

The Effects of Positive and Negative Parenting Practices on Adolescent Mental Health Outcomes in a Multicultural Sample of Rural Youth

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Abstract The quality of parent–child relationships has a significant impact on adolescent developmental outcomes, especially mental health. Given the lack of research on rural adolescent mental health in general and rural parent–child relationships in particular, the current longitudinal study explores how rural adolescents' ($N = 2,617$) perceptions of parenting practices effect their mental health (i.e., anxiety, depression, aggression, self-esteem, future optimism, and school satisfaction) over a 1 year period. Regression models showed that current parenting practices (i.e., in Year 2) were strongly associated with current adolescent mental health outcomes. Negative current parenting, manifesting in parent–adolescent conflict, was related to higher adolescent anxiety, depression, and aggression and lower self-esteem, and school satisfaction. Past parent–adolescent conflict (i.e., in Year 1) also positively predicted adolescent aggression in the present. Current positive parenting (i.e., parent support, parent–child future orientation, and parent education support) was significantly associated with less depression and higher self-esteem, future optimism, and school satisfaction. Past parent education support was also related to current adolescent future optimism. Implications for practice and limitations were discussed.

Keywords Parenting · Adolescent · Mental health · Rural · Youth

Introduction

The quality of parent–child relationships relates directly to adolescent mental health outcomes. Three distinct parenting styles are associated with adolescent mental health: permissive, authoritarian, and authoritative [1]. Permissive parenting is marked by a laissez faire attitude with few demands or rules placed on the child. The child is encouraged to regulate and control his/her own activities. In contrast, authoritarian parents exert high levels of control in an effort to shape behavior and increase obedience; these parents are controlling and do not actively negotiate rules with their children. Authoritative parenting may be seen as the mid-point between the two aforementioned styles. Authoritative parents expect obedience, but provide a high level of support, encouraging an active and mutual give and take between parent and child. Rules are implemented and enforced, but independence and autonomy are also fostered [1]. It was not until the late 1980s that researchers [2] began examining how parental styles influenced adolescent developmental outcomes. Numerous subsequent studies have shown that the warmth and mutuality of authoritative parenting resulted in the best overall developmental outcomes for children [see 3 for a review].

Although adolescence is marked by a burgeoning desire for independence, which results in increased time spent with the peer group, parenting practices nonetheless have a significant effect on adolescent functioning [4]. Given that there is an increase in parent–child conflict and a decrease in warm parent–child interactions during puberty [see 5 for

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a review], it is particularly important to understand how parent–child relationships affect adolescent developmental outcomes such as mental health functioning (i.e., anxiety, depression, aggression, self-esteem, and future optimism) and academic functioning (i.e., school satisfaction). Understanding how adolescents view key positive and negative qualities in their relationships with their parent(s) can help prevent adolescent mental health difficulties and buttress psychological health.

Adolescent Perceptions of Parenting

It is advantageous to assess parenting practices from the adolescent’s perspective because research suggests that adolescents’ interpretations of parenting styles may have a greater impact on adolescent outcomes than parents’ reports of parenting styles [6, 7]. For example, a study conducted by Paulson [8] revealed that, whereas adolescents’ perceptions of parenting styles and involvement predicted academic achievement, parent reports of their own styles and involvement did not. In another study, adolescents’ reports of parental influence were predictive of researcher-observed supportive and engaging mother–adolescent relationships, while parents’ reports were negatively associated with researcher-observed supportive and engaging relationships [9]. The authors of this study hypothesized that this finding was due to the fact that parents define positive parental influence in terms of control, while adolescents define positive parental influence in terms of trust and support. This body of research indicates that adolescent and parent reports of parenting differ and that adolescent perspectives may be more relevant in examining developmental outcomes.

The Effects of Environmental, Socioeconomic, Cultural, and Racial/Ethnic Factors on Parenting

In addition to examining adolescents’ perceptions of parenting, it is also important to consider how parenting practices are influenced by factors such as a rural geographic location, socioeconomic status, culture, and race/ethnicity. Residents of rural environments are exposed to unique stressors absent in urban environments such as geographic isolation, restricted social networks, and limited community resources [10]. These stressors are associated with increased rates of risky adolescent behavior and, compared to urban and suburban youth, rural youth are more likely to use substances (i.e., alcohol, drugs, tobacco), bring weapons to school, and have sexual intercourse [11]. These risky behaviors undoubtedly add stress to family dynamics and impact parenting, especially given that in rural areas there is limited access to support in the form of mental health care providers [12]. Further, the

stress of rural living is compounded when poverty levels are high and low-income parents in rural areas are at risk of providing inadequate support to adolescents and often use over controlling discipline techniques, such as responding to problem behaviors in an abusive or neglectful manner [13].

