barker, 2004). For example, during childhood, the prevalence of internalizing disorders for males and females is similar; however, after puberty, the trend shifts to a ratio of 2:1 female–male prevalence (Merikanga et al., 2010; World Health Organization, 2018). Additionally, nearly one-half of individuals diagnosed with depression are also diagnosed with anxiety (Mathew, Pettit, Lewinshnm Seeley, & Roberts, 2011; Merikangas et al., 2010; National Institute of Mental Health (NIMH, 2019). Around one in four children between the ages of 13 and 18 years old are affected by an anxiety disorder (NIMH, 2019) with more females being diagnosed with general anxiety disorder, as well as all anxiety related subtype disorders, than males (Giedd, Keshavan, & Paus, 2007).

Gender differences in internalizing disorders may be due to social, environmental factors, which may influence the severity of internalizing symptoms (Maojtabai, Olfson, & Han, 2016). For example, females are socialized in their environment to be more emotionally reactive, which is suggested to contribute to an increased likelihood of experiencing internalizing symptoms during the transition from childhood to adolescence (Barlow 1988; Benjamin et al., 1990; NIMH, 2001). Social support is one environmental factor that is associated with both depression and anxiety in youth and could be a potential target for prevention and intervention efforts.

Levels and Sources of Social Support

Social support is important in the lives of adolescents (Cohen, Gottlieb, & Underwood, 2000; Tardy, 1985). Studies on social support indicate that there is a "critical level" of social support that is needed to buffer against various negative outcomes (Demaray & Malecki, 2002). This "critical level," however, indicates that support does not have to be particularly high. In other words, reports of having an average amount of social support have similar associations to positive outcomes as reports of having large amounts of support do (Demaray & Malecki, 2002). Further, most research focuses on three general sources of social support: family support, friend support, and others support (Yang et al., 2010; Zimet et al., 1990); however, researchers have expanded these sources of support to include sibling support, close friend support, classmate support, teacher support, and school support (Demaray & Malecki, 2002; Tardy, 1985; Yang et al., 2010). Although the literature suggests that the amount of social support cumulatively received from various sources is relatively stable across developmental ages (DuBois et al., 2002; Malecki & Demaray, 2002), the amount of social support received from each source either increases or decreases as children age. For example, social support from parents is suggested to decrease with age and shift away from being the primary source of support to friends and classmates, which increases with age (Rueger, Malecki, Pyun, Aycock, & Coyle, 2016). This shift is particularly salient for adolescents (Rueger et al., 2016). In light of this shift, a better understanding of the differential associations that each source of social support has to internalizing disorders is needed (Demaray, & Malecki, 2002; Rueger et al., 2016).

Support from parents, teachers, classmates, and other sources is associated with fewer internalizing symptoms (Lyell, Coyle, Malecki, & Santuzzi, 2020; Malecki & Demaray, 2002; Rueger et al., 2016). However, the sources are suggested to have differential associations to negative outcomes such that the negative association between social support from parents and reports of internalizing symptoms in adolescent females is stronger than the association between other sources of support and internalizing (Auerbach et al., 2011;

Rueger et al., 2016). To date, most research investigates either each source in isolation or cumulative social support across all sources. A recent publication by Lyell and colleagues (2020) extended the literature on social support by examining the relationship between early adolescents' perceptions of social support from various sources and the ability (or lack thereof) of one source to compensate for a lack of support from another source. However, their study compared sources in pairs as opposed to all sources at once while maintaining the differential associations of each source. The current study aims to build upon Lyell et al.'s study (2020) by simultaneously investigating social support as a network that is made up of various sources that provide varying amounts of social support to present a more comprehensive model of the complexities of social support, particularly during adolescence.

Theories of Social Support

One theory of social support is the General Benefits model. The theory suggests that the sources that make up an individual's social support moderate the negative relationship between social support and negative outcomes like depression (Auerbach et al., 2011; Kerr Preuss, & King., 2006; Rueger 2016), which is supported by the accumulating evidence suggesting that there are differential associations for each source of support reinforces. Alternatively, the Stress-Buffering model suggests that individuals in conditions of higher stress benefit more from social support than those in situations of lower stress (Stroebe & Stroebe, 1997). With at-risk populations in mind, Rueger and colleagues (2016) proposed an alternative model of social support that posits the two models, General Benefits and Stress-Buffering, interacting together, which was supported by Lyell and colleagues (2020). In this supported model, it is proposed that the general benefits of social support are stress buffering for at-risk population with stress moderating the association between social support and depression in particular (Auerbach et al., 2011; Rueger et al., 2016).

Lyell and colleagues' study (2020) explored the General Benefits and Stress Buffering models in a middle school aged sample and found support for the General Benefits model such that support from parents and classmates was associated with fewer internalizing symptoms for early adolescent males and females. Gender differences were found that suggested females may not experience benefits related to one source of support being able to compensate for another. For example, support from parents was not found to compensate for low support from close friends and peers. Of interest, social support from all sources with the exception of close friend support was negatively associated with internalizing outcomes for females in early adolescence. Close friend support, however, was positively associated. These data suggest that females may view social support more globally than males and that they may be more sensitive to the benefits and harms associated with social support. In contrast, the study found support for the Stress-Buffering model when looking at early adolescence males. That is, support from parents compensated for a lack of support from classmates and vice versa. In addition, close friend support had the weakest association with internalizing problems for both females and males; however, these associations were different by gender. That is, close friend support was not associated with internalizing outcomes for males and was positively associated with internalizing outcomes for females but only when peer sources were included in the model. In all, findings from their study indicate that social support from only one source is not sufficient to protect early

adolescents from negative internalizing outcomes; however, the study only looked at one source against another as opposed to looking at the social network across five sources of support.

Therefore, little is known about how the sources of support interact for adolescent females. Do patterns of support emerge when looking at young women's social networks? For example, might some women have strong levels of support from all sources in their lives while some lack support from most of their network? Even more complex, might some young women have strong support from some individuals while lacking support from others, and does high support from one source (e.g., friends) compensate for low support from other sources (e.g., parents)? Given the minimal extant literature on patterns within social support networks and their related outcomes, the current study examined whether or not there are distinct patterns of social support for young women among important sources of support. In addition, the current study explored how these profiles of support may result in differences in both depression and anxiety for female adolescents. The study is one of the few known studies to investigate the sources of social support as profiles of co-occurring and predictable patterns in groups of adolescents and the association those profiles have with internalizing symptoms. By using latent profile analysis, the current study is able to illustrate the networks of social support that may exist in female adolescent samples. These profiles help to control for multicollinearity between the sources of social support and to depict the "critical level" of support as seen in Demaray and Malecki's (2002) work. Four research questions are proposed in the current study.

