

Supportive Romantic Relationships as Predictors of Resilience Against Early Adolescent Maternal Negativity

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Abstract Negativity in parent–child relationships during adolescence has been viewed as a risk factor for teens’ future personal and interpersonal adjustment. This study examined support from romantic partners and close friends during late adolescence as protective against maternal negativity experienced during early adolescence. A combination of observational, self-report, and peer-report measures were obtained from a community sample of 97 youth (58 % female), their mothers, closest friends, and romantic partners assessed at ages 13, 18, and 20. Moderating effects suggested a protective effect of romantic support against maternal negativity across a variety of psychosocial outcomes, including depressive symptoms, self-worth, social withdrawal, and externalizing behavior. Protective effects were found even after controlling for initial levels of outcome behavior and observed support from close friends throughout adolescence. Receiving support from a romantic partner may provide teens with new, positive ways of coping with adversity and help them avoid more serious distress that may be predicted from maternal negativity when such support is not available.

Keywords Romantic relationships · Friendships · Parent–child relationships · Depression · Internalizing behaviors · Externalizing behaviors · Maternal negativity

Introduction

Emerging adulthood has been theorized to be a period during which the freedom to explore new social opportunities can facilitate the reorganization of systems leading to social adaptation (Arnett 2000). “Turning points” toward adaptation may be particularly likely to occur as a result of qualitative changes in the nature of the individual’s social interactions during this time (Rutter 1996). Indeed, positive change may be possible for individuals who experienced disadvantage at earlier points in life but who learn to take advantage of adaptive interpersonal resources (Masten et al. 2004).

The conditions under which such resilient reorganization occurs are important to consider, particularly as they may explain movement toward positive outcomes that sometimes occurs for youth previously exposed to adverse circumstances (Masten 2015). One guiding perspective in resilience theory has been the idea that protective and vulnerability factors for youth may be understood as existing at multiple levels in the environment (Luthar et al. 2000). Incorporating this perspective, this study aimed to examine several aspects of young people’s lives that have been identified as “hot spots” for integration in research examining resilience, including family relationships, romantic relationships, friendships, and individual characteristics (Masten 2007).

One well-established type of familial adversity is maternal negativity. Maternal negativity during adolescence has been associated with lower levels of adolescent

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self-control, higher levels of emotional dysregulation and depressive symptoms, and higher levels of internalizing symptoms and externalizing behavior (Kim et al. 1999; Stocker et al. 2007; Yap et al. 2010). Mother-teen relationships that are negative at the outset of adolescence also tend to decrease sharply in adolescent-perceived maternal support over time, with such downward trajectories having potentially negative long-term implications for youth's psychosocial functioning (Laursen et al. 2010; Seiffge-Krenke et al. 2010).

For youth who experience family difficulties, romantic relationships may offer particularly salient opportunities for the promotion of later resilient outcomes. Although romantic relationships have been linked to negative outcomes when involvement occurs too early or is too intense (Stroud and Davila 2008; Zimmer-Gembeck et al. 2001), they also have the potential to facilitate more positive outcomes. For example, romantic relationships characterized by greater satisfaction, ease of disclosure, and security have been associated with greater competence in the peer domain, more positive self-perceptions of social acceptance, and lower levels of externalizing behavior for youth (van Dulmen et al. 2008; Zimmer-Gembeck et al. 2001). Supportive and responsive romantic partners may offer emerging adults who experience adverse early family relationships opportunities to reorganize their attitudes about the availability of others to provide support, leading them to view romantic partners as more available and helpful psychological resources for promoting positive behavior (Furman et al. 2002). As romantic relationships become more psychologically meaningful for youth during the transition to emerging adulthood, they have even greater potential to promote positive adjustment for youth as compared to friendships (Meeus et al. 2007). In essence, when romantic partners are supportive, some youth may be able to turn to these relationships as a way to “make up” for negative attitudes or behaviors developed from problematic maternal relationships, though this possibility has received scant empirical scrutiny.

Although some research has simultaneously examined the effects of romantic relationships and family functioning on youth well-being (Dinero et al. 2011), it is not known to what extent qualities of romantic relationships might serve as buffers of the negative effects of prior family difficulties. Examining such moderating effects is critical to understanding whether romantic relationships contribute to actual resilience in the context of familial adversity versus simply making independent predictions to adjustment for all teens, regardless of prior experiences within the family. Several early studies suggest a potential role for romantic relationships as a buffer against early adversity (Quinton et al. 1993; Werner and Smith 2001). Unfortunately, these studies rely solely upon self-reports that create methodological confounds between relationship assessments and individual functioning assessments. In addition, these

studies did not track change in outcomes over time, which makes it impossible to rule out the likelihood that observed relations between predictors and outcomes are simply reflecting predictors being correlated with (or even driven by) *baseline* levels of outcomes that then displayed stability over time. Thus, although several lines of research suggest the possibility of a buffering effect of romantic relationship quality, this possibility has yet to be tested via an appropriate prospective design examining independently observable characteristics of both familial adversity and romantic relationships as predictors of relative *changes* in youth adjustment over time.

It is also important to note that romantic relationships typically develop both out of and alongside friendships during adolescence. For youth with both close friends and a romantic relationship, romantic partners are thought to supersede youth's friends in the hierarchy of close relationships (Laursen and Williams 1997). At the same time, evidence suggests that friendships may also serve as potential buffers against prior negative family experiences, at least during early adolescence. For example, friendships protect against internalizing symptoms for early adolescents with low parental support in both intact and divorced families (Gaertner et al. 2010; Rodgers and Rose 2002). Positive friendship quality also attenuates links between negative parenting behaviors and externalizing problems in early adolescence, and predicts greater competence and self-worth for adolescents who experience lower levels of family cohesion and adaptability (Gauze et al. 1996; Lansford et al. 2003). Studies examining the buffering effect of friendships typically utilize longitudinal designs and include both youth and parental reports of their own behavior, providing preliminary support of the hypothesis that early friendships may compensate for poorer early family relationships, at least in the short term. When and how this occurs during the transition to adulthood—and whether friendships have the same buffering effects in early adulthood that have been found earlier in adolescence—has been only minimally explored and conclusions have unfortunately been limited by self-reported relationship quality and individual functioning (Connolly and Johnson 1996; Meeus et al. 2007; Seiffge-Krenke 2003). As such, it remains essential to address hypotheses about the relative contributions of youth's friendships and romantic relationships to resilient outcomes with methods that reduce the potential biases of self-assessments.