The cultural background of different racial/ethnic groups often influences parenting practices, especially in terms of discipline. For example, “Many African American families take pride in being of the ‘old school,’ firmly upholding such beliefs as those expressed by the maxim ‘spare the rod, spoil the child’” [14; p 200]. This reliance on strict discipline developed out of the desire to protect African American adolescents from the social consequences of misbehaving [14]. Similarly, Latino families often value and strictly enforce rules and any adolescent deviation from these rules is commonly viewed as a major transgression worthy of being shamed “...for breaking rules or not maintaining ‘proper demeanor’...” [15; p 228]. Native American parenting styles are thought to be effected by the historical trauma faced by many Native American tribes when children were sent to boarding schools. As a result, “The Native parent is left unsure of generational boundaries, behavioral expectations, and limits” often resulting in parent–child conflict [16; p 386]. Given the impact that a rural environment, low socioeconomic status, culture, and race/ethnicity have on parenting practices, it is vital to consider these factors when assessing the impact of parenting practices on adolescent development.

Parenting and Mental Health Outcomes

Depression and Self-Esteem

Parenting is associated with both depression and self-esteem. Adolescents with authoritarian parents displayed the lowest levels of self-esteem compared to other parenting styles [17] while authoritative parenting, characterized by high support and warmth, was related to decreased depression [18–20]. In contrast, authoritarian parenting styles characterized by low levels of nurturance and high levels of overprotection [21] and a lack of parent support [22, 23] were predictive of high levels of depression. In another study, perceived parent support was indirectly related to depression through self-esteem; that is, high levels of parental support resulted in higher self-esteem among children that served as a buffer against depression [23]. Further, increased parent–child conflict related to coercive parenting practices was associated with increased adolescent internalizing problems (i.e., social withdrawal, psychosomatic complaints, thought, and attention problems) [24, 25]. Of particular importance in culturally diverse settings, parent–child conflicts about culture is

particularly harmful and one study found that cultural conflicts with mothers and fathers was significantly associated with decreased self-esteem and conflicts with fathers were associated with increased depressive symptoms [26].

Anxiety

Much of the existing research on the relationship between parenting and adolescent anxiety has focused on parental control and rejection. A systematic review of empirical studies investigating parenting and childhood anxiety suggested that observed parental controlling behaviors during parent–child interactions was consistently linked with childhood anxiety [27]. However, Wood et al. [27] noted the lack of longitudinal investigations in this area and concluded that the direction of effects between parenting and anxiety was unclear. In addition, a recent meta-analysis, highlighting inconsistent findings regarding the role of parenting in childhood anxiety, suggested that researchers look at specific parenting domains and move beyond the traditionally studied parental control and parental rejection [28]. In a study examining several different parenting processes and symptoms of anxiety in adolescents from Hungary, the Netherlands, Switzerland, and the United States, measures of parent support and parent conflict were significantly associated with adolescent anxiety [29]. These studies indicate the need for additional longitudinal research examining the relationship between various parenting processes and adolescent anxiety.

Aggression

Increased parent–child conflict, as reported by parents, has been associated with increased child externalizing (i.e., violent aggression, deviant behavior) behavior [25]. A recent meta-analysis of 48 studies examining the relationship between parenting and relational aggression categorized parenting into 7 distinct practices [30]. Overall, paternal and maternal positive parenting practices were negatively associated with relational aggression, while paternal and maternal negative, harsh, uninvolved, and controlling parenting practices were positively associated with relational aggression. Another study found that parenting behaviors characterized by high parental acceptance and little use of manipulative psychological control were associated with aggressive behavior [31].

Future Optimism

Future optimism can be broken down into motivation (e.g., what interests an individual has for the future), planning (e.g., how people plan the implementation of their interests), and evaluation (e.g., the extent to which the interests are expected to be realized) [32]. Nurmi [32] postulated

that parents have a significant impact on adolescent future optimism by setting normative standards for interests, values, and goals; by serving as models for developmental tasks and through family interaction. Although the literature on parenting and future optimism is relatively sparse, some empirical evidence provides support for this hypothesis. In a study of African American adolescents, Kerpelman et al. [33] found that maternal support (along with self-efficacy and ethnic identity) were the most important predictors of educational future orientation. The results of a similar study with African American early adolescents revealed that mother involvement and kinship social support were salient predictors of future optimism [34]. Based on the aforementioned research it is becoming clear that parenting impacts adolescent future optimism.

Academic Success

Given the strong association between parenting and children's mental health outcomes, it follows that parenting would also affect other developmental realms, such as academic success. The finding that authoritative parenting has a positive impact on grades, especially for Caucasian adolescents, has been consistently replicated [35]. In fact, 4-year-olds whose parents were categorized as authoritative were more likely to finish school than children reared by other parenting styles [36]. This indicates that parent–child relationships with a high level of communication and a mutual give and take may lead to more desirable academic outcomes. Given that GPA was positively and significantly correlated with school satisfaction [37], it is reasonable to assume that parenting may impact school satisfaction and academic success in a similar manner.

Longitudinal Research on Parenting

Parenting can be viewed as a process that guides adolescents along a trajectory [38]. This conceptualization of parenting is clearly in line with a longitudinal research design. Unlike cross-sectional studies that highlight the relationship between parenting and adolescent outcomes at one point in time, longitudinal studies can illuminate the impact of temporal change. Given the potential reciprocal relationship between parenting and mental health outcomes (e.g., negative parenting could lead to adverse adolescent mental health outcomes or mental health issues could negatively impact parenting), longitudinal research is necessary to establish causality. Steinberg [38] emphasizes this notion, explaining that longitudinal research is necessary to assert that adolescent competence is a result of authoritative parenting, rather than the reverse. Due to the lack of longitudinal parenting research [27], additional longitudinal research in this area is warranted.