Current Study Proposed Questions and Hypotheses

The first research question was multifaceted: *Is adolescent young women's perceived social support from several sources associated with symptoms of depression and anxiety? What sources of support emerge as uniquely associated with symptoms of depression and anxiety?* The literature on the positive effects of social support is robust (Cohen et al., 2000; Demaray & Malecki, 2002; Lyell et al., 2020; Rueger et al., 2016). Social support is negatively associated with reports of internalizing disorders (Demaray & Malecki, 2002; Rueger et al., 2010, 2016). Thus, using the overall sample, it was predicted that students' reports of social support would be negatively and significantly associated with symptoms of depression and anxiety such that higher support would be related to lower symptomatology (Demaray & Malecki, 2002; Rueger et al., 2016). Additionally, social support from adult sources would be significantly and negatively associated with symptomatology above and beyond same-age sources of support (Bogard, 2005; Demaray et al., 2005; Licitrea-Kleckler & Waas, 1993; Rueger et al., 2016).

Social support from sources that are similar in age to the respondent (i.e., close friend, sibling, classmate), on the other hand, have been found to correlate both negatively (Auerbach et al., 2011) and positively (Rueger et al., 2010) with internalizing symptoms (Auerbach et al., 2011; Demaray & Malecki, 2002; Rueger et al., 2016). Therefore, it was predicted that the associations between perceived support and reported symptoms of anxiety and depression would be stronger for adult sources of support than similar-age sources of support (Auerbach et al., 2011; Linville, O'Neil, & Huebner, 2011; Rueger et al, 2016).

The second research question was: *What profiles of perceptions of social support emerge for high school females from five sources of social support?*. We expected two or more profiles of social support to emerge from the data. A study done by Demaray and

Malecki (2002) found that reports of sources of social support can be high, moderate, or low across all sources; thus, the study predicted that three profiles including high levels across all sources, moderate levels across sources, and low levels across all sources would emerge (Demaray & Malecki, 2002; Rueger et al., 2016). More interesting, however, we expected profiles to emerge that have mixed levels of support across the sources. For example, it was expected that a profile of high levels of adult support (i.e. parent and teacher) with low levels of similar-age (i.e. close friend, classmate, and sibling) support and vice versa would also emerge (Bokhorst, Sumter, & Westenberg., 2010; Demaray & Malecki, 2002; Mezulis et al., 2014). This prediction stems from literature that indicates when individuals are lacking support from one source, they may seek support from other sources. For instance, participants who report a low amount of support from parents may seek out support from peers to compensate and vice versa (Rueger et al., 2016). This shift from parent support being the primary source to friend and classmate support is suggested to occur during adolescence, and the current study predicted that this shift may be observed in the emerged profiles.

Additionally, the third research question was: *How does depression symptomatology differ based on profile?* Based on prior work, we expected reports of depressive symptoms to differ by hypothesized profile. For example, we predicted that participants who reported high rates of social support across all sources of social support would report lower levels of depression than participants with low levels of perceived support (Demaray & Malecki, 2002; Rueger et al, 2010, 2016). Additionally, we expected that participants who reported average levels of social support across all sources of social support would report lower levels of depression than participants with low levels of perceived support (Demaray & Malecki, 2002). Next, we predicted that reports with low support across all sources of support would have the greatest reports of depressive symptoms when compared to all other profiles (Demaray & Malecki, 2002). Additionally, we expected that females in profiles that included low reports of support from same-aged peers (i.e., close friend, classmate, and sibling) but average to high support from adult sources (i.e., parent or teacher) would report fewer experiences of internalizing symptomatology than for females in a profile of low same-age support and low adult support. Additionally, we predicted that any of the hypothesized profiles low in parental support, despite average or high levels in other sources, would be more associated with depressive symptoms than any profiles that include average to high parent support (Chu et al., 2010; Demaray et al., 2005; Demaray, Malecki, Rueger, Brown, & Summers., 2009; Rueger et al., 2016).

Finally, the fourth research question was: *Does anxiety symptomatology differ based on profile?* Although less work has been done on the association between social support and anxiety, the current study predicted trends similar to those between social support and depression, just to a lesser magnitude. In line with past research, we predicted anxiety would differ by the hypothesized profiles in the same way that was predicted for symptoms of depression.

Methodology

Data for this study were collected in Fall of 2011 from four suburban high schools (A, B, C, and D) and utilized self-report methodology ($N=143$ females). The sample was 74.8% White; 13.5% Hispanic, 4.5%; African American, 3.2%; Asian, and 3.8%; Native American, other, or two or more races. The sample consisted of 33 in ninth grade (23.2%), 40

students in tenth grade (28.2%), 34 students in eleventh grade (23.9%), and 35 students in twelfth grade (23.6%). Participant age ranged from 14 to 18 ($M = 15.9$). All participants included in the analyses had at least one sibling. Participants without siblings ($n = 6$) were removed from the dataset before conducting analyses. Data from school A included 74 participating students who all identified as White. Participants from School B consisted of 32 females (16 White [50.0%], 8 Hispanic [25.0%], 5 African Americans [15.6%] and 3 Other or two or more races [9.4%]). Participants from School C consisted of 13 females (9 White [69.2%], 2 Hispanic [15.3%], 1 Black [7.7%], and 1 Asian American [7.7%]). Participants from School D consisted of 24 females all of whom identified as White.

Measures

Social support

The Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliott, 2004) was used to assess social support. The CASSS is a self-report measure of perceived social support for populations of students Grades 3–12. Currently, the CASSS has 60 items measuring perceived social support across various sources of social support, including parents, teachers, classmates, close friends, and school. However, a modified version of the CASSS was used in the current study, which consisted of 72 items because it also measured siblings as a source of social support. On the measure, students are given a 6-point Likert-type response scale ranging from *1- Never to 6- Very Often* to report the frequency that they perceive twelve different supportive behaviors from each source of support. To calculate the frequency score on the CASSS (Malecki et al., 2002), items within a subscale are averaged together, which evaluates the frequency of perceived support score for each source of support (i.e., parent, sibling, close friend, classmate, teacher, and school). For the primary analyses, all of the subscales except for the School subscale were calculated and used in analyses. The original scale demonstrates strong psychometrics in high school samples (Grades 9 through 12; Malecki et al., 2002). Studies utilizing the CASSS have found evidence of strong reliability with coefficient alphas ranging from 0.88 to 0.98. Further, data on an eight- to ten-week test–retest study resulted in correlations ranging from 0.58 to 0.74 for the frequency subscale scores. Factor loadings in all five subscales ranged from 0.85 to 0.87 in a high school sample.