The Current Study

The present study used longitudinal, multi-method data to examine the extent to which observed supportive behavior from romantic partners and close friends would serve as

protective factors against negative outcomes during emerging adulthood for youth who experienced high levels of maternal negativity during early adolescence. It was hypothesized that maternal negativity in early adolescence would predict more problematic behavior for youth across a range of outcomes in emerging adulthood. However, it was also hypothesized that support from romantic partners and close friends would buffer against maternal negativity to predict more positive and fewer negative outcomes for youth. Because romantic relationships are thought to become more salient than friendships during the transition to emerging adulthood, buffering effects of romantic support were expected to appear more frequently across outcomes than buffering effects of close friendships. Moreover, significant buffering effects of romantic support and close friend support were expected to emerge even after controlling for earlier levels of individuals' problematic behaviors, lending additional support for these relationships as responsible for resilient outcomes, even after considering effects of baseline functioning. These hypotheses were each considered within a community sample that was followed longitudinally from early adolescence and into emerging adulthood.

Methods

Participants and Procedure

This study is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 97 adolescents (41 male, 56 female), their mothers, best friends, and romantic partners, assessed over a 7-year period. The sample consisted of 52 adolescents who identified themselves as Caucasian, 31 as African–American, 2 as Hispanic/Latino, 2 as Asian American, 9 as mixed ethnicity, and 1 as part of an “other” minority group. Parents of target adolescents reported a median family income in the \$40,000–\$59,999 range ($M = 42.80$, $SD = 22,875$).

Adolescents were first assessed at age 13 ($M = 13.36$, $SD = .65$) in an observed interaction task with their mothers ($n = 88$). At age 13 and 18 ($M = 18.30$, $SD = .99$), teens were asked to nominate their closest, same-gendered friend to be included in the study. Teens provided data and participated in an observed interaction task with their friend at these time ($n_s = 94$ and 83 at ages 13 and 18, respectively). Friends also provided data about teens during this visit. 15 % of participants' closest friends included in the study remained the same from age 13 to age 18. Adolescents reported knowing their closest friend for an average of 7½ years at age 18 ($M = 7.47$, $SD = 4.86$). At age 18 teens were also invited to nominate a romantic

partner of at least 3 months to be included in the study ($n = 97$) with whom they were invited to participate in an observed interaction task ($n = 60$) and completed questionnaires ($n = 97$). Although same-gender relationships were not excluded from the study, no same-gender relationships were reported at this time. Teens reported dating their romantic partner for an average of a little over 1 year ($M = 14.65$ months, $SD = 13.59$) at this time. Follow-up data were obtained at age 20 ($M = 20.75$, $SD = .97$) from participants ($n = 87$) and their closest friends ($n = 75$). Participants reported knowing their closest friend for about 7½ years at this time ($M = 7.54$, $SD = 5.21$). 28 % of participants' closest friends and 11 % of romantic partners remained the same from age 18 to age 20. Adolescents provided informed assent, and their parents provided informed consent before each assessment (until participants were old enough to provide informed consent). The same assent/consent procedures were used for mothers, closest friends, and romantic partners. Interviews took place in private offices within a university academic building. Confidentiality was assured to all study participants and adolescents were told that their parents, friends, and romantic partners would not be informed of any of the answers they provided. Participants' data were protected by a Confidentiality Certificate issued by the U.S. Department of Health and Human Services, which protected information from subpoena by federal, state, and local courts. Transportation and child care were provided if necessary. Adolescents, mothers, closest friends, and romantic partners were all paid for their participation.

Participants included 184 adolescents (86 male, 98 female) recruited from the seventh and eighth grades of a public middle school drawing from suburban and urban populations in the Southeastern United States. Students were recruited via an initial mailing to all parents of students in the school that gave them the opportunity to opt out of further contact with the study ($N = 298$). Only 2 % of parents opted out of such contact. Families were subsequently contacted by phone and 63 % agreed to participate and had an adolescent who was able to participate in the study with a parent and close friend. Siblings of target adolescents and students already participating as a target adolescent's close friend were ineligible for participation.

Attrition Analyses

Attrition analyses indicated that there were no significant differences on any measures collected at age 13 or 18 for participants in the larger study ($n = 184$) without a romantic partner at age 18 as compared to participants with a romantic partner. For the sample of 97 youth assessed for this study, there were no differences on any measures collected at age 13 or 18 for youth based on having versus

missing observational romantic partner data at age 18, observational close friend data at age 18, peer-rated data at age 20, or self-report data at age 20. To best address any potential biases due to attrition in longitudinal analyses, full information maximum likelihood (FIML) methods were used with analyses, including all variables that were linked to missing data (i.e., where data were not missing completely at random). Because these procedures have been found to yield the least biased estimates when all available data are used for longitudinal analyses (vs. listwise deletion of missing data; Arbuckle 1996), the entire sample of 97 youth was utilized for analyses. This sample thus provides the best possible estimates of variances and covariances in measures of interest and was least likely to be biased by missing data. Alternative longitudinal analyses using just those participants without missing data (i.e., listwise deletion) yielded results that were substantially identical to those reported below. Thus, analyses suggest that attrition was not likely to have distorted any of the findings reported.

Measures

Maternal Negativity (Age 13)

Adolescents participated in an observed 8-min Supportive Behavior Task (SBT) with their mother during which they asked for help with a “problem they were having that they could use some advice or support about.” These interactions were coded using the Supportive Behavior Coding System (Allen et al. 2001), which was based on several other similar systems (Crowell et al. 1998; Haynes and Katz 1993; Julien et al. 1997). Behaviors captured in the negativity code have a negative emotional tone and are unpleasant for the adolescent to experience. These behaviors include anger, negative teasing/sarcasm, stonewalling, negative statements of the adolescent, rudeness, and cutting off teens’ speech. Maternal negativity was rated by two trained coders blind to other data in the study on a 0–4 continuum (with half-points allowed); coders’ scores were averaged. Higher scores indicate more overt, sustained, and intense levels of negativity. Interrater reliability on this scale was calculated using the intraclass correlation coefficient (ICC = .73).