Current Study

The present study used a longitudinal research design to answer the following question: does prior and current year parenting influence adolescent mental health? We hypothesized that: (a) current parenting will be more salient than past parenting; (b) positive parenting strategies (i.e., parent support, parent–child future orientation, and parent educational support) will be positively associated with healthy adolescent outcomes (self-esteem, future optimism, school satisfaction); and (c) negative parenting (i.e., parent child conflict) will be positively related to adolescent mental health problems (depression, anxiety, aggression) and inversely related to healthy adolescent outcomes.

Method

Participants

In Year 1, participants were in middle school (6th–8th grade) and roughly 33 % came from each grade. In Year 2, participants had moved up one grade; Year 1 eighth graders were followed into high school, others had been promoted within their middle schools. Students were followed if they moved among the participating schools in the two counties in the current study; however, those who moved out of these two school districts were lost to attrition. The sample had outstanding external validity to the population of middle school students in these two counties.

The current study only included participants who had no missing data from both Year 1 and Year 2 ($N = 2,617$; 80.75 % of the full sample). The participants were 54.49 % ($n = 1,426$) female. Participants were racially/ethnically diverse: 28.16 % ($n = 737$) identified as White, 27.89 % ($n = 730$) identified as American Indian/Native American, 22.43 % ($n = 587$) identified as African American, 12.84 % ($n = 336$) identified as Mixed race or Other, and 8.67 % ($n = 227$) identified as Hispanic/Latino. The mean age in Year 1 was 12.7 and 13.7 years in Year 2. Sixty-six percent of the participants received a free/reduced price lunch and 73.79 % of participants lived in families with two adults. The percentages of each demographic variable in the analyzed sample were equivalent to the percentages in the total sample prior to listwise deletion.

Procedure

The United States Centers for Disease Control and Prevention funded the current study through a cooperative agreement with the North Carolina Academic Center for Excellence in Youth Violence Prevention. Prior to beginning the study, IRB approval was obtained from the

University of North Carolina. The present study (i.e., The Rural Adaptation Project) is a 5-year longitudinal panel study of more than 4,000 middle school students in two rural counties within the Southeastern United States. In County 1, the sample included all middle school students (i.e., a complete census) in public schools. County 2 was much larger than County 1 both in geography and in student population size, thus in County 2, a random sample of 40 % of public middle school students was included in the assessment. Every middle school parent in County 1 and parents of the randomly selected students in County 2 received a letter explaining the study. If parents did not want their children to participate in the study, they sent in a letter requesting non-participation and their child was removed from the study roster. Students assented to participate by reading and electronically signing an assent screen prior to completing the online assessment. Participating students from 28 different schools in two low income, rural counties filled out the assessment packages at two time points about 1 year apart: in the Spring of 2011 (i.e., Year 1) and the Spring of 2012 (i.e., Year 2). Participants completed the extensive online assessment in school computer labs with close supervision by research staff; it took students approximately 30 min to complete the surveys. Every student had an identification number that was attached to his or her assessment in order to maintain confidentiality.

Measures

The School Success Profile (SSP) [39] is a 220-item youth self-report survey that measures attitudes and perceptions about school, friends, family, neighborhood, self, and health/wellbeing. The current study used a modified version of the SSP, the SSP+, which included the original SSP items in addition to two sub-scales from the child version of the Child Behavior Checklist (CBCL) [40], to measure internalizing behaviors (i.e., depression and anxiety) and externalizing behaviors, a modified version of the Rosenberg self-esteem scale [41], and the Conflict Behavior Questionnaire (CBQ) [42] to measure parent–child conflict. The mean of each scale was calculated and any participant missing over half of the items for a scale was dropped from the analysis.

Demographic Covariates

Gender, free/reduced price lunch, language spoken at home, living arrangement, and age were included as demographic covariates. Each of these variables, except for age, was dichotomized; male, non-receipt of free/reduced price lunch, speaking English at home, and non-single parent households were the reference groups.

Quality of Parent–Child Relationship

The independent variables assessed qualities of parent–child relationships, which were measured using four scales: parent–child conflict, parent support, parent–child future orientation, and parent education support. Measures from Year 1 and Year 2 were included in the analysis.

Parent Child-Conflict

Parent child conflict was measured with the 10-item Conflict Behavior Questionnaire (CBQ) [42], which assessed the degree of conflict between parents and children. Example items included: “At least three times a week, my parent(s) and I get angry at each other” and “My parent(s) put me down.” The possible responses for each item were *True* or *False*, the scale range was 0 thru 10, and the Cronbach’s alpha reliability was .82 for Year 1 and .85 for Year 2 in this sample.

Parent Support

Parent support was measured by the 5-item parent support scale [39] that assessed the frequency over the past 30 days that an adult in the child’s home provided emotional support. Example items included: “How often did the adults in your home let you know that you were loved?” and “How often did the adults in your home make you feel special?” Each item was rated on a 3 point Likert scale (*Never, Once or twice, or More than twice*), the scale range was 1–3 and the Cronbach’s alpha reliability was .92 for Year 1 and .89 for Year 2 in the current sample.

