Prospective Associations of Parenting and Childhood Maltreatment with Personality in Adolescent Males

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This longitudinal study examines whether early experiences with caregivers between the ages of 10 and 12 are associated with later adolescent personality at age 16 using both parent and child reports. Lower positive parenting was prospectively associated with higher neuroticism and lower extraversion and conscientiousness for both parent and self-reports of personality, as well as lower openness and agreeableness by parent report. Substantiated maltreatment was prospectively associated with greater neuroticism and lower agreeableness and conscientiousness assessed by parent report. Prospective associations were similar across Black and White participants. Positive parenting and, to a lesser extent, a lack of maltreatment were associated with adaptive personality profiles in adolescents, and associations were stronger for parent reports of personality.
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INTRODUCTION

Social context influences personality development (Shiner & Caspi, 2003; Van den Akker, Dekovic, Asscher, & Prinzie, 2014). One of the earliest, longest lasting, and most salient social contexts individuals experience is their relationship with primary caregivers (Lengua, Gartstein, & Prinzie, 2018). Decades of research suggest that there are two primary domains of caregiver behavior that promote successful development in offspring across multiple outcomes: warmth and structure (Amato & Fowler, 2002; Gaylord-Harden, Barbarin, Tolan, & Murry, 2018; Repetti, Taylor, & Seeman, 2002). Parental warmth is characterized by parent's affection, support, and responsivity to the child, which fosters a sense of security and trust within the child (Darling & Steinberg, 1993). Parental structure is the extent to which parents provide developmentally appropriate organization, structure, and predictable rules or consequences (without coercion or overcontrol), which fosters a sense of trust and

control within the child (Baumrind, 2012). Combinations of these same two characteristics make up common parenting typologies (e.g., authoritative, authoritarian, permissive; Baumrind, 1968, 2012).

Parenting consistently characterized by more warmth and support (but not overcontrol) has been shown to contribute to a host of positive outcomes for children (Baumrind, Larzelere, & Owens, 2010; Gungor & Bornstein, 2010). Personality has also been shown to predict similar positive, consequential life outcomes, including educational and occupational success, supportive social and romantic relationships, and physical health and longevity (Ozer & Benet-Martínez, 2006; Soto, 2019). Further, influential theories in parenting hypothesize that parenting practices influence child personality (Belsky, 1984; Taraban & Shaw, 2018); and some domains of personality are proposed to represent adaptive functioning in their own right (e.g., high conscientiousness and agreeableness, and low neuroticism), with some researchers suggesting that these traits are a 'natural target for evaluating whether parenting behaviors are linked with the development of [adaptive] child and adolescent dispositions' (Schofield et al., 2012, p.2).

Personality can be conceptualized in a number of ways. One well-replicated, validated, and integrative model is the five-factor model of personal-

ity (McCrae & Costa, 1987). The five-factor model organizes personality into the five traits of neuroticism, conscientiousness, extraversion, agreeableness, and openness to experience. Individuals high on neuroticism are prone to negative affect, worry, and insecurity. Individuals high on conscientiousness tend to be dutiful and organized. Individuals high on extraversion are generally highly social and reward-driven. Individuals high on agreeableness tend to be prosocial, cooperative, and empathetic. Individuals high on openness to experience are generally imaginative, independent, and prefer variety. This factor structure has been shown to replicate across diverse samples (e.g., John & Srivastava, 1999). Further, these traits have considerable overlap with developmental precursors such as temperament (e.g., Lengua et al., 2018), and the five-factor model taxonomy has also been used to describe and organize personality pathology and diagnoses (e.g., Bagby & Widiger, 2018; Widiger & Costa, 2013). Thus, the five-factor model is an integrative model well situated for understanding links between parenting, adaptive and maladaptive personality outcomes, and psychopathology.

There are few data that speak directly to the association between parenting and adolescent personality as indexed by the five-factor model. Instead, the term personality has been used broadly to refer to individual differences in children (e.g., differences in self-regulation, social competence, anger, etc.) (e.g., Segrin & Flora, 2019). Similarly, parenting is often operationalized in a narrow manner in studies of the influence of parenting on children's individual differences. For example, maternal rejection has been associated with increases in fear and irritability (Lengua, 2006) and parental control has been associated with self-regulation in preschoolers (Karreman, van Tuijl, van Aken, & Dekovic, 2006). Additionally, as these examples suggest, most of the research to date seems to focus on traits of very young children, as opposed to older age groups in which personality is more stable. There is also a very interesting body of work that examines environmental elicitation (Shiner & Caspi, 2003), wherein difficult traits of the child can potentiate poor parenting, which further contributes to difficult traits in the child (e.g., Clark, Donnellan, & Robins, 2018; Van den Akker et al., 2014). This framework suggests that associations between parenting and later personality may partially be driven by preexisting personality traits or temperament. Such processes suggest that associations between parenting and personality may be bidirectional, not that they are spurious.