Close Friend and Romantic Partner Support (Age 13, Close Friend Only; Age 18, Both Partners)

Behaviors indicating instrumental and emotional support provided by participants’ close friends and romantic partners during a 6-min version of the SBT were coded. Instrumentally supportive behaviors included recognizing that a problem exists, offering a plan for how to help solve

the problem, keeping the conversation directed toward solving the problem, and making a commitment to help solve or find a solution to the problem. Emotionally supportive behaviors included naming and eliciting emotions, sympathizing, validating, and committing to being emotionally available. Close friend and romantic partner support were coded on a 0–4 continuum. Instrumental and Emotional Support scores were combined to yield a single Support score for the individual. Higher support scores indicate the supporter’s greater awareness of the problem and greater attempts to interactively find solutions to the problem (including emotional availability), regardless of the quality of the solutions discussed. Interrater reliability on this scale was calculated using the intraclass correlation coefficient (ICC = .82 for close friends’ instrumental support; .78 for close friend’s emotional support; .92 for romantic partners’ instrumental support; .82 for romantic partners’ emotional support).

Depressive Symptoms (Ages 13, 18 and 20)

Depressive symptoms were assessed using the Child Depression Inventory (age 13; CDI) and Beck Depression Inventory (ages 18 and 20; BDI; Beck and Steer 1987). The CDI is a 27-item inventory based on the Beck Depression Inventory. Each item is rated on a 0–2 scale, with scores summed to yield one total depression score with higher scores indicating more severe depressive symptoms. The CDI has been shown to have high internal consistency, moderate test–retest reliability, good discriminant validity, and correlations with related constructs such as self-esteem, hopelessness, and negative cognitive attributions (Kazdin 1990). The CDI showed excellent internal consistency (Cronbach’s $\alpha = .85$). The BDI is a 21-item self-report inventory designed to assess depressive symptoms in adolescents and adults. Each item is rated on a 0–3 scale, with scores summed to yield one total depression score with higher scores indicating more severe depressive symptoms. The BDI is a well-validated and widely accepted self-report measure of depressive symptomatology (Steer et al. 1985). The BDI uses a continuum/severity versus a threshold approach, recognizing that higher levels of depressive symptoms that do not necessarily meet diagnostic threshold may still be important in predicting future dysfunction (Lewinsohn et al. 2000). The BDI showed excellent internal consistency at participant ages 18 and 20 (Cronbach’s $\alpha = .86$ and $.84$, respectively).

Self-worth (Ages 13, 18 and 20)

Self-perceptions of self-worth were measured using the Adolescent Self-Perception Profile (Harter 1988). This measure requires participants to choose between two

contrasting descriptors and then rate the extent to which their choice is *really true* or *sort of true* about themselves. Responses to five items were scored on a 4-point scale and summed. Higher scores indicate higher levels of self-perceived self-worth. This scale showed good internal consistency at participant ages 13, 18, and 20 (Cronbach's $\alpha = .76, .86, \text{ and } .84$, respectively).

Withdrawn Behavior (Ages 13, 18 and 20)

At age 13, withdrawn behavior was measured using close peers' report of withdrawn behavior from the Pupil Evaluation Inventory (PEIP; Pekarik et al. 1976). This scale consists of 9 items rated on a 3-point scale and summed, with higher scores indicating greater withdrawal behavior. The PEIP has been shown to be reliable and valid in sociometric assessments of children's social behavior (Weintraub et al. 1978). This scale demonstrated good internal consistency (Cronbach's $\alpha = .73$). In late adolescence, withdrawn behavior was assessed using close peers' report of participants' withdrawn behavior from the Adult Behavior Checklist (ABCL; Achenbach and Rescorla 2003). This scale consists of 9 items assessing aspects of social withdrawal on a 3-point scale (summed; with higher scores indicating a greater degree of withdrawn behavior). Sample items include, "would rather be alone than with others," and, "has trouble making or keeping friends." This scale demonstrated good internal consistency at participant ages 18 and 20 (Cronbach's $\alpha = .72 \text{ and } .77$, respectively).

Externalizing Behavior (Ages 13, 18 and 20)

In early adolescence, externalizing behavior was measured using close peers' report of participants' externalizing behavior from the Child Behavior Checklist (CBCL; Achenbach and Edelbrock 1981). The externalizing scale of the CBCL consists of 18 items assessed on a 3-point scale and summed (with higher scores indicating a greater degree of externalizing behavior). This scale demonstrated good internal consistency (Cronbach's $\alpha = .81$). Externalizing behavior in later adolescence was assessed using close peers' report of participants' externalizing behavior from the Adult Behavior Checklist (Achenbach and Rescorla 2003). This scale consists of 36 items assessing aspects of externalizing behavior on a 3-point scale (summed; with higher scores indicating a greater degree of externalizing behavior). Sample items include, "breaks rules at work or elsewhere," "lying or cheating," and, "impulsive and acts without thinking." This scale demonstrated excellent internal consistency at participant ages 18 and 20 (Cronbach's $\alpha = .89 \text{ and } .93$, respectively).

Results

Preliminary Analyses

Means and standard deviations for key variables are presented in Table 1. Initial analyses examined the role of gender and family income in early adolescence on the primary measures examined in the study. These analyses indicated that higher levels of family income in early adolescence were associated with lower levels of maternal negativity. Both variables were retained as covariates in all regression analyses to account for any possible effects that may have not reached conventional levels of statistical significance. Distributional properties of variables were examined for the presence of outliers (defined as observations more than 3 SD away from the sample mean). Outliers were retained in the data set but trimmed by reducing scores to a value that was 3 SD from the sample mean. For descriptive purposes, Table 1 also presents simple correlations among all constructs examined in the study. These analyses show a lack of direct connections between early maternal negativity, friend support, and romantic partner support and markers of functioning in early adulthood. These analyses also show that many of the indices of young adult adjustment were only modestly correlated with one another, suggesting that they provide relatively independent assessments of links between aspects of teens' relationships examined and domains of functioning in emerging adulthood.

