ORIGINAL ARTICLE

Marta, 1997; Williams & Steinberg, 2011

on adolescent self-reported measures, parental attachment negatively correlated with adolescent depression and conduct problems. Further, parental attachment attenuated the tgncvkqpujkr"dgvyggp"hcmok{"eqpﬂkev"cpf"cfqnguegpv"eqpfwev" problems. Likewise, in a three-year longitudinal study with 3576"ugtkqwu"cfqnguegpv"oﬀgpfgtu"uvctvkpi"htqo"yjgp"vjg" adolescents were 16 years of age, Williams & Steinberg (2011) demonstrated how parent-adolescent relationship quality could predict adolescent well-being. Adolescent well-being was measured by increased prosocial maturity, academic orientation, and decreased internalized stress and delinquency. As expected, positive adolescent development was facilitated by high parental warmth and low parental hostility.

Whereas it seems apparent that relationship quality with parents positively associates with adolescent adjustment, hgy"uvwfkgu"fkﬀgtgpvkcvgf"dgvyggn"ocvgtpcn"cpf"rcvgtpcn" relationships. Noted exceptions included a study by Di Maggio & Zappulla (2014),

who studied how maternal and paternal acceptance and strictness related to Italian adolescents' internalizing and externalizing problem behaviors and life satisfaction. Using self-reports gathered from 213 adolescents aged between 14 and 16 years, Di Maggio & Zappulla (2014) found that for boys, maternal and paternal strictness negatively correlated with behavioral problems and positively related to general satisfaction. For girls, paternal acceptance negatively related to adolescent girls' internalizing and externalizing behavioral problems and maternal acceptance positively related to adolescent girls' life satisfaction.

Rosnati & Marta (1997+"cnuq"tgxgcngf"fkﬀgtgpegu" between how mother-child and father-child communication associated with adolescent adjustment in a study of 16- to 19-year-olds from adoptive and non-adoptive homes in Italy. Adolescents and their parents completed questionnaires that assessed parent-adolescent communication and support. The adolescents in addition answered questions that measured self-esteem, peer relationship quality, and academic achievement in the past year. Rosnati and Marta found that in non-adoptive families, adolescent psychosocial adjustment (i.e., higher self-esteem, friendship satisfaction, and educational success) was determined more by father-child communication quality than by mother-child communicavkqp"swcnkv{0"Urgekﬁecnn{."dgvvgt"hcvjgt/ejknf"eqooowpkecvkqp" predicted lower maladjustment in adolescents, but mother-

vjg"kfgpvkv{"xgtuwu"kfgpvkv{"eqphwukqp"eqpłkev"dghqtg"vjg{"
can progress successfully into the next psychosocial stage.
To do so, adolescents need to establish a sense of self by
gzrgtkogpvkpi"ykvj"fk gtgpv"tqngu0"Fwtkpi"vjku"rgtkqf"vjgn."
gxgp" vjqwij" rctgpvcn" kpłwgpeg" tgockpu" eqpugswgpvkcn."
other factors outside the family-such as peer relationship-
become more important. Empirical research (e.g., Formoso
et al., 2000; Hay & Ashman, 2003+"vgpfu"vq"eqpł o "vjcv"hqt"
{qwpigt"cfqnguegpvu."rctgpvu"ctg oqtg"kpłwgpvkcn"eq o rctgf"
to peers; for older adolescents, the pattern reverses.

As previously described, Formoso and colleagues (2000)
examined whether maternal, paternal, and peer attachment
okvkicvgf"vjg"g gevu"qh"hc o kn{"eqpłkev"kp"c"uc o rng"qh"{qwpi"

Table 1 Final Study Sample Descriptive Statistics (N = 929)

		%	Mean ( )
Site			
East	187	20.5	
Midwest	176	19.3	
Northwest	181	19.8	
South	166	18.2	
Southwest	203	22.2	
Sex			
Female	426	50.8	
Male	413	49.2	
Race/Ethnicity			
Black	458	54.6	
Hispanic	59	7.0	
Other	112	13.3	
White	210	25.0	
Household Annual Income			
< $20,000	366	41.4	
≥ $20,000	516	58.6	
Maltreatment Through 14 Years			
No	289	31.1	
Yes	640	68.9	
Maternal Relationship Quality			4.20 (.70)
Paternal Relationship Quality			4.01 (.84)
Peer Popularity			2.96 (.93)
CBCL Internalizing Problems			50.32 (11.48)
CBCL Externalizing Problems			54.69 (11.80)
CBCL Total Problems			53.02 (12.28)