A recent narrative review of direct, bidirectional, and moderation effect models linking parenting to five-factor model traits or associated individual differences in temperament concluded that aspects of parenting appear to influence neuroticism and conscientiousness, with similar effects across developmental periods (Lengua et al., 2018; see also Eisenberg, Duckworth, Spinrad, & Valiente, 2014). However, as the authors note, much of the empirical literature examines associations with personality in early or middle childhood along with traits associated with negative affect/neuroticism. Fewer studies have examined adolescent personality or the remaining domains of the five-factor model. There is some evidence to suggest associations with extraversion, but much of the available literature examines related constructs such as surgency, impulsivity, or sensation-seeking, which are not wholly comparable to the five-factor model domain of extraversion and show mixed associations with parenting (Lengua et al., 2018).

Beyond variation in continuous measures of parental warmth and structure (or typologies made up of these dimensional constructs), there is also evidence that certain extreme categories of negative parenting behaviors such as maltreatment, which is characterized by extreme hostility (i.e., abuse) and/or lack of structure and support (i.e., neglect), can also impact child development and personality. For example, in one study examining maltreatment and the five-factor model of personality (Rogosch & Cichetti, 2004), maltreatment was associated with higher levels of neuroticism, theoretically because maltreatment increases perceptions of the world as threatening and distressing. Maltreatment was also associated with lower levels of conscientiousness, specifically difficulties with constraint, directed attention, and impulse control (Rogosch & Cichetti, 2004). Smaller but less consistent associations between maltreatment and extraversion and agreeableness have been documented as well (Rogosch & Cichetti, 2004; Rosenman & Rodgers, 2006). Hence, there is good reason to believe that both dimensional measures of parenting (e.g., warmth, structure) and categorical extremes of parenting practices (i.e., maltreatment) may be associated with later personality. Further, similar to dimensional measures of parenting, the five-factor model serves as an integrative framework from which to conceptualize links between maltreatment, personality development, and psychopathology (Oshri, Rogosch, & Cicchetti, 2013).

The current research linking early parenting and maltreatment to later five-factor model personality

is not only small but also has notable methodological limitations. For example, most research is based on retrospective self-reports of parenting or maltreatment, which are prone to error (e.g., distorting, forgetting, or misremembering). Further, personality traits may influence these retrospective reports, potentially contributing to spurious findings between parenting and personality traits. For example, in one study, higher neuroticism and lower agreeableness were associated with inflated retrospective reporting of maltreatment when compared to prospective measures assessed in the same sample (Reuben et al., 2016). Hence, prospective measures of maltreatment appear to offer different information compared to retrospective reports and may impact the strength of observed associations.

Additionally, much of the empirical literature examines associations with personality in early or middle childhood, with few studies examining personality in adolescence (Lengua et al., 2018). Adolescence may be a particularly interesting developmental period in which to examine personality, given the number of changes occurring during this time, including the development of a more stable and coherent sense of personality (Galambos & Costigan, 2003; Van den Akker et al., 2014). Additionally, there is significant continuity in personality across the life course suggesting that researchers need not wait for personality 'outcomes' in adulthood (De Fruyt et al., 2006; Widiger et al., 2018). Consistent with such continuity, personality assessed during adolescence presages later important life outcomes, such as criminal offending (Caspi et al., 1994), occupational success (Judge, Higgins, Thoresen, & Barrick, 1999), supportive interpersonal relationships (Donnellan, Larsen-Rife, & Conger, 2005), and physical health (Moffitt et al., 2011). Hence, assessment of personality during adolescence has the strengths of being late enough in life to see the emergence of stable differences, late enough to have been influenced by earlier social-environmental factors, yet also prospectively predicts important life outcomes decades later.

Another methodological consideration when examining associations between parenting and/or maltreatment and adolescent personality is who reports on these variables. Both validity of assessments and predictive utility may differ by reporter. Observed associations can be inflated by sharing a common reporter and common method of reporting. Despite this concern, there is evidence to suggest that other's ratings of personality may be a better predictor of important life outcomes in the

domains of both love and work (Luan et al., 2019). Further, children and their parents may differ in their perceptions of both *parenting behaviors* and/or adolescents' *personality traits*. Several factors could create discrepancies between parent and child reports of parenting as well as personality. For example, parents may be more hesitant than children to endorse parenting behaviors perceived as negative. Likewise, adolescents may be more hesitant to self-report negatively perceived personality characteristics. Additionally, parents may not be privy to the full spectrum of their adolescent's behavior. Instead, parent ratings of personality may primarily reflect only the adolescent's overt behavior in the context of the parent–child relationship, whereas adolescents themselves are able to report on their internal feelings, expectations, and behavior across a wider range of contexts and relationships (Lewis, 2001). Further, when later personality is also reported by both members of the parent–child dyad then the predictive value of parenting perceptions on personality can be distinguished from shared variance due simply to a common rater at both time points.