The current study collected data on a sixth subscale to assess sibling support. Information on the psychometric properties of the CASSS with the additional sibling subscale is limited; however, the existing uses demonstrate sound psychometric properties. Examination of the CASSS with the additional subscale was done with a sample of 101 students in Grades 9 through 12 (McDade & Malecki, 2012). An exploratory factor analysis confirmed statistical support for the addition of a factor to create a six-factor structure of the CASSS; 61.7% of the variance in the data was explained by the six factors. The sibling subscale scores yielded alphas greater than 0.86, providing evidence for internal consistency and reliability. Two-week test–retest correlations were all significant ($p < 0.01$) and ranged from 0.55 to 0.85 for the frequency items. Correlations between subscales provided preliminary evidence for the construct validity of the CASSS with the sibling subscale. Further, all frequency correlations were significant ($p < 0.01$), ranging from 0.29 to 0.76. Additionally, the CASSS with the sibling subscale correlated significantly at 0.81 ($p < 0.01$) between the sibling subscale and the NRI short

form assessing sibling support, which provides convergent data for the addition of the subscale. The current study uses subscale scores from the five of the subscales: Parent, Close Friend, Classmate, Teacher, and Sibling. The school subscale was not included in the analyses due to the strong overlap between teacher, classmate, and school support in high school samples. This overlap occurs because students rotate classes that expose them to numerous classmates and teachers throughout the day as opposed to one core group of classmates and primary teacher as is typical of younger school aged populations.

Depression and Anxiety

The Behavioral Assessment System for Children – Edition. 2nd ed., Self- Report of Personality, Adolescent Version (BASC-2 SRP-A; Reynolds & Kamphaus, 2004) was used to measure reports of depression and anxiety symptoms. The BASC-2 SRP-A is a norm-referenced scale that assesses positive and adaptive aspects of student behavior and personality along with negative and clinical aspects of student behavior and personality. The BASC- 2 SRP-A is a rating scale consisting of 176 items that measure personality, self-perceptions, thoughts, and feelings of students ages 12 through 21. Response options vary from *"True"* or *"False"* and a 4-point Likert scale, ranging from *"Never"* to *"Almost Always."* Scoring the BASC- 2 SRP-A includes various composite scores (e.g., Emotional Symptoms Index and the Internalizing Problems composite) and scores on content subscales (e.g., Anger Control and Attention Problems). Since the current study investigated internalizing outcomes, the Depression and Anxiety subscales from the Emotional Symptoms Index composite were used. Alpha coefficients for the BASC-2 SRP-A Depression and Anxiety subscales are strong at 0.86 and 0.88 respectively. A representative sample of 3,400 students in the United States was used to norm the BASC 2-SRP-A, which showed strong evidence for reliability, with coefficient alphas ranging from 0.67 to 0.88, and strong test–retest reliability (0.61- 0.84). Coefficient alpha reliabilities for adolescent (i.e., ages 15–18) females on the subscales of Depression ($\alpha = 0.85$) and Anxiety ($\alpha = 0.85$) were strong (Reynolds & Kamphaus, 2004). The validity of the BASC 2-SRP- A is also adequate, with strong intercorrelations, factor analyses, and correlations with other measures. The current study used female normed T scores for the analyses.

Design

Extant data were utilized for the study. Data collection occurred using a paper pencil, self-report survey following IRB approval. Active, informed parent consent was required for students to complete the survey in all participating schools. Every student from all four schools was given an equal opportunity to participate in the data collection; however, only a small sample returned completed consent to participate. Students who returned positive parent consent provided assent to participate before completing the survey. To answer Question 1, a regression was run on SPSS (IBM Corporation, 2013) with the five social support scores predicting depression and anxiety. To create the proposed profiles of social support for Question 2, the statistical method of Latent Profile Analysis (LPA) was run using Mplus Version 7 (Muthén & Muthén, 2007). Finally, ANOVAs were run on SPSS

(IBM Corporation, 2013) to test the associations between the emerged profiles and depression (Question 3) and anxiety (Question 4).

Results

Question 1: Is Adolescent Young Women's Perceived Social Support from Several Sources Associated with Depression and Anxiety? What Sources Of Support Emerge as Uniquely Associated with Depression and Anxiety?

A simultaneous, hierarchical regression analysis was conducted regressing the five sources of social support on depression with all predictors mean centered (for means and standard deviations, see Table 1).

Table 1 Correlations, means, and standard deviations of key variables by total sample

Measure	1	2	3	4	5	6	7	M(SD)
1. Parent social support	–							4.15 (1.09)
2. Friend social support	0.336**	–						5.01 (0.85)
3. Classmate social support	0.455**	0.534**	–					3.86 (1.03)
4. Sibling social support	0.480**	0.416**	0.583**	–				3.42 (1.09)
5. Teacher social support	0.455**	0.285**	0.502**	0.555**	–			4.23(0.96)
6. Depression	– 0.553**	– 0.161	– 0.352**	– 0.340**	– 0.320**	–		46.41 (13.7)
7. Anxiety	– 0.245**	– 0.022	– 0.206*	– 0.080	– 0.135	0.448**	–	55.06 (11.19)

$^{*}p < 0.05$, $^{**}p < 0.01$

Table 2 *Regression analysis results for sources of support predicting depression and anxiety*

Variable	B	SE B	β	R^2	ΔR^2
Depression				0.342***	0.342
Parent support	– 2.494***	0.450	– 0.471		
Teacher support	– 0.049	0.536	– 0.008		
Classmate support	– 0.481	0.563	– 0.086		
Friend support	0.577	0.574	0.086		
Sibling support	– 0.645	0.518	– 0.123		
Anxiety				0.092*	0.092
Parent support	– 1.510**	646	– 0.233		
Teacher support	– 0.076	0.769	– 0.010		
Classmate support	– 1.359	0.808	– 0.200		
Friend support	1.006	0.824	0.123		
Sibling support	0.418	0.743	0.065		

*p < 0.05. **p < 0.01. ***p < 0.001

The regression indicated that collectively, the sources of social support explained 34% of the variance in reported symptoms of depression ($R^2 = 0.342$, $p < 0.001$). However, only parent social support was a significant individual predictor of reported depressive symptoms ($B = -2.49$, $p < 0.001$), indicating that reports of parental social support were negatively associated with symptoms of depression. See Table 2 for results of the regression of source of social support predicting depression.

A second simultaneous, hierarchical regression analysis was conducted regressing the five sources of social support on anxiety. The regression indicated that the sources of social support collectively explained 9% of the variance in reported symptoms of anxiety ($R^2 = 0.092$, $p = 0.04$). Additionally, only parent social support was a significant individual predictor of reported anxiety symptoms ($B = -1.51$, $p = 0.021$). However, both preliminary regressions may also be influenced by strong intercorrelations between the sources of social support. See Table 2 for results of the regression of source of social support predicting anxiety.

Question 2: What Profiles of Perceptions of Social Support Emerge for High School Females from Five Sources of Social Support?