Primary Analyses

A five-step hierarchical approach, using Mplus (v. 6) and FIML handling of missing data, was used for the assessment of each outcome. Analyses were designed to assess the extent to which future levels of adjustment could be predicted by relationship variables after controlling for earlier levels of adjustment. This approach of predicting the future level of a variable while accounting for predictions from an initial level (i.e., stability) yields one marker of change in that variable: increases or decreases in its final state relative to predictions based on initial levels (Cohen and Cohen 1983). In the first step of analyses, adolescent gender and early family income were entered as predictors. The second step included age 13 and age 18 measures of the outcomes being predicted at age 20. In the third step, maternal negativity at age 13 was entered. The fourth step included close friends' support at age 13 and 18 and romantic partners' support at age 18. The fifth step included the interaction between maternal negativity and close friends' support (at 13 and 18) and the interaction between maternal negativity and romantic partners' support (at 18).

Table 1 Univariate statistics and intercorrelations among primary constructs

	1	2	3	4	5	6	7	8	9	10
1. Gender	–									
2. Income	–.05	–								
3. Maternal negativity (13)	–.17	–.28**	–							
4. Friend support (13)	–.03	.09	–.14	–						
5. Friend support (18)	–.01	.34**	.01	.01	–					
6. Romantic support (18)	–.07	.07	.01	.14	.39**	–				
7. Depressive symptoms (20)	–.01	.03	.10	–.06	–.02	–.10	–			
8. Self-worth (20)	.15	–.08	–.20	–.04	–.05	.02	–.67***	–		
9. Withdrawn (20)	.08	–.03	.04	–.09	–.22	–.15	.16	–.06	–	
10. Externalizing (20)	–.05	.09	.20	–.04	–.04	–.13	–.07	–.04	.51***	–
Mean	–	43,100	.31	2.86	2.90	2.97	5.42	16.43	1.52	10.43
Standard deviation	–	22,900	.50	1.62	1.09	1.46	5.90	3.14	1.98	9.37

Gender coded as: 1 = males, 2 = females

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

All moderating effects were obtained by creating interaction terms based on the product of the standardized ($M = 0$, $SD = 1$) main effect variables.

General Pattern of Results

Analyses revealed a consistent interaction effect across regression analyses for all outcomes. This interaction showed that youth who experienced greater maternal negativity at age 13 were less likely to experience a relative increase in negative symptomology at age 20 when they had higher romantic support at age 18 as compared to lower romantic support. These interactions are presented in Table 2 and visually represented in Figs. 1 and 2. Moreover, there was an absence of direct effects from support from friends or romantic partners to age 20 outcomes. Specific results for each outcome are presented below.

Depressive Symptoms at Age 20

Analyses presented in Table 2 indicate that after controlling for gender, income, and age 13 and 18 depressive symptoms, maternal negativity predicted a relative increase in depressive symptoms at age 20 in the final model. However, this main effect was subsumed by a significant ($\beta = -.44$, $p \leq .01$) interaction between maternal negativity and romantic partner support. As seen in Fig. 1, this interaction showed that youth who experienced greater maternal negativity at age 13 were less likely to experience a relative increase in depressive symptoms when they had higher romantic support at age 18 as compared to lower romantic support. Post-hoc tests of the simple slopes of the interaction indicated that maternal negativity was not associated with a relative change in depressive symptoms

for youth with higher romantic support ($\beta = -.16$, ns), but that maternal negativity was associated with a relative increase in depressive symptoms for youth with lower romantic support ($\beta = .78$, $p \leq .001$). The interactions between maternal negativity and close friend support were not significant.

Self-worth at Age 20

Table 2 shows that after controlling for gender, income, and age 13 and 18 self-worth, maternal negativity predicted a relative decrease in self-worth at age 20 in the final model. This main effect was also subsumed by a significant ($\beta = .36$, $p \leq .01$) interaction between maternal negativity and romantic partner support. As shown in Fig. 1, this interaction indicated that youth who experienced greater maternal negativity at age 13 were less likely to report a relative decrease in self-worth when they had higher romantic support at age 18 as compared to lower romantic support. Post-hoc tests of the simple slopes of the interaction indicated that maternal negativity was not associated with a relative change in self-worth for youth with higher romantic support ($\beta = -.02$, ns), but that maternal negativity was associated with a relative decrease in self-worth for youth with lower romantic support ($\beta = -.79$, $p \leq .001$). The interactions between maternal negativity and close friend support were not significant.

Peer-Rated Withdrawn Behavior at Age 20

Analyses presented in Table 2 indicate that after controlling for gender, income, and age 13 and 18 peer-rated withdrawn behavior, there was a significant ($\beta = -.59$, $p \leq .001$) interaction between maternal negativity and

Table 2 Predicting relative change in outcome variables from maternal negativity interacting with close friend and romantic partner support

	Depressive symptoms (20)					Self-worth (20)					Peer-rated withdrawal (20)					Peer-rated externalizing (20)				
	β entry	β final	ΔR^2	R^2		β entry	β final	ΔR^2	R^2		β entry	β final	ΔR^2	R^2		β entry	β final	ΔR^2	R^2	
Step 1			.00	.03										.01						.01
Gender	-.01	-.02			.15	.13				.08	.17					-.05	.03			
Income	.03	-.02			-.07	-.04				-.04	-.07					.09	.04			
Step 2			.06	.16*				.13**	.16*				.04	.05				.17**	.18*	
Age 13 outcome	.10	.06			.01	.00				.15	.10					.15	.12			
Age 18 outcome	.20	.23*			.37***	.47***				.11	.16					.39***	.37**			
Step 3			.02	.21*				.05*	.21*				.00	.05				.01	.19*	
Maternal Negativity (13)	.15	.31**			-.25*	-.40***				.06	.07					.14	.21			
Step 4			.01	.22**				.01	.22**				.00	.05				.04	.23**	
Friend support (13)	-.08	-.05			-.06	-.20				-.05	-.18					.16	.06			
Friend support (18)	-.06	-.04			-.08	-.14				-.20	.01					-.01	.07			
Romantic support (18)	-.07	-.21			.11	.27				-.09	-.22					-.14	-.22			
Step 5			.16*	.35***				.13*	.35***				.22*	.33**				.07	.30**	
Maternal negativity (13) × friend support (13)	.03	.03			-.07	-.07				-.17	-.17					-.09	-.09			
Maternal negativity (13) × friend Support (18)	-.04	-.04			.05	.05				.56***	.56***					.25	.25			
Maternal Negativity (13) × Romantic support (18)	-.44**	-.44**			.36*	.36*				-.59***	-.59***					-.39*	-.39*			