Lastly, sample diversity is another limitation of previous research on associations between parenting practices and child traits. Many longitudinal samples are primarily White. When samples are not White, they are often exclusively Black and low-income, disallowing comparison of effects across race within samples and confounding race with socioeconomic status across samples. This gap in the literature is particularly notable because some theories suggest that the influence of parenting practices on child outcomes may vary by race/ethnicity and/or socioeconomic status, which tend to be confounded (e.g., Bronfenbrenner, 1979; Kohn, 1977). For example, it has been argued that higher levels of authoritative parenting and parental control may be less detrimental in dangerous social contexts, which are more common for families of low socioeconomic status and that moderate levels of physical punishment may be less detrimental if they are socially normative, such as in black communities in the United States (for a review see Amato & Fowler, 2002). While there are some findings in support of these hypotheses, the bulk of the literature suggests that similar parenting practices are associated with positive outcomes across race, ethnicity, and socioeconomic variables (e.g., Amato & Fowler, 2002). However, no study to our knowledge has examined potential race differences in the association between parenting and personality as measured by the five-factor model.

Current Study

The current study examines longitudinal associations between parenting and adolescent personality in a racially diverse group of families. Given the general finding that warm and supportive parenting is associated with adaptive development, positive outcomes, and lower rates of pathology (e.g., Baumrind et al., 2010); we hypothesize that positive parenting and lack of maltreatment will also contribute to higher rates of adaptive personality traits in adolescence as indexed by the five-factor model of personality. To answer these questions, we perform exploratory secondary data analysis of a longitudinal study in which parenting was measured prospectively at multiple time points and later personality was measured during adolescence.

We first characterize latent profiles of parenting, which are estimated using both parent and child reports of parenting from ages 10 through 12, that is, middle childhood. Using the resulting latent classes, we then examine the prospective associations between parenting classes and adolescent personality at age 16 (assessed by both self- and parent reports). We also examine the prospective association between substantiated reports of maltreatment (by the age of 12) and adolescent personality at age 16, and whether latent parenting classes and maltreatment each independently predict variation in adolescent personality at age 16. Lastly, we explore whether associations between parenting and five-factor personality traits are race invariant, similar to other more commonly measured outcomes (e.g., academic achievement, behavior problems).

METHODS

Participants

Data for the current study came from the youngest cohort of the Pittsburgh Youth Study (PYS), a longitudinal study of the correlates of antisocial behavior and juvenile delinquency in boys initially recruited from a pool of 1st graders enrolled in the Pittsburgh Public Schools in 1987–1988. The sample was recruited from an original pool of 1,165 boys registered to attend the first grade. From that pool, 849 were randomly chosen to undergo a multiinformant (i.e., parent, teacher, child report) screening that assessed early conduct problems (e.g., fighting, stealing). Boys identified at the top 30% on the screening risk measure ($n = 256$), and a roughly equal number of boys randomly selected

from the remainder ($n = 247$), were selected for longitudinal follow-up (total $N = 503$). Boys in this youngest cohort of PYS were assessed every six months for the first four years and then annually for nine years. Interviews were conducted separately with parents and children, and phone interviews were conducted with families who moved outside of a reasonable driving distance. Participants selected for longitudinal follow-up were not significantly different from the random screening sample in terms of race, family composition, or California Achievement Test reading scores. The original sample was predominately White (40.6%) and Black (55.7%). Nearly all primary caregivers were biological mothers (92%), with 45.3% cohabiting with a partner and 16.9% completing less than 12 years of schooling at study entry. Over half of families (61.3%) were receiving public financial assistance (e.g., food stamps) at study entry. 19.7% of the sample had a substantiated referral for maltreatment. Greater detail on participant selection and sample characteristics is available elsewhere (Loeber et al., 2001; Loeber, Farrington, Stouthamer-Loeber, & White, 2008).

Measures

Demographics. Race was coded 1 for self-identified White participants and 2 for self-identified Black participants. Risk for antisocial/delinquent behavior (coded 0 for low risk and 1 for high risk) was assessed at study screening. Family SES was assessed annually using the parents' or caregivers' occupational prestige (rated 0–9) and highest education (rated 1–7; Hollingshead, 1975), with occupation weighted by five and educational category weighted by 3. Scores were averaged from age 10 to 12, and higher scores indicate higher socioeconomic status.