Parent–Child Future Orientation

The 3-item parent–child future orientation scale [39] assessed the frequency with which adults in the child’s home discussed future plans with the child in the past 30 days. Items included: “How often did you discuss your plans for the future with any of the adults who live in your home?” and “How often did you discuss your plans for college with any of the adults who live in your home?” Each item was rated on a 3-point Likert scale (*Never, Once or twice, or More than twice*), scale scores ranged from 1 to 3, and the Cronbach’s alpha reliability was .88 for Year 1 and .89 for Year 2 in this sample.

Parent Education Support

The 6-item parent education support scale [39] assessed the frequency with which an adult in the child’s home encouraged school engagement and success in the past 30 days. Example items included: “How often did any of the adults in your home encourage you to do well in

school?” and “How often did any of the adults in your home praise or reward you for working hard on school work?” Each item was rated on a 3-point Likert Scale (*Never, Once or twice, or More than twice*), scale scores ranged from 1 to 3, and Cronbach’s alpha reliability was .81 for Year 1 and .84 for Year 2 in this sample.

Adolescent Mental Health Dependent Variables

The dependent variables were Year 2 indicators of adolescent mental health and psychosocial functioning that included: anxiety, depression, aggression, self-esteem, future optimism, and school satisfaction.

Anxiety and Depression

Achenbach and Rescorla’s [40] 7-item internalizing subscale from the Youth Self Report (the child version of the Child Behavior Checklist) was broken down into a 3-item anxiety subscale and 4-item depression subscale. The anxiety scale assessed symptoms of anxiety and example items included: “I often feel nervous or tense” and “I often feel fearful or anxious.” The Cronbach’s Alpha reliability was .76 for Year 1 and .79 for Year 2 in this sample.

The depression scale assessed symptoms of depression and examples included: “I often feel sad” and “I often feel alone.” The Cronbach’s Alpha reliability for this scale was .86 for Year 1 and .88 for Year 2 in this sample. Both the anxiety and depression subscales were rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and scale scores ranged from 1 to 3.

Aggression

The 12-item aggressive behavior subscale from the Youth Self Report [40] measured a variety of aggressive and noncompliant behaviors. Example items included: “I get in many fights” and “I break rules at home, school, or elsewhere.” Each item was rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*), scale scores ranged from 1 to 3, and the Cronbach’s alpha reliability was .86 for Year 1 and .87 for Year 2 in this sample.

Self-esteem

Five-items from the Rosenberg Self-Esteem Scale [41] measured student’s self-esteem. Example items included: “I am able to do things as well as most other people” and “I have confidence in myself.” Each item was assessed on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*), scale scores ranged from 1 to 3, and the Cronbach’s alpha reliability was .87 for Year 1 and .91 for Year 2 in this sample.

Future Optimism

Future optimism was assessed with 12-items [39] measured on a 4-point Likert scale (*Strongly Disagree*, *Disagree*, *Agree*, or *Strongly Agree*) and scale scores ranged from 1 to 4. This scale measured adolescents' perceptions about future success. Example items included: "I feel positive about the future" and "I make good choices." The Cronbach's alpha reliability was .93 for Year 1 and .95 for Year 2 in this sample.

School Satisfaction

The 7-item school satisfaction scale [39] measured students overall satisfaction with his or her school experience. Example items included: "I enjoy going to this school" and "I am getting a good education at this school." Each item was rated on a 3-point Likert Scale (*Not Like Me*, *A Little Like Me*, or *A Lot Like Me*), scale scores ranged from 1 to 3, and the Cronbach's alpha was .84 for Year 1 and .85 for Year 2 in this sample. Bivariate correlations are displayed in Table 1.

Analysis

Hierarchical regression analysis was used to analyze the data. Four blocks of independent variables (demographics and quality of parent–child relationships) were regressed onto each of the six Year 2 dependent variables (adolescent mental health outcomes). Each block contained the independent variables from the previous block and also included new independent variables so that we could determine how the addition of independent variables influenced Year 2 mental health outcomes. The first block regressed demographic variables (i.e., gender, free/reduced lunch, language spoken at home, family composition, and age) onto the six Year 2 mental health dependent variables (i.e., anxiety, depression, aggression, self-esteem, future optimism, and school satisfaction). The second block regressed demographic variables plus Year 1 parenting measures (i.e., parent–child conflict, parent support, parent–child future orientation, parent education support) onto the six Year 2 mental health dependent variables. Block 3 regressed the demographics, parenting measures from Year 1, and same four parenting measures from Year 2 onto the six Year 2 mental health dependent variables. Finally, block 4 added Year 1 mental health outcomes (e.g., a baseline assessment of each dependent variable, Year 1 anxiety in the model for Year 2 anxiety) to the model predicting each of the six Year 2 mental health dependent variables.