Gender coded as: 1 = males, 2 = females
 * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

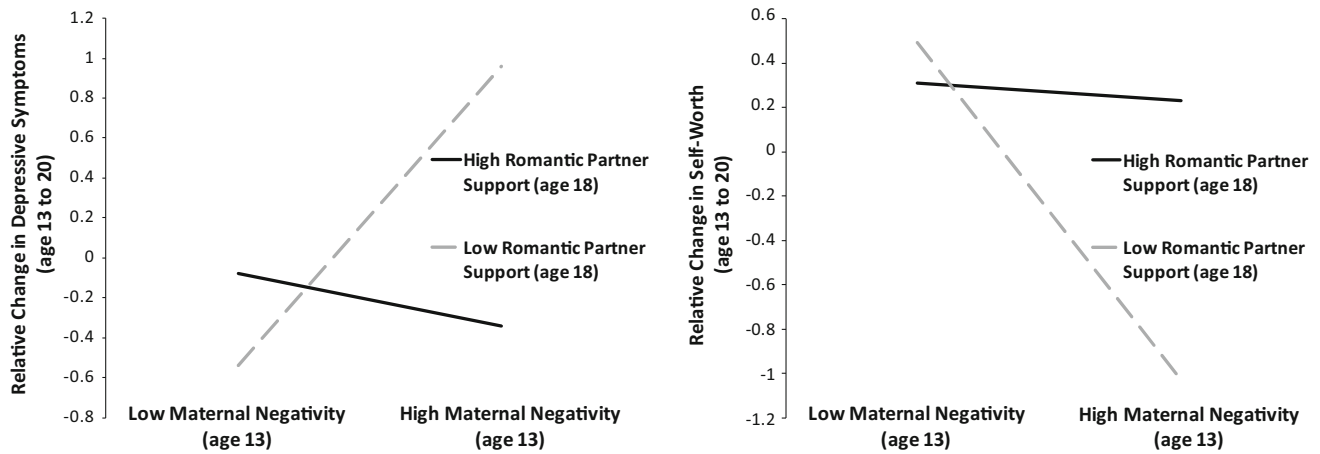


Fig. 1 Interaction of maternal negativity and romantic partner support predicting relative change in youth’s self-reported depressive symptoms and self-worth (all measures standardized). High and low values of constructs represent scores 1 SD above and below the mean, respectively

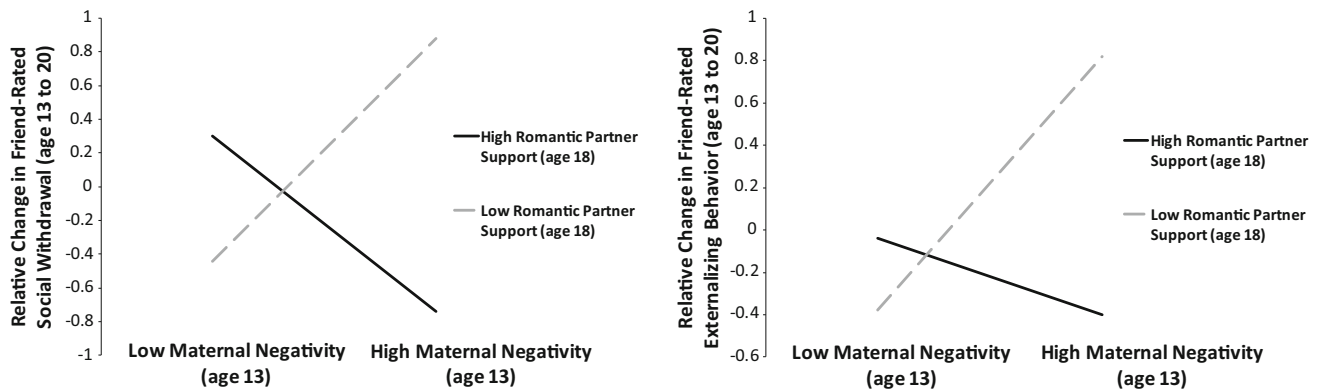


Fig. 2 Interaction of maternal negativity and romantic partner support predicting relative change in youth’s peer-rated withdrawal behavior and peer-rated externalizing behavior (all measures

standardized). High and low values of constructs represent scores 1 SD above and below the mean, respectively

romantic partner support. As seen in Fig. 2, this interaction showed that youth who experienced greater maternal negativity at age 13 were less likely to experience a relative increase in withdrawn behavior when they had higher romantic support at age 18 as compared to lower romantic support. Post-hoc tests of the simple slopes of the interaction indicated that maternal negativity was not associated with a relative change in withdrawn behavior for youth with higher romantic support ($\beta = -.22$, ns), but that maternal negativity was associated with a relative increase in withdrawn behavior for youth with lower romantic support ($\beta = .68$, $p \leq .01$). There was also a significant interaction between maternal negativity and close friend support at age 18 ($\beta = .56$, $p \leq .001$). This interaction showed that greater friend support predicted a relative increase in withdrawal behavior for youth experiencing early maternal negativity relative to receiving lower levels of friend support (see Fig. 3).