Parenting. Multiple assessments completed by boys and their primary caregiver were used to examine latent profiles of parenting. Parental supervision (e.g., structure) was assessed at approximately 9.7, 11 and 12 years of age by both parent and child reports, and parent–child communication (e.g., warmth) was assessed at approximately 9.7, 10.2, 11 and 12 years of age by both parent and child reports. The average number of assessments completed for each of the 503 families was 2.8 out of a maximum of 3 for both parent and child reports of supervision and 3.7 out of a maximum of 4 for both parent and child reports of communication. Individual items can be found in the

PYS public-use dataset through ICPSR. Both scales were initially developed based on pilot research conducted at the Oregon Social Learning Center (Loeber et al., 1998), literature reviews of the impact of parenting on childhood outcomes, items from existing scales adapted for an urban sample with a substantial minority membership and a range of SES (e.g., Family Environment Scale; Moos, 1994), and the Family Assessment Measure (Skinner, Steinhauer, & Santa-Barbara, 1983), followed by detailed psychometric analyses. *Parental supervision* was assessed with 4 items (e.g., 'Do you know who your son's companions are when he is not at home?' and 'Do your parents know who you are with when you're away from home?') on a three-point scale (1 = almost never, 2 = sometimes, 3 = almost always). Internal consistency for the supervision scale ranged from .57 to .71. Moderate reliability indicates that some items are better indicators of parental supervision than others and raises the possibility that the items may not all be measuring the same latent variable (supervision). For example, supervision may be better captured by the question asking whether parents know who their child is with than the question asking whether parents know what time their son will return home. **C**orrelations among the full scale scores ranged from .33 to .50 within parents and from .38 to .47 within adolescents across assessments. Three outliers were identified and windsorized prior to analyses. *Parent–child communication* was measured with 34 items about the parent–child relationship (e.g., 'Do you openly show affection to your son?' and 'Do you openly show your parent that you like her?') on a 3-point scale (1 = almost never, 2 = sometimes, and 3 = almost always). Internal consistency for the communication scale ranged from .87 to .99 and correlations among the full scale scores ranged from.68 to.80 within parents and from .41 to .66 within adolescents across assessments. Annual assessments were averaged separately for boys and their parents. Intercorrelations among the final aggregate scales are presented in Table 1.

Substantiated history of maltreatment. Child maltreatment data were collected from Allegheny County Children and Youth Services records of referrals covering the time span from birth through age 12 for the youngest cohort studied here (Stouthamer-Loeber & Stallings, 2008). The Maltreatment Classification System (Barnett, Manly, & Cicchetti, 1993) was used for classification of *substantiated* maltreatment, that is, problems requiring the attention and referral of services by Children and Youth Services (Stouthamer-Loeber, Loeber, Homish, & Wei, 2001). Categories included sexual abuse; emotional maltreatment (thwarting the child's basic emotional needs, including those of psychological safety and security in the environment, acceptance and positive regard, and age-appropriate autonomy); physical abuse (whenever a caregiver inflects a physical injury to the child by other than accidental means); physical neglect—failure to provide (failure to meet the child's nutritional, medical, or cleanliness needs) or lack of supervision (leaving a child unattended or in the care of an inadequate caregiver); moral/legal maltreatment (exposure to illegal activities through the participation of household members, and involvement in illegal activities as a result of lack of adult intervention or because of encouragement or coercion by the adult); educational maltreatment (failure of the caregiver to provide for the child's adequate education and/or failing to send a child to school); and incorrigibility (e.g., involvement in authority conflict behaviors; Barnett et al., 1993; Stouthamer-Loeber et al., 2001). These were coded dichotomously, with at least one substantiated report coded 1 and no substantiated report coded 0.

Personality. Participants and their parents rated personality in 1997–1998, when the boys were approximately 16. Items from the common language version of the California Child Q-set (CCQ; Block & Block, 1980) were rewritten using simpler language at a 5th-grade reading level and validated in the older cohort sample from PYS (Caspi, Herbener, & Ozer, 1992) where 100 descriptive items placed on individual cards were rated using a forced, quasi-normal, 9-category distribution that ranged from extremely uncharacteristic or negatively salient (1) to extremely characteristic or salient (9), with intermediate scores being neither characteristic or uncharacteristic (5). For the younger cohort, the cohort studied here, old items were rewritten, new items were added, and the response format was changed from a Q-sort to a 2-point (yes/no) format, with 51 parent-reported and 40 self-reported items indexing big five domains of agreeableness, conscientiousness, neuroticism, extraversion, and openness to experience (Caspi et al., 1992). Parent and self-report items do not match in a one-to-one fashion, because the original authors of the scale sought to maximize reliability between parent and self-reports (see Caspi et al., 1992). Items were averaged together by prior researchers and ranged from 0 to 1, with higher