An LPA was performed using maximum likelihood estimation on the five sources of social support subscale scores (Parent, Teacher, Close Friend, Classmate/Peer, and Sibling). The LPA was used to identify profiles of social support that may suggest similar patterns of social support frequencies from the various sources. Fit indices were utilized to determine the number of latent classes and included Bayesian information criterion (BIC), Vuong-Lo Mendell-Rubin likelihood ratio test (VLMR LRT), bootstrap likelihood ratio test (bootstrap LRT), and entropy value. Models were considered to have converged if the maximum log likelihood was replicated at least five times. Better model fit is determined by a lower BIC and higher entropy value (near 1.0). Both the VLMR LRT and the bootstrap LRT test whether the current model profile size (K) being analyzed is significantly better than a model with one less profile (K–1; e.g., Are five classes [K] significantly better than four [K–1]?) Table 3 presents the fit results and subgroup prevalence for models with one to seven latent classes.

When investigating fit indices, the authors first tested a model with one profile. Then the authors tested a two-profile model against the one-profile model. This procedure traditionally continues until a model with an additional profile is not a significantly better fit than the preceding one. In this case, the four-profile model was not a better fit than the three-profile model. The three-profile model included profiles that were low, moderate, and high across all sources. However, because the authors predicted that "mixed" profiles of support would emerge based on literature that suggests individuals who lack support from some sources seek out support from other sources, a five-profile model was run. The five-profile model emerged as a significantly better fit than the four-profile model. The literature surrounding LPA emphasizes the importance of considering both the quantitative and qualitative interpretation of LPA models (Hirschi & Valero, 2017; Gabriel, Daniels, Diefendorff, & Greguras., 2015; Spurk et al., 2020); thus, because the five-profile model had a lower adjusted BIC than the four-profile, was a significantly better fit than the four-profile model, had a similar entropy to the three-profile model, and was empirically backed, the five-profile model was determined to be the best fit (refer to Table 3 and Fig. 1).

Table 3 *Results of latent profile analysis for source of social support groups (N = 143)*

| Model	BIC	Adjusted BIC	VLMR LRT p	Bootstrap LRT p	Entropy	Profile Prevalence (%)						
						1	2	3	4	5	6	7
1-profile	2062.45	2030.81	–	–	–	1.00						
2-profile	1926.47	1875.84	<0.001	<0.001	0.802	0.33	0.67					
3-profile	1896.97	1827.36	0.0968	<0.001	0.804	0.25	0.49	0.26				
4-profile	1911.12	1822.53	0.0156	0.1500	0.811	0.15	0.10	0.28	0.47			
5-profile	1919.02	1811.44	0.5092	<0.001	0.801	0.09	0.27	0.25	0.16	0.24		
6-profile	1933.69	1807.12	0.5271	0.200	0.836	0.02	0.09	0.23	0.27	0.14	0.24	
7-profile	1948.45	1802.91	0.893	0.375	0.840	0.09	0.14	0.19	0.26	0.03	0.26	0.06
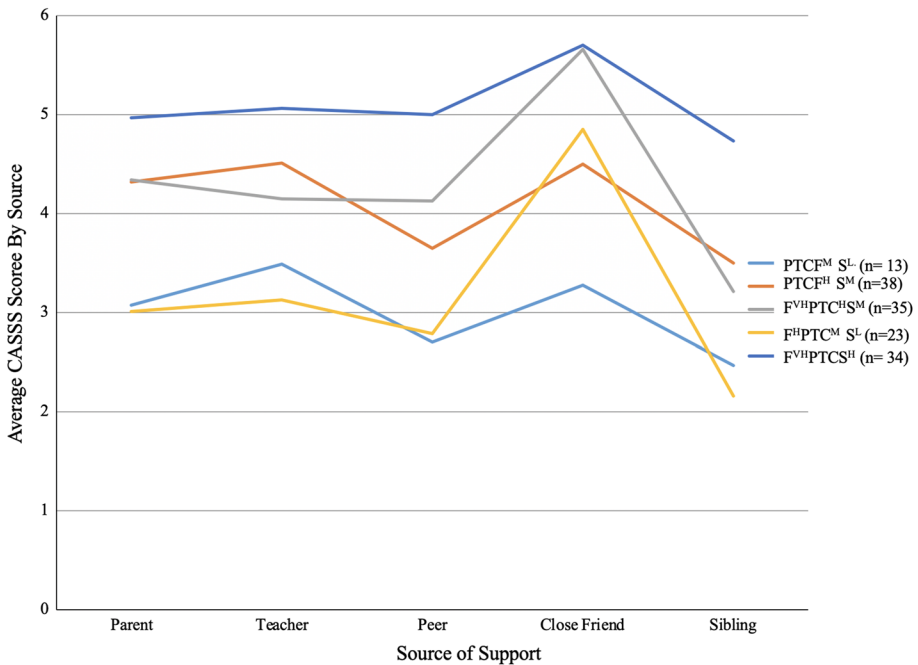
Fig. 1 Average scores of CASSS subscales for emerged profiles

The groups of the five-profile model converged with the pre-existing social support theory. Further, coverage values (i.e., the ability of the model to produce replicated confidence intervals that "contain the true population parameter"; Nylund et al., 2007) for the five-profile solution were calculated. Each parameter (i.e., parent support, teacher support, friend support, classmate support, and sibling support) was acceptable, ranging from 1.00 to 0.976. Thus, there is a strong likelihood that the model presents a valid approximation to the parameters within the sample even despite the small membership in the first profile. Qualitative labels were created for each profile by the profiles' mean frequency of social support by sources.

Qualitative Labels

The qualitative label was based on results from Demaray and Malecki's (2002) paper that investigated the critical levels of social support associated with internalizing outcomes. Further, using the average item score across the Total Social Support score, Demaray and Malecki found three meaningful levels of social support: *High* (item level $M = 4.56$), *Average* (item level $M = 3.91$), and *Low* (item level $M = 3.01$). Based on the average reported frequency of social support on a 6-point Likert scale (*1 = Never to 6 = Always*) and with guidance from Demaray and Malecki's article (2002), meaningful levels of social support were created. The current study included the addition of a "*very high*" label to more specifically define the emerged profiles, which is a label not used by Demaray and Malecki (2002). The value ranges of those levels of support that were utilized as a general

framework to determine qualitative labels of the profile groups in the current study include: "*low (1.0- 2.4)*," "*moderate (2.5- 3.9)*," "*high (4.0- 5.4)*," and "*very high (5.5- 6.0)*."