Results

Missing Data

Listwise deletion was employed to handle missing data [43]. Following listwise deletion, the analyzed sample was comprised of 2,617 students, 80.75 % of the original sample. A series of bivariate analyses (i.e. *t* test, Chi square test) were performed between those who participated in both Years 1 and 2 and those who participated in Year 1 only in order to determine if the subjects lost to attrition were significantly different from subjects who remained in the study. There were no differences between the two groups in terms of gender, race, or language spoken at home. However, the group of participants who were lost to attrition were slightly older (0.56 years, $p < .001$) and had a higher proportion of students who received free or reduced price lunch (5.35 %, $p < .01$) in comparison to the group with Years 1 and 2 data. Further, the group of participants who were lost to attrition, on average, reported slightly lower school satisfaction (0.13 units lower, $p < .001$), future orientation (0.09 units lower, $p < .001$), parent support (0.07 units lower, $p < .001$), parent–child future orientation (0.05 units lower, $p < .05$), parent education support (0.08 units lower, $p < .001$), self-esteem (0.04 units lower, $p < .01$) and on average, slightly higher aggression (0.09 units higher, $p < .001$), depression (0.11 units higher, $p < .001$), and anxiety (0.10 units higher, $p < .001$). Although it is preferable that there are no significant differences between the analyzed sample and those lost to attrition, the score differences represent statistical rather than clinical significance and range from .04 units to .13 units.

Demographics

Results are displayed in Table 2. Block 1 demographic variables were significantly associated with current (Year 2) mental health outcomes including anxiety $F(5, 2,666) = 21.80$; $p < .001$, depression $F(5, 2,659) = 26.21$, $p < .001$, aggression $F(5, 2,670) = 11.26$, $p < .001$, self-esteem $F(5, 2,704) = 8.45$, $p < .001$, future optimism $F(5, 2,708) = 16.54$, $p < .001$, and school satisfaction $F(5, 2,717) = 7.61$, $p < .001$. Several demographic factors were important markers for subgroups that were at an elevated risk of experiencing negative mental health outcomes. For example, with all other factors held equal, compared to males, females reported significantly higher levels of anxiety, depression, and aggression and significantly lower self-esteem. Socioeconomically disadvantaged adolescents reported significantly lower self-esteem compared to adolescents who did not receive free or reduced priced lunch. Adolescents who spoke a language

Table 1 Bivariate correlation matrix

1.	2.	3.	4.	5. Y1 Parent child conflict	6. Y1 Parent support	7. Y1 P. C. Future orientation	8. Y1 Education support	9. Y1 Anxiety	10. Y1 Depression	11. Y1 Aggression	12. Y1 Self- esteem	
1.	1											
2.	.072	1										
3.	-.058	-.092	1									
4.	-.063	.079	-.061	1								
5.	.075	.042	-.014	.137	1							
6.	.041	-.028	.003	-.115	-.555	1						
7.	.036	.102	-.055	-.009	-.250	.395	1					
8.	.055	-.008	-.008	-.141	-.440	.603	.513	1				
9.	.067	.080	.002	.047	.394	-.243	-.088	-.207	1			
10.	.132	.102	.010	.086	.536	-.370	-.165	-.296	.685	1		
11.	.069	.064	-.010	.121	.477	-.283	-.155	-.262	.446	.528	1	
12.	.006	-.002	-.036	-.080	-.337	.405	.285	.395	-.272	-.356	-.273	1
13.	.098	-.016	-.009	-.059	-.189	.277	.295	.327	-.145	-.157	-.190	.375
14.	.073	-.070	.020	-.103	-.300	.283	.198	.320	-.215	-.276	-.386	.386
15.	.115	.039	-.014	.110	.518	-.343	-.142	-.269	.268	.386	.372	-.206
16.	.015	-.051	.001	-.128	-.387	.439	.242	.373	-.184	-.287	-.217	.250
17.	.004	.052	-.029	-.005	-.150	.210	.381	.281	-.049	-.128	-.101	.150
18.	.012	-.032	.009	-.136	-.309	.347	.287	.441	-.140	-.226	-.195	.236
19.	.164	.078	-.035	.088	.291	-.168	-.065	-.167	.402	.393	.312	-.219
20.	.198	.086	-.014	.067	.368	-.234	-.082	-.206	.375	.496	.364	-.237
21.	.098	.058	-.027	.087	.305	-.184	-.092	-.185	.247	.318	.512	-.176
22.	-.050	.025	-.033	-.089	-.242	.228	.166	.238	-.181	-.262	-.191	.392
23.	.089	-.043	-.010	-.124	-.138	.176	.163	.186	-.070	-.130	-.119	.217
24.	-.001	-.039	.051	-.097	-.217	.189	.156	.210	-.154	-.215	-.262	.223
	13. Y1 Future optimism	14. Y1 School satisfaction	15. Y2 Parent child conflict	16. Y2 Parent support	17 Y2 P. C. Future orientation	18. Y2 Education support	19. Y2 Anxiety	20. Y2 Depression	21. Y2 Aggression	22. Y2 Self- esteem	23. Y2 Future optimism	24. Y2 School satisfaction
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.	1											
14.	.320	1										
15.	-.095	-.245	1									
16.	.151	.228	-.578	1								
17.	.166	.135	-.257	.384	1							
18.	.180	.220	-.440	.621	.498	1						
19.	-.113	-.208	.413	-.255	-.096	-.194	1					
20.	-.121	-.236	.535	-.365	-.143	-.274	.745	1				
21.	-.140	-.288	.463	-.267	-.151	-.242	.496	.559	1			