TABLE 1
Intercorrelations and Descriptive Statistics for Continuous Study Variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Supervision (P)		.79*	.45*	.45*	-.19*	-.16*	-.15*	-.21*	-.09	.16*	.16*	-.13*	-.01	-.16*	-.20*
2. Supervision (C)			.34*	.57*	-.14*	-.16*	-.19*	-.18*	-.11*	.14*	.16*	-.13*	.00	-.11*	-.15*
3. Communication (P)				.27*	-.21*	-.48*	-.07	-.43*	-.12*	.37*	.17*	-.19*	-.07	-.26*	-.12*
4. Communication (C)					-.09*	-.17*	-.21*	-.18*	-.20*	.14*	.20*	-.18*	.11	-.17	-.16*
5. Family SES						.08	.02	.08*	-.02	-.07	-.06	.07	.13*	.01	.11
6. Agreeableness (P)							.11*	.55*	.13*	-.44*	-.13*	.27*	.02	.22*	.07
7. Agreeableness (C)								.12*	.42*	-.10	-.23*	.06	-.10	.04	.06
8. Conscientiousness (P)									.25*	-.47*	-.26*	.49*	.03	.36*	.11*
9. Conscientiousness (C)										-.14*	-.09	.07	.11*	.17*	.11*
10. Neuroticism (P)											.13*	-.03	-.02	-.26*	.00
11. Neuroticism(C)												-.14*	.35*	-.14*	-.11
12. Openness to Experience (P)													.03	.41*	.07
13. Openness to Experience (C)														.02	-.01
14. Extraversion (P)															.19*
15. Extraversion (C)															
N	483	484	483	485	485	443	335	442	335	442	335	443	335	442	335
Mean	5.39	5.84	49.68	52.97	38.14	0.77	0.77	0.69	0.81	0.31	0.38	0.68	0.67	0.63	0.53
SD	1.06	1.18	8.15	7.51	10.44	0.18	0.15	0.27	0.21	0.21	0.23	0.20	0.24	0.25	0.25
% missing	4%	4%	4%	4%	4%	12%	33%	12%	33%	12%	33%	12%	33%	12%	33%

Notes.. *p<.05. % missing is based on the original longitudinal sample of 503 boys and is rounded to the nearest whole percentage.

scores indicating higher levels of each trait. We do not have access to the individual item responses. As previously reported, alphas ranged from .58 to .80 for all five traits (mean of .70) for parent reports, whereas for self-reports they ranged from .54 to .67 with a mean of .61 (Lynam et al., 2005). Parents and adolescents completed the personality questionnaire as part of the larger study (see Fite, Raine, Stouthamer-Loeber, Loeber, & Pardini, 2010 and Loeber, Slot, & Stouthamer-Loeber, 2006). Personality was assessed last during this visit and some adolescents were not able to complete all assessments during the visit time. Thus, a smaller sample of adolescents' self-reported personality is available for analyses compared to parent ratings of the adolescent's personality. Participants who did and did not complete self-reports of personality did not significantly differ by racial breakdown, SES, substantiated maltreatment, or any of the five dimensions of parent-reported personality (all $ps > .05$).

Overview of Analyses

Identifying latent profiles of parenting. We used Mplus version 7 (Muthén & Muthén, 2013) to identify naturally occurring profiles of parenting among participants based on parent and child reports of supervision and communication. Latent profile analysis identifies *subgroups of individuals* who show similar profiles across the parenting measures (it does not identify subgroups of measures or variables). In doing so, this method identifies data-driven groups and also reduces the number of statistical tests performed. For example, in this study, four parenting variables are examined and found that levels cluster by individuals; people who are high on one parenting variable also tend to be high on the others, creating parsimonious groups from four continuous parenting variables from two different raters. The best fitting model was assessed using standard criteria (smaller AIC and BIC, larger entropy, higher latent class probabilities, and significant differences on the Lo-Mendell-Rubin [LMR] test; Nylund, Asparouhov, & Muthén, 2007). Missing data were estimated using maximum likelihood with robust standard errors, the default estimator for continuous variables.

Using childhood latent parenting classes and history of maltreatment to predict later adolescent personality. When using latent class categories as a predictor, it is considered best practice to test predictive models (i.e., predicting adolescent personality) after accounting for the error in the latent class solution (Asparouhov & Muthén, 2014; Vermunt, 2010). Thus, we used the AUXILIARY option in Mplus along with the BCH setting (which tests for significant differences across latent classes) to test predictive models. This method allowed us to combine the latent class estimate (and its error), control variables, and prediction of each continuous distal outcome in one combined model. More specifically, we first saved the latent profile membership information as BCH weights (step 1) (Bakk & Vermunt, 2016; Vermunt, 2010), and then, we trained the model that includes control variables and outcome variables using the BCH weights from step 1 (this is step 2). And in step 3, we conducted the regression analyses in which outcome variables are regressed on control variables and the latent profile categorical variable (from BCH training). All steps were performed in Mplus. The analyses can be thought of in the same conceptual framework as typical regression and is often referred to as the 3-step approach (see Asparouhouv & Muthen, 2014).

Analyses examining maltreatment as a predictor of later personality were performed using multivariate ANOVAs in SPSS. We statistically adjusted for race and family socioeconomic status at ages 10 to 12. The percent of the sample missing on each variable can be seen in Table 1. SPSS analyses used listwise deletion for missing data.