The names for each emerged profile were as follows: (1) *Moderate Adult, Classmate, and Friend with Low Sibling* (i.e., reports of sometimes receiving parent, teacher, and close friend support but reports of almost never receiving peer and sibling support), which consisted of 9% of the sample; (2) *High Adult and Friend with Moderate Peer and Sibling* (i.e., reports of having parent, teacher, and peer support most of the time, close friend support nearly always, and sometimes having sibling support), which included of 27% of the sample; (3) *Very High Friend with High of Adult and Classmate Support and Moderate Sibling* (i.e., reports of having parent, teacher, and close friend most of the time and peer and sibling support some of the time), which consisted of 25% of the sample; 4) *High Close Friend with Moderate Adult and Classmate and Low Sibling* (i.e., reports of sometimes having parent, teacher, and peer support, close friend support most of the time, and reports of almost never having sibling support), which consisted of 16% of the sample; and 5) *Very High Friend and High Adult, Classmate, and Sibling* (i.e., reports of almost always having parent, teacher, peer support, and sibling support and nearly always having close friend support), which included 24% of the sample. Shorthand references were created to use in the place of the qualitative labels. These shorthands can be found in Table 4 and will be used in the remainder of the paper. Means and stadard deviations of the each subscale by profile are presented in Table 5.

Mean Differences by Demographics

Chi-squared tests of independence were conducted to assess whether there were demographic differences, such as race, grade, and school, between profiles. For example, did students from School A cluster in one profile more than students from Schools B, C, and D? A significant chi-squared test of independence would indicate associations between the profile and demographic categorical values. Results of the chi-squared tests of independence on race, grade, and school all came out as not significant (race $\chi^2(20)=18.07$, $p=0.58$; grade $\chi^2(12)=9.37$, $p=0.67$; school $\chi^2(12)=11.06$, $p=0.48$;). Thus, it can be inferred that profile membership did not significantly differ by demographics. Additional information on the demographic make-up of each profile can be referenced in Table 6.

Question 3: How Does Depression Differ Based on Profile?

An ANOVA was conducted in SPSS to determine whether depression differed by social support profile (refer to Table 7 and Fig. 2). Significant differences in reported depressive symptoms by profile were found, $F(4, 142)=9.97$, $p<0.01$. Post hoc estimated mean differences by profile indicated that the average reports of depression symptoms for profiles $PTCF^M S^{L.}$ and $F^H PTC^M S^L$ were significantly higher than were the reported depressive symptoms by students in the other three profiles (i.e., $PTCF^H S^M$, $F^{VH}PTC^H S^M$, $F^{VH}PTCS^H$); however, profiles $PTCF^M S^{L.}$ and $F^H PTC^M S^L$ did not significantly differ from each other on depression ($p=0.211$).

Table 4 *Determined qualitative labels and assigned shorthand reference*

Qualitative label	Shorthand reference	Membership count (Sample %)
Moderate adult, classmate, and friend with low sibling	$PTCF^M S^L$	n = 13 (9.1%)
High adult friend and classmate with moderate sibling	$PTCF^H S^M$	n = 38 (26.6%)
Very high friend with high of adult and classmate support and moderate sibling	$F^{VH}PTC^HS^M$	n = 35 (24.5%)
High close friend with moderate adult and classmate and low sibling	$F^HPTC^M S^L$	n = 23 (16.1%)
Very high friend and high adult, classmate and sibling	$F^{VH}PTCS^H$	n = 34 (23.8%)

Table 5 *Means and standard deviations of key variables by profile*

Variable	M(SD)				
	PTCF^M S^L	PTCF^H S^M	F^{VH}PTC^{H}S^M	F^{H}PTC^M S^L	F^{VH}PTCS^H
Parent social support	3.07 (0.67)	4.32 (0.95)	4.34 (0.81)	3.00 (0.81)	4.97 (0.80)
Teacher social support	3.49 (0.93)	4.50 (0.58)	4.15 (0.78)	3.12 (0.62)	5.06 (0.70)
Classmate social support	2.69 (0.59)	3.64 (0.62)	4.13 (0.67)	2.78 (0.64)	5.00 (0.67)
Friend social support	3.27 (0.74)	4.50 (0.43)	5.66 (0.34)	4.84 (0.53)	5.70 (0.34)
Sibling social support	2.47 (0.74)	3.50 (0.61)	3.21 (0.67)	2.15 (0.50)	4.73 (0.76)

Table 6 *Participant characteristics for emerged source of social support profiles*

Variable	n (% of Total Subgroup)				
	PTCF^M S^L	PTCF^H S^M	F^{VH}PTC^{H}S^M	F^{H}PTC^M S^L	F^{VH}PTCS^H
Total (*N* = 143)	13 (9.1%)	38 (26.6%)	35 (24.5%)	23 (16.1%)	34 (23.8%)
Race					
White (*n* = 108)	10 (9.3%)	28 (25.9%)	27 (25.0%)	17 (15.7%)	26(24.1%)
African American (*n* = 7)	1 (14.3%)	3 (42.9%)	0 (0.0%)	0 (0.0%)	3 (42.9%)
Hispanic American (*n* = 20)	2 (10.0%)	3 (15.0%)	6 (30.0%)	6 (30.0%)	3 (15.0%)
Asian American (*n* = 3)	0 (0.0%)	2 (66,7%)	1 (33.3%)	0 (0.0%)	0 (0.0%)
Multiple races (*n* = 2)	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)
Other (*n* = 3)	0 (0.0%)	2 (66.7%)	0 (0.0%)	0 (0.0%)	1 (33.3%)
Grade					
Ninth (*n* = 33)	2 (6.1%)	9 (27.3%)	5 (15.2%)	10 (30.3%)	7 (21.2%)
Tenth (*n* = 40)	4 (10%)	11 (27.5%)	10 (25%)	5 (12.5%)	10 (25%)
Eleventh (*n* = 35)	2 (5.7%)	9 (25.7%)	11(31.4%)	4 (11.4%)	9 (25.7%)
Twelfth (*n* = 35)	5 (14.3%)	9 (25.7%)	9 (25.7%)	4 (11.4%)	8 (22.9%)
High School					
School A (*n* = 71)	9 (12.7%)	22 (31.0%)	19 (26.8%)	10 (14.1%)	11 (15.5%)
School B (*n* = 32)	2 (6.3%)	7 (21.9%)	5 (15.6%)	8 (25.0%)	10 (31.3%)
School C (*n* = 13)	1 (7.7%)	3 (23.1%)	4 (30.8%)	2 (15.4%)	3 (23.1%)
School D (*n* = 27)	1 (3.7%)	6 (22.2%)	7 (25.9%)	3 (11.1%)	10 (37.0%)

Table 7 *Means and standard deviations of key variables and interactions by profile*

Variable	M(SD)				
	PTCF^M S^L	PTCF^H S^M	F^{VH}PTC^{H}S^M	F^{H}PTC^M S^L	F^{VH}PTCS^H
Depression	54.77 (12.72)	45.42 (6.22)	46.54 (8.16)	*60.43 (15.02)*	45.50 (8.05)
Anxiety	56.23 (12.20)	53.08 (10.08)	54.77 (11.89)	*60.43 (10.98)*	54.97 (0.80)