Peer-rated Externalizing Behavior at Age 20

Analyses presented in Table 2 show that after controlling for gender, income, and age 13 and 18 peer-rated externalizing behavior, there was a significant ($\beta = -.39$, $p \leq .01$) interaction between maternal negativity and romantic partner support. As seen in Fig. 2, this interaction showed that youth who experienced greater maternal negativity at age 13 were less likely to experience a relative increase in externalizing behavior when they had higher romantic support at age 18 as compared to lower romantic support. Post-hoc tests of the simple slopes of the interaction indicated that maternal negativity was not associated with a relative change in externalizing behavior for youth with higher romantic support ($\beta = -.21$, ns), but that maternal negativity was associated with a relative increase in externalizing behavior for youth with lower romantic support ($\beta = .61$, $p \leq .01$). The interaction between

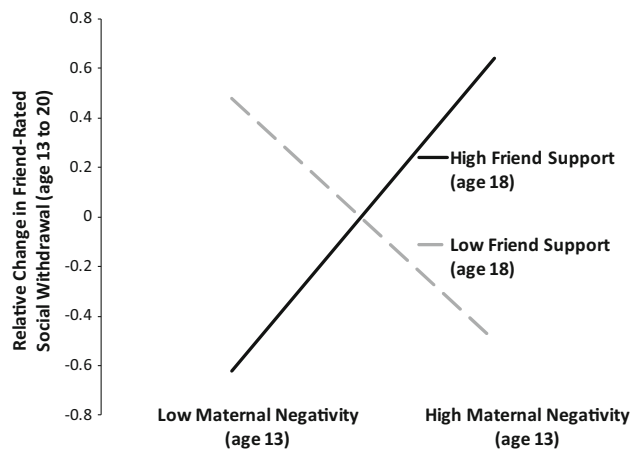


Fig. 3 Interaction of maternal negativity and friend support predicting relative change in youth's peer-rated withdrawal behavior (all measures standardized). High and low values of constructs represent scores 1 SD above and below the mean, respectively

maternal negativity and close friend support was not significant.

Discussion

Teens who receive negativity from their parents during early adolescence experience increased risk for psychological maladjustment in late adolescence and early adulthood (Stocker et al. 2007). Theories of resilience suggest that subsequent exposure to more positive social relationships may help counteract the effects of such negativity by helping individuals develop more adaptive models of the self and others (Werner and Smith 1992, 2001). Although friends and romantic partners both represent possible catalysts for such adaptive emotional reorganization, friends' influence typically peaks in early to mid-adolescence and romantic partners become more meaningful sources of support during later adolescence (Meeus et al. 2007). Romantic relationships may be a particularly critical context for such emotional qualitative shifts, as these relationships are thought to develop into attachment relationships during late adolescence and early adulthood, potentially offering youth opportunities for greater intimacy and support (Markiewicz et al. 2006). Nevertheless, the relative abilities of supportive friends and romantic partners during different stages of adolescence to counteract negative effects from early maternal negativity remains uncertain, though critical for advancing understanding of how such relationships might promote resiliency for adolescents at specific times in their life. Romantic relationships in particular have often been associated with negative outcomes for youth, and this study sought to specify at least one possible condition under

which such relationships might afford youth sustained benefits.

In support of these ideas, this study found that receiving support from a romantic partner during the transition to emerging adulthood was found to serve a protective function across a variety of psychosocial outcomes for young adults who experienced maternal negativity in early adolescence. Romantic support in this context was a significant predictor of more adaptive individual functioning even after accounting for initial levels of functioning and levels of support received from a close friend. Support from close friends rarely protected against maternal negativity, suggesting the relatively more important role that romantic relationships may play for predicting future behavior during the transition to adulthood for young adults who maintain both friendships and romantic relationships during this time (Markiewicz et al. 2006). Although maternal negativity emerged as a direct predictor of future negative outcomes for youth in a few domains, it emerged consistently as a risk factor for relative declines in youth adjustment primarily for individuals lacking support in their romantic relationships. Each of these findings, along with their limitations, is discussed in turn below.

Young adults who experienced maternal negativity in early adolescence, but who received greater support from their romantic partner at age 18, reported relatively lower levels of depressive symptoms, withdrawn behavior, and externalizing behavior, as well as higher levels of self-worth, at age 20 as compared to young adults who had previously received lower levels of support from romantic partners. It is noteworthy that maternal negativity in this study was assessed in the context of a task intended to capture supportive behavior. It is possible that adolescents who experience negativity in response to seeking maternal support begin to discount their mothers' ability to provide positive support and begin to consider peer relationships as viable alternative resources (Fuhrman and Holmbeck 1995). Evidence suggests that adolescents normatively begin to turn more often to both peer and romantic partners to fulfill attachment needs, and it is possible that such bids would be increased for youth with poorer parental relationships (Markiewicz et al. 2006). Notably, this research also found that older adolescents with both friends and romantic partners tended to turn to romantic partners more often than to friends or parents. This may be a function of increased self-disclosure to romantic partners during adolescence and into young adulthood relative to friends (Kito 2005), resulting in romantic partners being optimally positioned to know and understand teens' concerns as compared to others. Romantic partners may also be more motivated than others to support teens in late adolescence because of their own investment in the quality of the relationship, which may suffer if youth's needs are not

attended to. Perceptions of partners' use of relationship maintenance strategies such as positivity (which included supportive behaviors) was linked to increased attractiveness of the partner, suggesting that efforts by partners to support teens may result in enhanced relationship quality (Stafford and Canary 1991). Additionally, the likely relative brevity of the romantic relationship (Zimmer-Gembeck 2002), as compared to the duration of parental or close friend relationships at this age, may serve as an advantage to romantic partners, who may be less weighed down by past negative experiences with their partners, or by extended exposure to their partner's problematic family backgrounds. Late adolescents, in turn, may also be more motivated to accept the support and advice of a romantic partner, as compared to a parent or a close friend, out of a desire to maintain a relatively newly formed but intensely interesting relationship.