M .,

Sample and Procedure

This is a secondary data analysis of the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN), a consortium of studies initiated in 1991 that aimed to study the antecedents and consequences of child maltreatment. LONGSCAN kpxqnxgu"Łxg"fcvc"eqnngevkqp"ukvgu"*k0g0."Gcuv."Okfyguv."Pqtvjwest, South, and Southwest) spread across the U.S. with a coordinating center at the University of North Carolina in Chapel Hill (see Runyon et al., 1998 for more details about the study design). LONGSCAN samples were selected to represent varying levels of exposure to child maltreatment,

but the vast majority came from impoverished backgrounds. Vjg"Łxg"ukvgu"fk gtgf"kp"jqy"vjg{"tgetwkvgf"cv"tkum"cpf"eqptrol children. For example, children in the East site were selected from three pediatric clinics in low-income, inner-city neighborhoods. At risk children either exhibited inadgswcvg"itqyvj"kp"vjg"Łtuv"vyq"{gctu"qt"jcf"c"rctgpv"yjq" was HIV positive or reported drug use; children in the control group had no other risk factor aside from family low income. Comprehensive assessments of children, parents, and teachers began when the children were about 4 years old and occurred every two years thereafter at child ages 6, 8, 12, 14, 16, and 18. The data collection is ongoing. Data regarding child maltreatment were also regularly collected htqo"q ekcn"Ejknf"Rtqvgevkxg"Ugtxkegu"*ERU+"tgeqtfu0

For this study, independent and dependent variables were chosen from child 14-year visit data to represent middle adolescence. Of the 1354 children in the original LONGSCAN, 930 (68.7%) had complete data on all dependent variables and were selected as study participants. There were no fk gtgpegu"dgvyggp"vjg"ugngevgf"cpf"wpugngevgf"cfqnguegpvu" in terms of gender and total family income. Black adolescents, however, were more likely than White, Hispanic, and qvjgt"cfqnguegpvu"vq"dg"ugngevgf."χ^2 (3, = 1224) = 12.64, = .005. In addition, selected adolescents were less likely than unselected adolescents to have a CPS maltreatment tgeqtf"rtkqt"vq"cig"36."χ^2 (1, = 1354) = 6.99, = .008. Finally, one adolescent's data were excluded because they ygtg"c o wnvkxctkcvg"qwvnkgt."ngcxkpi"c"Łpcn"ucorng"qh";4;"hqt" the study. Table 1 eqpvckpu"vjg"Łpcn"ucorng"fguetkrvkxg"uvctistics and Table 2 presents the bivariate correlation matrix of the study's independent and dependent variables.

Measures

Indicator and Demographic Variables

Vjgug"xctkcdngu"ygtg"eqnngevgf"htqo"yjgp"vjg"ejknftgp"Łtuv" entered LONGSCAN at the age 4 assessment time point. The indicator variable was the data collection site: Even vjqwij"vjg"Łxg"fcvc"eqnngevkqp"ukvgu"ujctgf"ocp{"eqomon assessment measures and data collection methods and

Table 2 Bivariate Correlation Matrix of the Study's Independent and Dependent Variables

	1	2	3	4	5	6
1. Maternal Relationship Quality	1					
2. Paternal Relationship Quality	0.43**	1				
3. Peer Popularity	0.01	0.13*	1			
4. CBCL Internalizing Problems	− 0.19**	− 0.17**	− 0.17**	1		
5. CBCL Externalizing Problems	− 0.25**	− 0.18**	− 0.22*	0.71**	1	
6. CBCL Total Problems	− 0.22**	− 0.17**	− 0.25**	0.88**	0.92**	1

* < .05

** < .01

e-tailed

13

schedules, each site was unique in sample selection criteria and additional supplementary measures (Larrabee & Lewis, 2020). The varied sample selection criteria resulted kp"u{uvgocvkecnn{"fk gtgpv"ngxgnu"qh"cevwcn"qt"tkum"hqt"ejknf" maltreatment. For example, the East and Midwest sites both included neighborhood controls without any reports of child maltreatment at the outset; the Southwest site, on the other hand, contained all maltreated children who were in out-of-home care from the beginning. Demographic variables included adolescent sex and race/ethnicity. Race/ethnicity variable was recoded to represent Black, White, Hispanic adolescents and an "Other" category combining Asians, Native Americans, and adolescents of mixed race/ethnic backgrounds.