RESULTS

Characterization of the Sample

Correlations among individual parenting scales, family socioeconomic status, and big five personality domains are presented in Table 1. Similar numbers of boys and their primary caregivers (almost all mothers as indicated in the Participants section above) responded to the *parenting* items. Parent and child ratings of parental supervision were highly correlated ($r = .79$) and ratings of parent–child communication were modestly correlated ($r = .27$). Higher family SES was significantly correlated with more favorable scores on all four parenting variables. See Table 1 for further details. As a group, the boys rated parenting less favorably than did the parents, for both supervision and communication, both $t (483) > 8.46$, $p < .001$.

For reasons noted above, fewer boys completed the *personality* assessment compared to their parents ($n = 443$ vs $n = 335$). Correlations between

parent and child reports of the same personality facet were small (all $rs < .25$) and the correlation between the two reporters' ratings of openness was nonsignificant ($r = .03$; see Table 1). Notably, the size of these correlations is consistent with results from a recent longitudinal study with multiple assessments of personality by both mothers and children from childhood through adulthood, which found the largest differences between raters around age 17 (Van den Akker et al., 2014), and other recent evidence for differences in self- and parent-rated personality during adolescence (Gölner et al., 2017) and differences by reporter in general (McCrae & Mottus, 2019). Boys in the current sample as a group also rated themselves higher on conscientiousness [$t(334) = 10.12$, $p < .001$] and lower on E [$t(334) = -7.02$, $p < .001$] than did their parents. No mean differences were seen between boys' self-reports and parents' ratings of their agreeableness, neuroticism, or openness.

Identification and Characterization of Latent Parenting Classes

Two- to four-class solutions were fitted to the data and results are shown in Table 2. The AIC, BIC, and adjusted BIC improved with the addition of each class. Model entropy decreased with the addition of each class, which is common and suggests that differentiation among classes decreases with the introduction of each new class. The LMR tests were nonsignificant starting with the four-class solution, suggesting that a three-class solution is the most parsimonious. The three-class solution revealed the following groups: (a) all parenting scales better than the sample average, (b) all parenting scales similar or slightly worse than average, and (c) all parenting scales worse than average. Hence, the three-class solution revealed high, average, and low positive parenting groups with inter-rater agreement within category (Figure 1).

Do Parenting and Maltreatment Prospectively Predict Personality?

All models adjusted for race and family SES. Notably, these demographic factors differed significantly across latent parenting classes (Table 3). There were also significant differences in maltreatment by parenting class; thus, we also examined whether parenting and maltreatment have similar and/or independent predictive utility for self- and parent reports of adolescent personality. Results below in text and in each table are organized by outcome (parent vs. self-reports of personality) with separate tables for each predictor (latent parenting classes vs. confirmed history of maltreatment).

Predicting parent ratings of adolescent personality. Latent classes of parenting between the ages of 10 and 12 significantly predicted differences in parent ratings of all big five personality domains at age 16 (Table 4). Adolescents with high positive parenting were less neurotic and more conscientious, agreeable, extraverted, and open to

TABLE 2
Model Fit and Class Categorization Statistics for Two- to four-class Solutions

Model	Class	n (%)	Classification Probabilities	Model Entropy	LL	AIC	Adj. BIC	Bootstrapped LMR test p-value
2 classes				0.83	−2,342.8	4711.5	4724.6	<.001
	1	320 (66%)	0.96					
	2	165 (34%)	0.94					
3 classes				0.81	−2,247.7	4531.3	4549.5	0.003
	1	225 (46%)	0.93					
	2	70 (14%)	0.92					
	3	190 (39%)	0.90					
4 classes				0.78	−2,217.0	4480.0	4503.2	0.45
	1	153 (32%)	0.89					
	2	176 (36%)	0.85					
	3	109 (22%)	0.87					
	4	47 (10%)	0.93					