Note: Range of possible T scores for Depression and Anxiety was 20–120 with scores 60–70 constituting "*at risk*" and scores 70 and over are interpreted as "*clinically significant*." Italic values indicate "*at-risk*" T scores
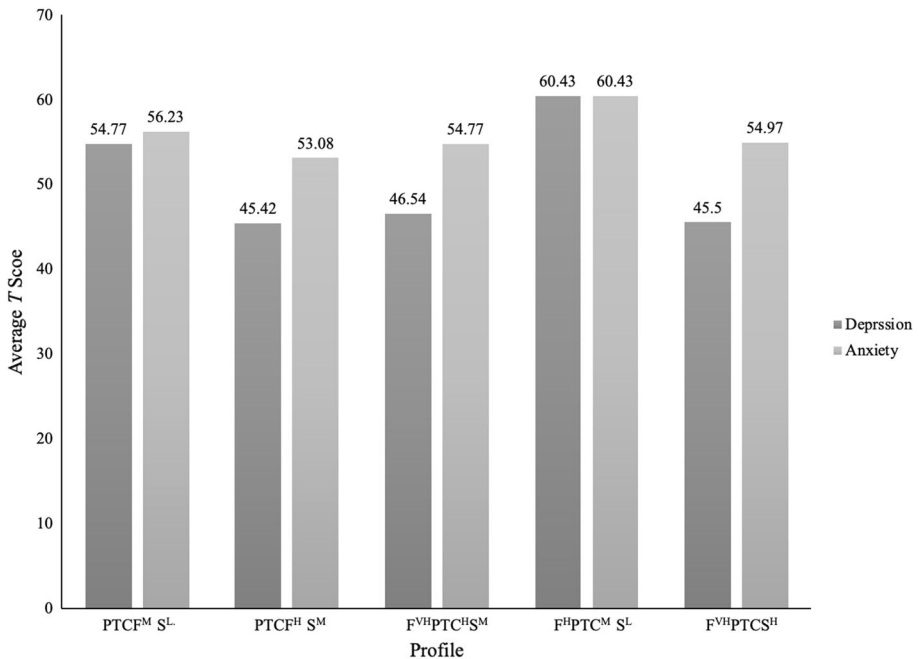
Fig. 2 The average T score reported on the BASC- 2 for Depression and Anxiety subscales by the emerged profiles

Question 4: How Does Anxiety Differ Based on Profile?

An ANOVA was conducted in SPSS to determine if anxiety differed by profile (refer to Table 7 and Fig. 2). There were no significant differences in anxiety by profile, $F(4, 142) = 1.91$, $p = 0.113$).

Discussion

Internalizing symptoms are prevalent among female adolescents (NIMH , 2019; Mathew et al., 2011; Merikangas et al., 2010; WHO, 2018). The particularly high prevalence of internalizing in females over males during adolescence is hypothesized to result from both biological and environmental influences (Barlow 1988; Maojtabai, et al., 2016). Advantageously, environmental factors are intervenable. One such environmental factor is social support, which is empirically associated with symptoms of both depression and anxiety during adolescence (Cohen et al., 2000; Rueger et al., 2016; Tardy, 1985). Thus, social support from various stakeholders (i.e. parents, teachers, close friends, classmates, and siblings) may be an avenue for internalizing prevention and intervention (Demaray & Malecki, 2002; Jackson & Warren, 2000; Rueger et al., 2016).

As youth enter adolescence, they begin to report less social support from parents and more from same-aged peers (Rueger et al., 2016). Around the same time, increases

in internalizing symptoms are observed (Merikangas et al., 2010; WHO 2018). Past work suggests that each source of support may associate differently with varying outcomes (Demaray & Malecki, 2002; Rueger et al., 2016). For instance, parent support is more strongly related to internalizing problems for adolescent females than same-aged sources of support, which may suggest that parent support has uniquely stronger protective potential against internalizing symptoms beyond other sources (Rueger et al., 2016). However, only one study to the authors' knowledge has investigated how the sources of support may interact and how those interactions are associated with internalizing symptoms (Lyell et al., 2020). Lyell and colleagues' work (2020) suggests that parent support can compensate for low reports of classmate support when looking at internalizing problems as an outcome; however, their study did not utilize profiles to investigate the cumulative impact sources of social support may have on internalizing problems. Additionally, the current study is one of the few in the social support literature that have investigated depression and anxiety as separate outcomes.

The study examined the differences between levels of internalizing symptoms (i.e., depression and anxiety) and reports of perceived social support across various sources (i.e., parent, teacher, friend, classmate, and sibling) in female adolescents. LPA was utilized to group participants by frequency of social support perceived across these various sources of social support. Findings support that social support is not perceived from one source in isolation and that the sources have differing associations with internalizing outcomes. Parent social support social, for example, was associated with better outcomes for high-school-aged females than the other sources of social support, which suggests that the parent–child relationship continues to be an important protective factor throughout adolescence. The study promotes a greater understanding of the differential influences of each source, singularly and collectively, to inform prevention and intervention strategies for internalizing symptoms in female adolescents. Of particular note, results of the study add to the literature by indicating that the cumulative support received from varying combinations of sources, which created the latent profiles, are differentially associated with reports of depressive symptoms.

Review of Findings

Question 1: Is Adolescent Young Women's Perceived Social Support from Several Sources Associated with Depression and Anxiety? What Sources of Support Emerge As Uniquely Associated with Depression and Anxiety?

As predicted, young women who reported less social support were more likely to report experiencing symptoms of depression than young women who reported having more social support. Follow-up analyses uncovered that parent support was the only source of support uniquely related to depressive symptoms (i.e., higher reports of parent support were observed with lower reports of depressive symptoms). This finding converges with the few studies that have looked at the differential outcomes related to different sources of social support, which indicate that parent support is more associated with outcomes than the other sources (Lyell et al., 2020; Rueger et al., 2016). In line with past work, the study found that despite the fact that social support from close friends was perceived more than the support from other sources, it was not uniquely associated with depressive symptoms (Coyle & Malecki, 2018; Lyell et al., 2020). However, it is important to note that sources of social support collectively predicted depression. Thus, the relationship between depression and

other sources of social support (i.e. teacher, classmate, and sibling) cannot be discounted (Camara et al., 2017). Additionally, the current study was not able to take into account relevant variables, such as race, age, or exposure to trauma, which could be an important direction for future research.

The current study also hypothesized that reports of anxiety symptoms would be associated with social support; however, this was not found. The lack of a significant association between social support and anxiety for female adolescents may suggest symptoms of anxiety are unrelated to perceptions of social support. Consequently, perceptions of social support may not be a strong indication of anxiety symptoms, and vice versa, in female adolescent samples. Alternatively, there may be inconsistencies with how adolescent females who are experiencing symptoms of anxiety respond to anxiety related symptoms. Some may seek out social support while others withdraw from social support, which would suggest individual differences in the association but no singular pattern of associations for adolescent females. Some research suggests that although social support and help-seeking behaviors often co-exist, one can exist without the other (Lyell et al., 2020). Further, for social support to be utilized, youth must engage in help-seeking behaviors, which exist only in certain conditions (Camara, et al., 2017).