Table 1 continued

	13. Y1 Future optimism	14. Y1 School satisfaction	15. Y2 Parent child conflict	16. Y2 Parent support	17 Y2 P. C. Future orientation	18. Y2 Education support	19. Y2 Anxiety	20. Y2 Depression	21. Y2 Aggression	22. Y2 Self- esteem	23. Y2 Future optimism	24. Y2 School satisfaction
22.	.204	.247	-.343	.368	.291	.373	-.319	-.353	-.267	1		
23.	.325	.198	-.174	.261	.284	.304	-.130	-.151	-.154	.355	1	
24.	.181	.491	-.286	.285	.211	.298	-.209	-.272	-.326	.324	.263	1

Table 2 Parenting practices and adolescent mental health

	Anxiety	Depression	Aggression	Self esteem	Future optimism	School satisfaction
Demographics: block 1						
Gender	.101***	.104***	.030 ^a	-.041*	.057***	-.025
Free/reduced lunch Yr. 1	.027 ^a	.021 ^a	.023 ^a	.036*	-.029	.008
Language spoken at home	.012	.022 ^a	.001	-.002	-.035*	.023
Living arrangement Yr. 1	-.020	-.007	-.017	-.024	-.001	.036*
Age	.037*	-.007	-.002	-.038*	-.067***	-.027 ^a
Prior year parenting: block 2						
Parent-child conflict Yr. 1	-.008 ^a	-.040 ^a	.069**	.006 ^b	-.011 ^b	.007 ^b
Parent support Yr. 1	.038	.036	.023	-.059 ^b	.014 ^b	-.024 ^b
Parent child future orientation Yr. 1	.004	.029	.015	-.034 ^b	.001 ^b	.025
Parent education support Yr. 1	-.045 ^a	-.037	-.033 ^a	.017 ^b	.065**	-.040 ^b
Current year parenting: block 3						
Parent child conflict Yr. 2	.310***	.373***	.328***	-.132***	-.015	-.085***
Parent support Yr. 2	-.024	-.069**	.018	.127***	.078**	.073**
Parent child future orientation Yr. 2	.010	.014	-.027	.125***	.159***	.050*
Parent education support Yr. 2	-.002	-.013	-.034	.125***	.132***	.114***
Yr. 1 dependent variable: block 4						
Model fit: adjusted R-square	.302***	.342***	.417***	.313***	.266***	.432***
F statistic (<i>df</i>)	72 (14)***	125 (14)***	106 (14)***	73 (14)***	50 (14)***	80 (14)***
N	2,672	2,665	2,676	2,710	2,714	2,723

* $p < .05$; ** $p < .01$; *** $p < .001$

^a Effect was no longer statistically significant after Year 1 DV was included in the model

^b Effect was no longer statistically significant after Current Year Parenting was included in the model

other than English at home reported lower levels of future optimism. Adolescents living in single parent families reported higher school satisfaction. Every 1-year increase in age was associated with a concomitant increase in anxiety and decrease in self-esteem and future optimism.

Prior Year Parenting

Block 2 prior year parenting variables were added to the models and were significantly associated with current (Year 2) mental health outcomes: anxiety $F(9, 2,662) = 39.85, p < .001$, depression $F(9, 2,655) = 62.60, p < .001$, aggression $F(9, 2,666) = 37.77, p < .001$, self-esteem $F(9, 2,700) = 29.01, p < .001$, future optimism

$F(9, 2,700) = 24.12, p < .001$, and school satisfaction $F(9, 2,713) = 26.04, p < .001$. Specifically, the effects for prior year (Year 1) parenting significantly predicted current year (Year 2) adolescent mental health outcomes until subsequent blocks of independent variables were entered into the model (see Table 2 for the direction of the results). Past year (Year 1) parent-adolescent conflict was significantly associated with all current (Year 2) adolescent mental health outcomes until past (Year 1) measures of mental health and current (Year 2) parent-adolescent conflict were placed in the model. This finding indicates that the impact of past parent-child relationship quality on current mental health was rendered insignificant once current mental health and the quality of the current parent-child

relationship were considered. Past (Year 1) parent–child conflict was positively associated with adolescent aggression in the present even with current parenting and past (Year 1) aggression in the model. The relationships between past (Year 1) positive parenting variables and current (Year 2) self-esteem, future orientation, and school satisfaction were statistically significant until current (Year 2) positive parenting variables were entered into the model. Past (Year 1) parent education support was related to adolescent future optimism in the present (Year 2), even controlling for present (Year 2) parenting and past (Year 1) future optimism in the model.