Notes.. K = number of free parameters, LL = log likelihood, AIC = Akaike information criteria, BIC = Bayesian information criteria, Adj. BIC = Bayesian information criteria adjusted for sample size, LMR = Lo-Mendel Rubin test. The four variables entered into the classification procedure were: parent reports of supervision, parent reports of communication, child reports of supervision, child reports of communication.
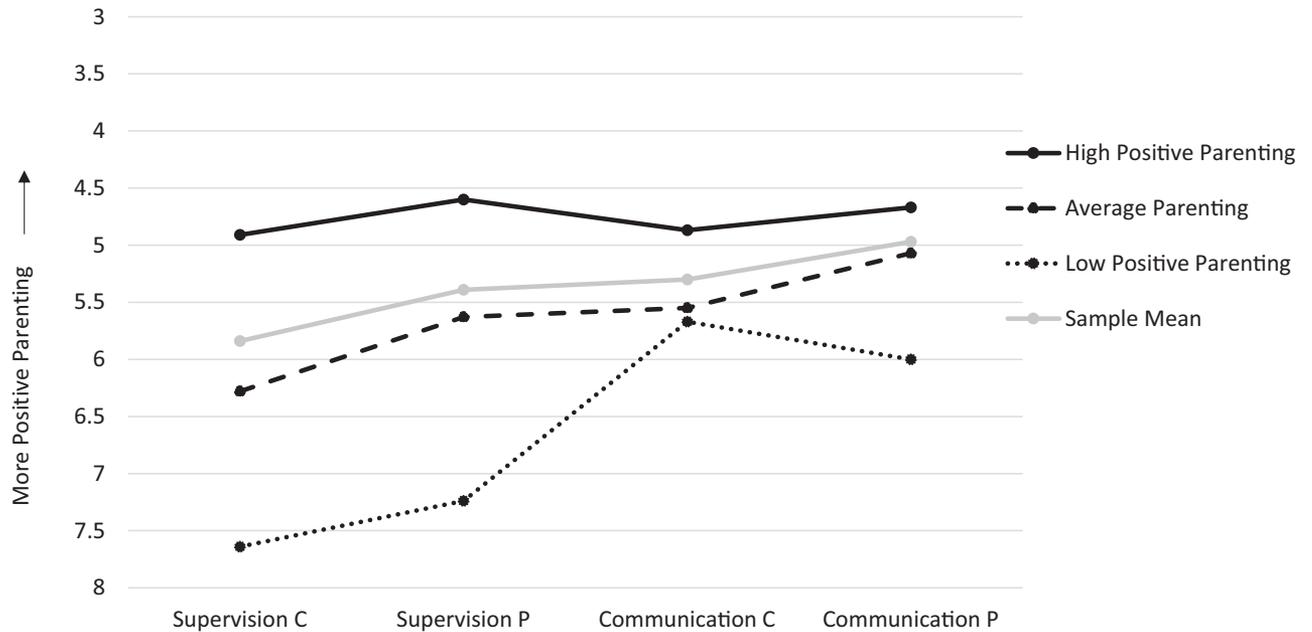
FIGURE 1 Description of latent parenting classes. All scales were coded such that greater numerical values indicate lower levels of positive parenting characteristics (e.g., less supervision, less communication), so the Y-axis was inverted to make the visual depiction more intuitive. Means for the communication scale were divided by 10 to bring values in line with the other two scales so that differences among means across scales could be more easily viewed in the figure. The sample mean is also depicted as reference for the viewer. C = child report, P = parent report.

experience than adolescents with low positive parenting. Additionally, adolescents with high positive parenting were also significantly more conscientious and open to experience than adolescents with average positive parenting.

Substantiated maltreatment through age 12 was significantly associated with mean differences in parent-reported neuroticism, agreeableness, and conscientiousness at age 16, but not the other two personality domains (Table 5). Specifically, confirmed maltreatment was associated with higher neuroticism and lower agreeableness and conscientiousness. These associations were fewer (3 domains compared to 5) and effect sizes were smaller compared to prospective associations with parenting classes, with the exception of neuroticism (Table 4).

When latent class analyses predicting parent-reported personality further adjusted for maltreatment associations were not substantively changed, with the exception that high and low parenting classes no longer differed on neuroticism (Table 6). Further, presence of maltreatment still significantly predicted neuroticism, but no longer predicted agreeableness or conscientiousness.

Predicting self-reports of adolescent personality. Latent classes of parenting between the ages of 10 and 12 significantly predicted differences in

adolescents' self-reports of personality at age 16 for four of the five personality domains, only openness showed no significant differences (Table 4). Adolescents with high positive parenting were less neurotic and more extraverted and agreeable than adolescents with low positive parenting. Additionally, adolescents with high positive parenting were also significantly more extraverted and more conscientious than adolescents with average positive parenting.

Substantiated maltreatment through age 12 did not significantly predict mean differences in children's self-reports of personality at age 16 (Table 5).

When latent class analyses predicting self-reported personality further adjusted for maltreatment, associations were not substantively changed (Table 6). Further, presence of maltreatment continued to lack significant predictive utility for any self-reported personality trait.

Race Moderation

Parenting classes interacted with race to predict parent-reported openness. The pattern of means by race suggests that lower positive parenting predicted significantly lower openness in White adolescents compared to Black adolescents (Figure 2).