Control Variables

The following two variables were chosen as controls: family income at child aged 14 and child maltreatment history through 14 years. Family income was chosen as a control variable because lower family income has been shown to cuuqekcvg"ykvj"oqtg"goqvkqpcn"fk ewnvkgu"hqt"cfqnguegpvu" (e.g., Langton et al., 2011) and improved family income predicted a decline in adolescent behavioral problems (e.g., McKinney 2002). Child maltreatment history, on the other hand, has been consistently shown to correlate with increased adolescent behavioral problems (e.g., Allen et al., 2021; Ford et al., 2018; Milojevich et al., 2018).

. Caregivers estimated their family's total annual income on a scale of 1 to 12 at the adolescent's 14-year visit: 1 is less than $5000; 2 is $5,000–$9,999; 3 is $10,000–$14,999; 4 is $15,000–$19,999; 5 is $20,000–$24,999; 6 is $25,000–$29,999; 7 is $30,000–$34,999; 8 is $35,000–$39,999; 9 is $40,000–$44,999; 10 is $45,000–$49,999; 11 is more than $50,000; and 12 is unknown. For simplicity's sake and following Dubowitz et al., (2016), household annual income was recoded into a dichotomous variable of either 0 (below $20,000) or 1 (at or above $20,000), approximating a median split.

LONGSCAN col-ngevgf"q ekcn"tgeqtfu"qh"ejknf"ocnvtgcvogpv"tgrqtvu"vq"ERU" on the participating child (regardless of whether the report was substantiated or not). This control variable was also recoded into a dichotomous variable of 0 and 1: 0 means that there was no such report through age 14 years and 1 means that there was at least one report. Even though reports are not the equivalent of substantiation, Jedwab et al., (2017) found most unsubstantiated child maltreatment cases became re-reported and later substantiated, supporting the use of reports as a proxy for actual maltreatment.

Independent Variables

Three independent variables were included in this study, respectively measuring adolescent social relationship with vjgkt"oqvjgtloqvjgt"Łiwtg."hcvjgtlhcvjgt"Łiwtg."cpf"rggtu0" These variables were taken from the 14-year assessment.

. Adolescents completed a 22-item questionnaire evaluating the relationship with vjgkt"oqvjgt"qt"oqvjgt"Łiwtg0"Ukz"qh"vjg"44"kvgou"ogcuwtgf0 mother-adolescent relationship quality. The questions were "How close do you feel to your mother (or someone who acts like mother to you)," "How much you think she cares about you," "Does she trust you," "Does she understand you," "Do you and she get along well," and "Do you make decisions together about things in your life?" Adolescents answered the questions using a 5-point Likert scale ("1" indicates "Not at all" or "Never"; "5" indicates "Very owejö"qt"õCnyc{uö+0" Jkijgt"ueqtgu"tg!gevgf"jkijgt"tgnc-tionship quality, and the mean of the six items was used to represent maternal relationship quality. The internal consis-vgpe{"qh"vjgug"kvgou"ycu"gzegnngpv"cv" α =0.85 (Knight et al., 2010).

. Adolescents also completed a 43-item questionnaire evaluating the relationship ykvj"vjgkt"hcvjgt"qt"hcvjgt"Łiwtg0"Nkmg"vjg"swguvkqppcktg" about maternal relationship, six of the 43 items measured father-adolescent relationship quality on the same 5-point Likert scale, with higher numbers indicating higher relationship quality. The six questions were "How close do you feel to him," "How much you think he cares about you," "How often does he trust you," "How often does he understand you," "How often do you and he get along well," and "How often do you and he make decisions together about things in your life?" The mean of the six items was used to represent paternal relationship quality. The internal consistency qh"vjgug"kvgou"ycu"gzegnngpv"cv" α =0.88 (Knight et al., 2010).