Current Year Parenting

Block 3 current year parenting variables were added to the models and were significantly associated with current (Year 2) mental health outcomes: anxiety $F(13, 2,658) = 52.29$, $p < .001$, depression $F(13, 2,651) = 96.99$, $p < .001$, aggression $F(13, 2,662) = 60.50$, $p < .001$, self-esteem $F(13, 2,696) = 52.67$, $p < .001$, future optimism $F(13, 2,700) = 35.47$, $p < .001$, and school satisfaction $F(13, 2,709) = 32.87$, $p < .001$. Current (Year 2) dimensions of parenting displayed significant relationships with current (Year 2) adolescent mental health outcomes. Current parent–child conflict was positively associated with adolescent anxiety, depression, and aggression. Adolescents with more conflict in their relationships with parents also reported lower self-esteem and less school satisfaction.

In contrast, adolescents experiencing more parent support in the current year reported less depression, and higher self-esteem, future optimism, and school satisfaction. Adolescents who reported having current future orientation support from their parents also reported having higher self-esteem, future optimism, and were more satisfied with school in the present. Finally, receiving more parent education support in the present (Year 2) was also associated with higher self-esteem, future optimism, and school satisfaction for adolescents.

Baseline Mental Health

Prior mental health is almost always strongly connected to current mental health. This was the case in the current study. Each dependent variable measured in the past (Year 1) was strongly related to the current (Year 2) dependent measure (e.g., Year 1 anxiety predicted Year 2 anxiety; See Table 2). Because this developmental association was so strong, we entered Year 1 mental health indicators in the last block. This allowed us to examine which risk and protective factors were salient above and beyond the repeated measures relationship.

Discussion

This investigation addressed gaps in extant parenting research by examining the effects of both positive and negative parenting processes over the course of 1 year in a large sample of disadvantaged rural youth. Due to the lack of longitudinal parenting research [27], the present study used a longitudinal research design to assess the impacts of prior and current year parenting on positive and negative adolescent mental health outcomes.

Our first hypothesis, that current parenting would be more salient than past parenting, was generally supported, but had two important caveats. Past Year 1 parenting, especially parent–adolescent conflict, was significantly associated with current Year 2 adolescent mental health outcomes until Year 2 parenting practices were added to the model. Although Year 2 parenting variables displayed stronger relationships with adolescent mental health outcomes than Year 1 parenting variables, conflict between parents and adolescents in Year 1 was associated with Year 2 adolescent aggressive behavior, controlling for baseline aggression and current parenting. This adds to the research literature on the deleterious effects of parent–child conflict. Previous studies have found that parent–child conflict was associated with lower self-esteem, increased adolescent internalizing problems (i.e., social withdrawal, psychosomatic complaints, thought and attention problems) [24–26] and aggressive behavior [44]. The current results delineate the deleterious effects of parent–adolescent conflict over the course of 1 year in a disadvantaged sample of multicultural rural adolescents.

Extant research on parenting is predominantly cross-sectional. Longitudinal research is needed to consider temporal causality. Because parenting practices do not exist in a vacuum, it is important to remember that there is bi-directionality between parenting practices and child behavior, that is, parenting practices influence children and children influence parenting practices [45]. The current results show that not only is current year parent–child conflict associated with a range of negative relationships with adolescent mental health, but past year conflict with parents continues to have an effect 1 year later. Although limited longitudinal data does not allow us to assert which came first (i.e., if adolescent aggression precipitated conflict with parents or the reverse), it is clear that conflict between parents and adolescents is central to a negative process that relates to both heightened negative psychological difficulties (e.g., anxiety, depression, aggression) and deterioration in positive psychological health (e.g., lower self-esteem and school satisfaction).

Future research should closely examine the pathways through which parent child conflict exerts its influence. Our models show that parent–child conflict in Year 1 was associated with all Year 2 adolescent mental health

outcomes until either Year 1 mental health or Year 2 parenting variables were placed in the model. This suggests that Year 1 parent adolescent conflict may influence Year 1 anxiety and depression and those mental health processes impact Year 2 anxiety and depression. For the positive psychological outcomes, it was possible that parent–adolescent conflict in Year 1 influenced Year 2 parent adolescent conflict, which led to lower Year 2 self-esteem, future optimism, and school satisfaction. Future research should use path analyses to explore how these variables form a longitudinal risk chain.

The second caveat illuminated a longitudinal developmental asset: parent educational support in Year 1 displayed a positive association with adolescent future optimism in Year 2, controlling for baseline future optimism and current parenting. This is an encouraging finding that illustrates that positive parenting can have an enduring salutogenic effect on adolescent psychological health. It builds upon past research that connects parent support to adolescent future optimism [32–34].

Our second hypothesis that positive parenting strategies would be positively associated with healthy adolescent outcomes (self-esteem, future optimism, school satisfaction), was supported by the regression models. Current Year 2 parent support, parent–child future orientation, and parent educational support were all significantly related to self-esteem, future optimism, and school satisfaction. Year 1 positive parenting measures were also associated with Year 2 indicators of adolescent psychological health until Year 2 positive parenting measures were placed in the model. This suggests that prior year positive parenting may influence current positive parenting, resulting in heightened psychological health in adolescents. Future research should use path analyses to explore this longitudinal pathway to see how positive parenting functions as a developmental asset.