There was less evidence to suggest the positive buffering potential of supportive friendships. In this study, greater support from a close friend at age 18 paradoxically predicted a relative increase in peer-rated withdrawal for youth experiencing greater maternal negativity. This stands in contrast to previous research linking support from friends, at least in early adolescence, to more positive outcomes after exposure to negative familial experiences (Gaertner et al. 2010; Lansford et al. 2003). One possibility is that such teens may be perceived (by their friend, notably) as withdrawing from the larger peer group as they begin turning more to their romantic partners. Research has shown that adolescents begin to limit the time they spend with friends in order to nurture developing romantic relationships (Aneshensel and Gore 1991), suggesting that such perceived withdrawal might be a function of the presence of a romantic partner, regardless of the supportiveness of the friend. However, positive qualities of adolescent peer relationships are also predictive of positive romantic partner qualities (Connolly et al. 2000), indicating that teens with supportive friends are also likely to have supportive partners. Thus, to the extent that teens do turn to such supportive romantic partners more often, they may be perceived as more socially withdrawal from (and by) peers. Still, more research is clearly needed to replicate and better understand this finding.

It should be noted that, although strengthened by a longitudinal and multi-method design, results from this study cannot be used to draw causal conclusions about romantic partners or close friends as predictors of resilient outcomes. The moderating effects described in this study help identify conditions under which resilience against maternal negativity may occur, but do not provide specific information regarding the mechanisms by which such outcomes may be expected. Nevertheless, our hypotheses regarding the role of romantic partners and close friends in

predicting resilient outcomes were bolstered by the inclusion of assessments of initial functioning in analyses, suggesting that resilient outcomes cannot simply be attributed to higher initial levels of functioning that lead to both selection of supportive partners and higher later levels of functioning. Correlations also indicated that neither friend support nor romantic support were related to initial levels of youth functioning at age 18, further suggesting that it was also not likely that better functioning youth simply selected more supportive friends or partners.

This study was limited by its relatively small sample, which reflected the difficulty of prospectively following a sample of which only a subset would be in a significant romantic relationship (i.e., 3 months or longer in this study) during the transition to emerging adulthood, with both partners willing to participate in the study. This sample size resulted in limited power to detect interaction effects, and in particular to draw any conclusions about null effects found with respect to close friendships. Future research would benefit from examining support from both romantic partners and friends at multiple times during the transition to emerging adulthood to better determine if the developmental timing of these relationships may be critical to their buffering effects. Additionally, it should be noted that this study assessed only one specific risk factor, maternal negativity in the context of adolescent support-seeking, for negative youth outcomes. It is possible that the buffering effects observed in this study are specific to support seeking and may not translate to other types of adversity experienced by youth earlier in development. Despite these limitations, these results nevertheless imply that support received within romantic relationships, may play important roles for youth adjustment during the transition to emerging adulthood for youth who experience earlier familial adversity.

Conclusion

Overall, one of the most important conclusions that can be drawn from these findings is that maternal negativity experienced during early adolescence may not be necessarily prognostic of negative future outcomes as suggested by previous research (Kim et al. 1999; Stocker et al. 2007; Yap et al. 2010), but perhaps instead better understood as a risk factor that can be exacerbated by or, perhaps more critically, ameliorated by adolescent romantic relationship quality. Such potential for amelioration offers new support for foundations of resilience and potential in adolescent and emerging adult development with respect to prior familial adversity (Luthar et al. 2000). It suggests that the adaptational state of the late adolescent potentially remains plastic and highly sensitive to recent and current

relationship experiences (Steinberg 2009), and that such sensitivity may permit for positive reorganization of mental models of the self and others, resulting in more positive future psychosocial outcomes. Romantic relationships, often to this point considered more for their potential to prompt negative social and emotional outcomes (Stroud and Davila 2008; Zimmer-Gembeck et al. 2001), may now be viewed with a greater degree of complexity with regard to their value for adolescent development. This study offers further evidence that such relationships, often times considered relatively unimportant and fleeting by adults, may play a major role in helping to redirect adolescents away from negative outcomes predicted by earlier experiences and toward a trajectory of more positive individual adjustment via romantic partner support.

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Authors' Contributions DS: conceived of the study, performed the statistical analysis, and drafted the manuscript. EH: participated in data interpretation and coordination of the study. JA: conceived of the study, participated in design and data interpretation, and helped to draft the manuscript. All authors read and approved the final manuscript.

Conflict of interest The authors report no conflicts of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study. Adolescents provided informed assent, and their parents provided informed consent before each assessment (until participants were old enough to provide informed consent). The same assent/consent procedures were used for mothers, best friends, and romantic partners.

References

- Achenbach, T. M., & Rescorla, L. A. (2003). *Manual for the ASEBA adult forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Allen, J. P., Hall, F. D., Insabella, G. M., Land, D. J., Marsh, P. A., & Porter, M. R. (2001). *Supportive behavior coding system*. Unpublished manuscript. Charlottesville: University of Virginia.
- Aneshensel, C. S., & Gore, S. (1991). Development, stress, and role restructuring. In J. Eckenrode (Ed.), *The social context of coping* (pp. 55–77). Springer.
- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. *Advanced Structural Equation Modeling: Issues and Techniques*, 243, 277.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469–480.
- Beck, A. T., & Steer, R. A. (1987). *Beck depression inventory manual*. New York: Psychological Corporation.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development*, 71(5), 1395–1408.
- Connolly, J. A., & Johnson, A. M. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships*, 3(2), 185–195.
- Crowell, J., Pan, H., Goa, Y., Treboux, D., O'Connor, E., & Waters, E. B. (1998). *The secure base scoring system for adults: Version 2.0*. Stonybrook, NY: State University of New York at Stonybrook.
- Dinero, R. E., Conger, R. D., Shaver, P. R., Widaman, K. F., & Larsen-Rife, D. (2011). Influence of family of origin and adult romantic partners on romantic attachment security. *Couple and Family Psychology: Research and Practice*, 1, 16–30.
- Fuhrman, T., & Holmbeck, G. N. (1995). A contextual-moderator analysis of emotional autonomy and adjustment in adolescence. *Child Development*, 66(3), 793–811.
- Furman, W., Simon, V. A., Shaffer, L., & Boucheay, H. A. (2002). Adolescents' working models and styles for relationships with parents, friends, and romantic partners. *Child Development*, 73(1), 241–255.
- Gaertner, A. E., Fite, P. J., & Colder, C. R. (2010). Parenting and friendship quality as predictors of internalizing and externalizing symptoms in early adolescence. *Journal of Child and Family Studies*, 19(1), 101–108.
- Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during early adolescence. *Child Development*, 67(5), 2201–2216.
- Harter, S. (1988). *Manual for the self-perception profile for adolescents*. Denver, CO: University of Denver.
- Haynes, C., & Katz, L. F. (1993). *The asset coding manual: Adolescent social skills evaluation technique*. Unpublished manuscript. Seattle: University of Washington.
- Julien, D., Markman, H., Lindahl, K., Johnson, H., Van Widenfelt, B., & Herskovitz, J. (1997). *The interactional dimensions coding system*. Unpublished manuscript. University of Denver.
- Kazdin, A. E. (1990). Childhood depression. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 31(1), 121–160.
- Kim, J. E., Hetherington, E. M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalizing behaviors: Gender and family type differences. *Child Development*, 70(5), 1209–1230.
- Kito, M. (2005). Self-disclosure in romantic relationships and friendships among American and Japanese college students. *The Journal of Social Psychology*, 145(2), 127–140.
- Lansford, J. E., Criss, M. M., Pettit, G. S., Dodge, K. A., & Bates, J. E. (2003). Friendship quality, peer group affiliation, and peer antisocial behavior as moderators of the link between negative parenting and adolescent externalizing behavior. *Journal of Research on Adolescence*, 13(2), 161–184.
- Laursen, B., DeLay, D., & Adams, R. E. (2010). Trajectories of perceived support in mother-adolescent relationships: The poor (quality) get poorer. *Developmental Psychology*, 46, 1792–1798.
- Laursen, B., & Williams, V. A. (1997). Perceptions of interdependence and closeness in family and peer relationships among adolescents with and without romantic partners. *New Directions for Child and Adolescent Development*, 1997(78), 3–20.
- Lewinsohn, P. M., Solomon, A., Seeley, J. R., & Zeiss, A. (2000). Clinical implications of “subthreshold” depressive symptoms. *Journal of Abnormal Psychology*, 109(2), 345–351.