Question 2: What Profiles of Perceptions of Social Support Emerge for High School Females From Five Sources of Social Support?

LPA was used in the current study to identify patterns of female adolescents' social support across various sources (i.e. parent, teacher, close friend, classmate, and sibling). Using LPA is a strength of the current study as it moves away from the traditional use of cut score methodology for categorizing participants, which has been done previously in the social support literature (Demaray & Malecki, 2002). As an alternative to cut scores, LPA uncovers patterns in the data based on numerous fit statistics and tests of statistical significance (Nylund et al., 2007). For the current study, profiles were created based on self-reported social support across five subscales assessing support from various sources. Further, a five-class model was the best fitting model. The five profiles that emerged were (1) *Moderate Adult, Classmate, and Friend with Low Sibling (PTCF^M S$^{L.}$),* which comprised of 9% of the sample (2) *High Adult and Friend with Moderate Peer and Sibling (PTCF^H S^M),* which consisted of 27% of the sample, (3) *Very High Friend with High of Adult and Classmate Support and Moderate Sibling (F^{VH}PTC^{H}S^M),* which comprised of 25%, (4) *High Close Friend with Moderate Adult and Classmate and Low Sibling (F^{H}PTC^M S^L),* which consisted of 16% of the sample, and (5) V*ery High Friend and High Adult, Classmate and Sibling (F^{VH}PTCS^H),* which consisted of 24% of the sample.

Despite the observed differences in social support reports between profiles, individual characteristics based on race, grade, and school were not observed in profile membership such that members from a particular race or school were not over-or underrepresented in any of the profiles. Thus, the profiles seem to generalize across demographic characteristics of the females in this relatively homogeneous sample. Further, three-fourths of the sample fell into the membership of either profile PTCF^H S^M, profile F^{VH}PTC^{H}S^M or profile F^{VH}PTCS^H. Membership across these three profiles all include high reports of social support from parents, teachers, and classmates and reports ranging from very high to high social support from friends. The high rates of social support that most of the participants reported receiving aligns with past work that suggests that female adolescents value social relationships (Frey & Rothlinsberger, 1996; Lyell et al., 2020). The result of friend social

support reports being greater than or equal to support from adult sources (i.e. parent and teacher) aligns with previous work, which suggests that emerging adolescents shift their social support network away from adult sources of support to same-aged sources (Rueger et al., 2016).

Question 3: How Does Depression Differ Based on Profile?

In support of the current study's hypothesis, significant differences in reported depressive symptoms by profile emerged in the female adolescent sample. Results suggest that the combination of social support across sources, which created the emerged profiles, coincide with varying reports of depressive symptoms. Of particular interest, individuals in profile PTCF^M S$^{L.}$ and profile F^{H}PTC^M S^L reported significantly more depressive symptoms than students in the other three profiles. Additionally, profile PTCF^M S$^{L.}$ and profile F^{H}PTC^M S^L did not differ from each other regarding reports of depressive symptoms.

These two profiles are similar in a couple of ways. First, both profiles on average reported lower perceptions of support overall than the other three profiles. Second, these profiles are similar in that they are the only profiles that include "moderate" reports of parent, teacher, and classmate social support with "low" reports of sibling support, which is the lowest amount of social support reported by any of the profile memberships. This suggests that "moderate" social support from either parent, teacher, classmate, or "low" support from siblings, or combination thereof, is not sufficient in buffering against symptoms of depression and are related to higher reports of depressive symptoms in female adolescents. Because parent social support is the only source of support that was uniquely related to symptoms of depression, parental support may be driving the reported levels of depressive symptoms in profile PTCF^M S$^{L.}$ and profile F^{H}PTC^M S^L.

Additionally, these two profiles were the only profiles to report receiving "low" levels of sibling support. Similar to other same-age sources of support (i.e., close friend and peer), sibling support has been found to be a risk factor for depressive symptoms in adolescents, which was a trend observed in profiles PTCF^M S$^{L.}$ and F^{H}PTC^M S^L (Branje et al., 2004; Kim, McHale, Crouter, & Osgood., 2007; McDade & Malecki, 2012). Sibling support is suggested to remain relatively stable over time but does include a power imbalance between older and younger siblings (Dunn, 2002). As siblings enter adolescence, conflict tends to decrease; however, the current study did not analyze data on the birth order or the age gaps between participants and their siblings. Therefore, the study is unable to distinguish if birth order or differences in age between siblings was associated with perceptions of sibling support. Although social support from older siblings has been found to compensate for low levels of parent support (Derkman, Engels, Kuntsche, van der Vorst, & Scholte., 2011; Noller, 2005), some work suggests that youth who perceive low support from parents also perceive low support from siblings, which was observed in profiles PTCF^M S$^{L.}$ and F^{H}PTC^M S^L (Jenkins et al., 2002). The current study did not, however, consider birth order in the analyses, so it is unclear whether or not participants in profiles PTCF^M S$^{L.}$ and F^{H}PTC^M S^L were typically older siblings or younger.

Of interest, profile F^{H}PTC^M S^L reported similar frequencies of social support from close friends as profiles that reported significantly less depressive symptomatology; however, this profile reported the highest levels of depressive symptoms as any other profile. Thus, social support from close friends does not appear to compensate for moderate frequencies of parent, teacher, and classmate support or low reports of sibling support or to buffer against negative internalizing outcomes (Lyell et al., 2020). It supports work that

suggests friend support does not compensate for a lack of sibling support; however, this work remains mixed (Buhrmester & Furman, 1990; East & Rook, 1992; Lyell et al., 2020). Although the current study did not look at the directionality of this association, perhaps young females with lower amounts of social support experience more symptoms because they lack social support. Alternatively, perhaps because they experience symptoms of depression they engage in global views of social support in that they either perceive having a lot of social support from many sources or no social support from any sources. It may be that adolescent females who experience symptoms of depression do not engage in help-seeking behavior (Camara et al., 2017). Another reason may be that although youth are reporting high rates of friend support, the support from friends may not be beneficial or healthy (Camara et al., 2017). For example, perhaps youth are co-engaging in behaviors that coincide with increased depressive symptoms, such as co-rumination, that in turn may hurt relationships or discourage females from seeking social support from other sources.