Interestingly, Year 2 positive parenting practices were significantly associated with Year 2 indicators of positive adolescent psychological health; but were largely unrelated to adolescent mental health difficulties (aside from Year 2 parent support being inversely associated with adolescent depression). In other words, positive parenting, seen in the authoritative style, may be a promotive factor (i.e., advancing positive outcomes), but not a protective factor (i.e., interacting with risk to decrease negative outcomes). This suggests that parenting practices and adolescent psychological functioning may both break down into domains. Positive parenting may promote positive psychological processes while having little influence on negative adolescent mental health processes. Conversely, parent–adolescent conflict and other negative parenting practices (authoritarian control, coercion, lack of warmth) may be key risk factors for mental health problems such as anxiety, depression, and aggressive behavior. This beginning

evidence of domain-specific effects should be further examined in future research. As in previous research, risk factors were often stronger than promotive factors [32, 58]. In the current study, positive parenting effects were limited to positive outcomes while parent–adolescent conflict had pervasive risk effects across adolescent outcomes.

The regression models also confirmed our third hypothesis that negative parenting, in the form of parent–child conflict for this study, would be positively related to adolescent mental health problems and inversely related to healthy adolescent outcomes. As discussed above, current Year 2 parent–adolescent conflict was positively associated with anxiety, depression, and aggression, and inversely associated with self-esteem and school satisfaction. Prior Year 1 parent–adolescent conflict was also related to Year 2 aggression. Adolescence marks a period of exploration and increasing independence, which is often a catalyst for family conflict if parents do not display understanding and flexibility in negotiating boundaries. Past research has delineated a consistent decline in quality of parent–child relationships marked by increased parent–child conflict and decreased parental warmth during the early adolescent years [46]. Consequently, parent–child conflicts are often precipitated by authoritarian parenting styles characterized by low levels of nurturance, high levels of control [14], and a lack of parent support [23]. Conflicts arise over adolescent autonomy within family systems that do not support independence [44]. This may have been particularly salient in the current sample that included many conservative families in an area of the southeastern United States that emphasizes traditional family hierarchy and parenting practices that include corporal punishment.

Implications for Practice

Confirming prior research [25, 26], we found negative, high conflict parenting associated with increased anxiety, depressive symptoms, aggression, and decreased self-esteem and school satisfaction. Mental health service providers who wish to prevent adolescent anxiety, depression, and aggressive behavior should consider family oriented programs that heighten communication, facilitate appropriate developmental boundaries, and decrease conflict between parents and adolescents. *Parenting Wisely* [47, 48] or *Brief Structural Family Therapy* [49] are evidenced based programs that fit this profile. Meta-analytic studies suggest that parent-training interventions are moderately to strongly effective [50–54].

At the same time, prevention specialists and service providers who wish to promote adolescent psychological health should also consider approaches that foster positive parenting strategies, such as encouraging parent support,

parent–child future orientation or educational support. The *Entres Dos Mundos/Between Two Worlds* program for immigrant families experiencing acculturation stress is one example of an empirically validated program that enhances positive parenting [55, 56]. *Active Parenting of Teens* is another example of an evidenced-based program that has been evaluated in rural settings [56]. Practitioners should review databases such as SAMHSA’s National Registry of Evidenced Based Programs and Practices [57] for programs that focus on positive parenting practices.

Limitations

The four measures of parent–child relationship quality were adolescent self-report measures and it is therefore possible that participants provided a biased view of their relationships with their parents. It would have been beneficial to have parent reports in order to gain additional insight into the quality of parent–child relationships; however, due to financial and time constraints in school-based surveys, this was not possible. Negative parenting was measured by parent–adolescent conflict. This is one viable indicator of troubled relationships and negative parenting. However, future studies should integrate multiple measures of negative, authoritarian parenting to examine alongside positive parenting strategies.

The external validity of the current study is also limited as the sample was from a low income, ethnically/racially diverse, rural area and may not be generalizable to different populations. Although every precaution was taken to maintain privacy, participants filled out surveys in a computer lab with other students present. The mere presence of other students in such close proximity may have altered participant answers. This is a concern in many studies that utilize adolescent self-report data. Finally, there were some significant differences between the final sample and the sample of youth lost to attrition between Year 1 and Year 2; however the differences in mean scores were minute and represent statistical rather than clinical significance.

Summary

This investigation contributed to extant parenting research by examining positive and negative parenting processes over the course of 1 year in a large sample of disadvantaged rural youth. In assessing the impacts of prior and current year parenting on positive and negative adolescent mental health outcomes, regression models showed that negative Year 2 parenting, manifesting in parent–adolescent conflict, was related to higher adolescent anxiety, depression, and aggression and lower self-esteem and

school satisfaction. Emphasizing a deleterious longitudinal effect, parent–adolescent conflict in Year 1 also positively predicted adolescent aggression in Year 2. Positive parenting (i.e., parent support, parent–child future orientation, and parent education support) in Year 2 was significantly associated with less depression and higher self-esteem, future optimism, and school satisfaction. Parent education support in Year 1 was a longitudinal promotive factor related to adolescent future optimism in Year 2. Service providers should consider adopting family focused programs that reduce parent–adolescent conflict and foster positive parenting approaches.

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