. Two teachers (language arts and math) were asked to estimate each adolescent's peer status with a 9/kvgo"kpuvtwogpv."dwv"qpn{"vjg"Łtuv"cxckncdng"tcegejtø"tcv-ings were used (an option to handle this variable per Knight et al., 2010, p. 200).

Vjtgg"qh"vjg"kvgou"ygtg"wugf"kp"vjku"uvwf{0"Vjg"Łtuv"ycu" the question of "Overall, how much is this child liked by classmates?". Teachers answered this question on a 5-point Likert scale ("1" indicates "Very well liked"; "5" indicates "Liked very little"). The second and third items asked teachers to estimate the amount of nominations the child would get if the children in their classroom were asked to nominate the child for "Would Like MOST for Play or Work Partner" and "Good at Leading Others". Both items were rated on a 5-point Likert scale ("1" indicates "One of the kids with the most nominations"; "5" indicates "One of the kids

Hierarchical Multiple Regressions

Dɡʜqtɡ"ɡpᴠɡtkpɡ"tɡɴɡxcpᴠ"xctkcdɴɡu"kpᴠq"Łpcɴ"oᴡɴᴠkrɴɡ"tɡɡtɡɡ-
sion models, it was important to determine if each of the

problems in the current study, a family systems explanation could illuminate. Perhaps because mothers spend more time with adolescents than fathers (e.g., Parke & Buriel 2010), oqvjgtu"ctg"oqtg"nkmgn{"vq"Łtuv"tgurqpf"vq"vjg"oqtg"pqvkeg-able adolescent externalizing problems. On the other hand, adolescents with better relationship with fathers—relative to with mothers—enjoy higher self-esteem (e.g., Rosnati & Marta 1997) and are thus more protected from internal-k|kpi"rtqdngou"*ikxgp"vjg"rtqvgevkxg"gevqh"ugnh/guvggo" against internalizing symptoms, as shown in Garcia-Reid et al., 2013+0"Kpvgtguvkpin{."qwt"Łpfkpiu"ctg"kp"ceeqtf"ykvj"c" rctgpvkpi"cpf"fgxgnqrogpvcn"fqockpg"gev0"Hqt"gzcorng." Yau et al., (2022) found maternal support and control to cor-relate with adolescent academic achievement, but fathers' impact was much smaller. On the other hand, Fleming et al., (2022) found paternal pressure to predict adolescent athletic perfectionist strivings, but not maternal pressure. Our study thus supported the suggestion from Hochgraf et al., (2021) that mothers and fathers were not interchangeable and had unique roles to play in promoting adolescent behavioral health.

Moreover, our study resonated with Yoon et al., (2018), who discovered also using the LONGSCAN database that higher quality of father involvement was associated with lower levels of internalizing and externalizing behavioral problems for a sample of adolescents at age 12. However, Yoon et al., (2018) tested a sample of younger adolescents cpf"eqpvtqnngf"hqt"c"fkgtgpv"ugv"qh"xctkcdngu"vjcp"yg"fkf0" Compared to Yoon et al., (2018), we additionally controlled for LONGSCAN study site, household annual income, and rggt"rqrwnctkv{0"Vjg"fkgtgpeg"kp"cfqnguegpv"cig"cpf"eqp-trol variables could explain why we found paternal relation-ship quality to predict adolescent internalizing behavioral problems only, but Yoon et al., (2018) found paternal rela-tionship quality to predict both internalizing and externaliz-ing behavioral problems. Paternal relationship quality being more important for younger than older adolescents is cer-tainly in line with Erik Erikson's psychosocial theory (e.g., Berk 2013; Erikson, 1989; Santrock, 2018). Overall then, fgurkvg"qwt"pqvŁpfkpi"cp"cuuqekcvkqp"dgvyggp"rcvgtpcn"tgnc

and 16 respectively, adolescent parental relationships were still more important than peer relationship for emotional stability (i.e., internalizing problems).

When peer relationship starts to outweigh parental relationships in predicting adolescent behavioral health is not

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