Some research suggests that youth report feeling as though their friends "minimize" the distress they are feeling, which deters youth from approaching friends with problems in the future (Camara et al., 2017). Another potential mechanism for the lack of compensatory strength in friend support may be biological mechanisms connecting family members, which may drive a need to be accepted by those you are genetically related to (Lyell et al., 2020). Future work is needed to support this idea and to identify additional commonalities of profile members such as school engagement, socioeconomic status, or configuration household members (i.e. single parent, divorced parents, raised by grandparents, placement in foster care). Ultimately, parent social support appears to be related to reports of symptoms of depression in a way that succeed other sources of social support. Notably, sibling support also stands apart between the profiles, with the two profiles that reported more symptoms of depression reporting "low" levels of sibling support. In all, the results both emphasize the importance of parent–child relationships over the course of childhood and adolescence for females, and promote additional work investigating the strength of sibling social support and nuances associated with that relationship.

Question 4: How Does Anxiety Differ based on Profile?

Alternatively, there were no significant differences in anxiety by profile. The lack of significant findings regarding symptoms of anxiety may be attributed to various methodological factors ranging from sample size and selection bias as consequence to active parent consent methodology. Alternatively, these results may suggest that the correlation between social support and anxiety in females is not as prominent as that between social support and depression. Past work investigating the difference between social support and anxiety symptoms has also found mixed results. For example, looking across both genders, Auerbach and colleagues (2011) did not find a significant difference between social support and anxiety, which converges with the current study.

Implications

The present study contributes to past social support work by underscoring the important role social support continues to play in the lives of female adolescents, particularly relating to symptoms of depression. Results converge with past work that highlights both the important role of social support and the differential effects of each source of social support (Demary & Malecki, 2002; Rueger et al., 2016). The study suggests that young

females may see social support globally with similar reports of social support across various sources. However, as seen in previous literature, adolescent females appear to value close intimate relationships and perceive similar or more social support from friends than parents (Coyle & Malecki, 2018; Lyell et al., 2020). Parent support appears to be associated with symptoms of depression at a greater magnitude than other sources (Lyell et al., 2020; Rueger et al., 2016). Despite the developmental shift in social support from parents to peers, programs targeting symptoms of depression in female adolescents would benefit from inclusion of parent training and parent communication when working with adolescents.

Anxiety-related outcomes have not received a large amount of attention in the social support literature; however, studies that have looked at anxiety as an outcome of social support have found inconclusive results. Perhaps anxiety interacts with social support differently than depression. As opposed to the frequency of social support from various sources, anxiety may be more associated with other constructs of social support, including how important participants find certain sources of social support that they do (or do not) perceive, or anxiety may be related to the types of social support such as emotional (e.g. love, trust, and empathy), informational (i.e. providing advice on one topic), instrumental (i.e. resources like time and money), and appraisal (i.e. evaluative feedback). Adolescence is a time of significantly more independence; however, perhaps the transition away from parent social support occurs in an all or nothing fashion, which spurs anxiety in adolescents. In other words, although adolescents may begin to seek and provide more social support to and from same-aged peers they begin receiving less social support from parents, there may be types of support provided by parents that same-age peers are unable to provide, such as instrumental or informational. Further, the current study suggests a need for additional investigations into the sources and types of social support in relation to anxiety.

Limitations and Future Directions

The current study is not without limitations. Self-report methodology for data collection, although convenient and common, is a limitation of the current study as it jeopardizes the validity of the data by relying on subjective reporting. However, despite the potential risks, self-report is a common method of data collection in schools and has been found to be relatively reliable and valid (Duckworth & Kern, 2011; Fan et al., 2006). To increase validity, the measures utilized are empirically supported with evidence of validity and reliability. Additionally, the current study had a relatively small sample size for using LPA. A sample size of two hundred is recommended to conduct LPA (Nyland et al., 2007); however, the profile indices of the current study were statistically sound despite the relatively small sample size. Another limitation is that decreased the sample size was is that participants were required to obtain active parent consent to participate, which may have led to an overrepresentation of particular subset of students such as students who are more attentive and responsible in school or students with more access to their parents to have the consent completed. In addition, the study's sample was relatively homogenous such that all participants had at least one sibling and the majority were White. Both factors limit the generalizability of the results. Future work in this area should include a larger, more diverse sample size including students who are racial minorities, students who are male, and students who do not have siblings. A larger sample is also encouraged for more statistical power in LPA modeling.

Using a latent profile analysis model has limitations. One limitation is the ambiguity surrounding the best practice in interpreting the best fitting model. A widely used strategy determining the best model is to stop testing models once a subsequent model is not significantly better than the preceding one (Nylund et al., 2007). However, the current study explored models past the three-profile model as it predicted profiles with mixed levels of support across sources to emerge. The current study found a similar fit for the three- profile model and five-profile model. Because the two models were quantitatively similar and the literature provided strong theoretical support for the emergence of mixed profiles, the five-profile model was determined to be the best fit, which is a unique contribution to pre-existing work. Future investigations similar to the current study are encouraged to use a large sample size, which may strengthen, or weaken, support for a five-profile model. Additionally, the descriptors used in the current study is another limitation as the labels are subjective to the sample. In other words, scores that fell into the "moderate" label in the current sample may be viewed as low or high if presented in a different sample. The qualitative labels developed for the profiles were created after the profiles had emerged; however, the current study created the labels before conducting analyses on the outcome constructs to limit bias in the creation of descriptors based on significant (or not) differences with outcomes. Future work is encouraged to predetermine labels before data analysis in their methodologies.

Social support is a bidirectional relationship; however, much of the empirical work on social support has only assessed the perception of receiving support. Future work should investigate social support across the sources in the social support relationship that looks particularly at the give-and-take relationship from both sides. Perhaps adolescent females who report internalizing symptoms give less and thus perceive less social support to others as a result of their experiences of depression and/or anxiety, or perhaps the lack of social support they perceive leads to experiencing symptoms of depression and/or anxiety despite the amount of social support the individual gives. Relatedly, work should investigate the stability and causality of the relationships found in the current study. Finally, the field would benefit to explicitly differentiate between participants who have traditional (i.e., two-parent homes with biological siblings) to non-traditional homes (e.g. single parents, foster parents, extended family guardianship, or step or half siblings) to see explore whether the prominent role of "parent" and "sibling" social support is mediated by factors related to "traditional" households such as two-parent homes or biological mechanisms (Lyell et al., 2020).

Conclusion

Prevalent reports of depression and anxiety symptoms during adolescence by females is a growing concern and warrants investigation to inform prevention and intervention (Avenevoli et al., 2015; Copeland, Shanahan, Costello, & Angold., 2009; WHO 2018). The findings of the current study suggest one potential avenue for adolescent females is parent involvement. The study extends the literature by investigating profiles of social support based on sources of support, which allows for a more specific investigation into how internalizing outcomes differ by both the cumulative network and the individual sources of support within those profiles. More empirical work is needed to specifically identify the differential influences of social support by source and to understand the relationships

longitudinally. Emerged profiles in the current study breaks ground regarding the potentially protective factor parent social support may have against depressive symptoms for female adolescents and encourages additional work regarding sibling social support.

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