- Luthar, S. S., Cicchetti, D., & Baker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543–562.
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*, 921–930.
- Masten, A. S. (2015). *Ordinary magic: Resilience in development*. New York City, NY: Guilford Press.
- Masten, A. S., Burt, K. B., Roisman, G. I., Obradović, J., Long, J. D., & Tellegen, A. (2004). Resources and resilience in the transition to adulthood: Continuity and change. *Development and Psychopathology, 16*, 1071–1094.
- Meeus, W. H. J., Branje, S. J. T., van der Valk, I., & de Wied, M. (2007). Relationships with intimate partner, best friend, and parents in adolescence and early adulthood: A study of the saliency of the intimate partnership. *International Journal of Behavioral Development, 31*, 569–580.
- Pekarik, E. G., Prinz, R. J., Liebert, D. E., Weintraub, S., & Neale, J. M. (1976). The pupil evaluation inventory: A sociometric technique for assessing children's social behavior. *Journal of Abnormal Child Psychology, 4*, 83–97.
- Quinton, D., Pickles, A., Maughan, B., & Rutter, M. (1993). Partners, peers, and pathways: Assortative pairing and continuities in conduct disorder. *Development and Psychopathology, 5*, 763–783.
- Rodgers, K. B., & Rose, H. A. (2002). Risk and resiliency factors among adolescents who experience marital transitions. *Journal of Marriage and Family, 64*(4), 1024–1037.
- Rutter, M. (1996). Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-adulthood. *International Journal of Behavioral Development, 19*, 603–626.
- Seiffge-Krenke, I. (2003). Testing theories of romantic development from adolescence to young adulthood: Evidence of a developmental sequence. *International Journal of Behavioral Development, 27*(6), 519–531.
- Seiffge-Krenke, I., Overbeek, G., & Vermulst, A. (2010). Parent-child relationship trajectories during adolescence: Longitudinal associations with romantic outcomes in emerging adulthood. *Journal of Adolescence, 33*, 159–171.
- Stafford, L., & Canary, D. J. (1991). Maintenance strategies and romantic relationship type, gender and relational characteristics. *Journal of Social and Personal Relationships, 8*(2), 217–242.
- Steer, R. A., Beck, A. T., & Garrison, B. (1985). Applications of the beck depression inventory. In N. Sartorius & T. A. Ban (Eds.), *Assessment of depression* (pp. 121–142). New York: Springer.
- Steinberg, L. (2009). Should the science of adolescent brain development inform public policy? *American Psychologist, 64*(8), 583–594.
- Stocker, C. M., Richmond, M. K., Rhoades, G. K., & Kiang, L. (2007). Family emotional processes and adolescents' adjustment. *Social Development, 16*, 310–325.
- Stroud, C. B., & Davila, J. (2008). Pubertal timing and depressive symptoms in early adolescents: The roles of romantic competence and romantic experiences. *Journal of Youth and Adolescence, 37*, 953–966.
- van Dulmen, M. H. M., Goncy, E. A., Haydon, K. A., & Collins, W. A. (2008). Distinctiveness of adolescent and emerging adult romantic relationship features in predicting externalizing behavior problems. *Journal of Youth and Adolescence, 37*, 336–345.
- Weintraub, S., Prinz, R. J., & Neale, J. M. (1978). Peer evaluations of the competence of children vulnerable to psychopathology. *Journal of Abnormal Child Psychology, 6*(4), 461–473.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.
- Werner, E. E., & Smith, R. S. (2001). *Journeys from childhood to midlife: Risk, resilience, and recovery*. Ithaca, NY: Cornell University Press.
- Yap, M. B. H., Schwartz, O. S., Byrne, M. L., Simmons, J. G., & Allen, N. B. (2010). Maternal positive and negative interaction behaviors and early adolescents' depressive symptoms: Adolescent emotion regulation as a mediator. *Journal of Research on Adolescence, 20*, 1014–1043.
- Zimmer-Gembeck, M. J. (2002). The development of romantic relationships and adaptations in the system of peer relationships. *Journal of Adolescent Health, 31*(6), 216–225.
- Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2001). Diverse aspects of dating: Associations with psychosocial functioning from early to middle adolescence. *Journal of Adolescence, 24*, 313–336.

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