TABLE 3
Predictive Effects of Demographic and Maltreatment Characteristics on Latent Parenting Profiles

Predictor	High Positive Parenting (n = 216)	Average Positive Parenting (n = 187)	Low Positive Parenting (n = 75)
High Positive Parenting as the reference profile		Beta [95%CI]	
Identify as Black	ref.	0.99** [.48,1.5]	1.64** (.75)
Family SES	ref.	−0.03* [−.06,0]	−0.05** (0.03)
Identified as high risk at age 6	ref.	0.77** [.28,1.26]	1.19** (.61)
Substantiated referral to CYS	ref.	0.22 [−.49, .93]	1.72** (.65)
Average Parenting as the reference profile		Beta (odds ratio)	
Identify as Black	−0.99** [−1.5, −.48]	ref.	0.65 [−.13,1.43]
Family SES	0.03* [0, .06]	ref.	−0.01 [−.04, .02]
Identified as high risk at age 6	−0.77** [−1.26, −.28]	ref.	0.42 [−.25,1.09]
Substantiated referral to CYS	−0.22 [−.93, .49]	ref.	1.51** [.78,2.24]

Notes. CYS = office of Children Youth and Family Services, SES = socioeconomic status.
*$p \leq .05$, **$p \leq .01$.

TABLE 4
Effects of Latent Parenting Profiles on Self- and Parent Reports of Adolescent Personality

	Parent ratings					Child ratings				
	N B [95% CI]	O	E	A	C	N B [95% CI]	O	E	A	C
Intercept	0.35** [.25, .45]	0.62** [.50,.74]	0.71** [.59, .83]	0.75** [.65, .85]	0.61** [.47, .75]	0.40** [.28, .52]	0.62** [.48, .76]	0.58** [.44, .72]	0.76** [.64, .88]	0.77** [.63, .91]
Profile membership										
1. High positive parenting	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
3. Average positive parenting	0.05 [−.01, .11]	−0.07** [−.01, −.13]	−0.04 [−.10, .02]	−0.03 [−.07, .01]	−0.08* [−.14, −.02]	0.06 [.00, .12]	−0.01 [−.07, .05]	−0.11* [−.17, −.05]	−0.04 [−.08, .00]	−0.10** [−.16, −.04]
2. Low positive parenting	0.08* [.00, .16]	−0.11** [−.17, −.05]	−0.11** [−.17, −.05]	−0.11** [−.19, −.03]	−0.20** [−.28, −.12]	0.12** [.02, .22]	0.04 [−.06, .14]	−0.14** [−.24, −.04]	−0.06* [−.12, .00]	−0.06 [−.14, .02]
Control variables										
Black	−0.02 [−.06, .02]	0.04* [.00, .08]	−0.03 [−.09, .03]	0.01 [−.03, .05]	0.06* [.00, .12]	−0.02 [−.08, .04]	−0.03 [−.09, .03]	−0.02 [−.08, .04]	0.02 [−.02, .06]	0.06* [.00, .12]
Family SES	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]

Notes. The intercept represents the mean value for the reference group after controlling for covariates. Means for the other groups are relative to the reference group. For example, the estimated mean parent ratings of N in the high positive parenting latent group (referent) is 0.35, which differs significantly from the estimated mean parent ratings in the low positive parenting group of 0.43 (.35 + .08) controlling for covariates. High positive parenting is used as the referent profile in all models. N = neuroticism, O = openness, E = extraversion, A = agreeableness, C = conscientiousness. SES = socioeconomic status.
*$p \leq .05$, **$p \leq .01$.

TABLE 5
Results of MANOVA's predicting self- and parent reports of adolescent personality based on whether or not the child had a confirmed history of maltreatment by the age of 12 based on records from the office of Children Youth and Family Services (CYS)

| Grouped Outcome Variables | CYS referral | | F (df = 1) | p | Partial η^2 |
| | Estimated M (SE) | | | | |
	No	Yes			
Parent ratings (N = 435)	(n = 349)	(n = 86)			
Neuroticism	.30 (.01)	.39 (.02)	11.91	**.001**	.027
Openness to Experience	.68 (.01)	.70 (.02)	1.08	.299	.003
Extraversion	.63 (.01)	.64 (.03)	0.19	.663	0
Agreeableness	.78 (.01)	.72 (.02)	8.11	**.005**	.018
Conscientiousness	.71 (.01)	.64 (.03)	4.05	**.045**	.009
Child ratings (N = 332)	(n = 268)	(n = 64)			
Neuroticism	.38 (.01)	.38 (.03)	.039	.844	0
Openness to Experience	.67 (.02)	.65 (.03)	.700	.403	.002
Extraversion	.53 (.02)	.53 (.03)	.002	.964	0
Agreeableness	.78 (.01)	.77 (.02)	.113	.737	0
Conscientiousness	.81 (.01)	.81 (.03)	.043	.835	0

Notes.. Two MANOVA's were run. One for parent ratings of the child's personality and a separate one for the child's self-reports of personality. Race and family socioeconomic status were used as covariates in both models. CYS = office of Children Youth and Family Services.

Parenting classes did not interact with race to predict self-reports of adolescent personality. Substantiated maltreatment did not interact with race to predict self- or parent reports of adolescent personality outcomes. Thus, in general, the prospective associations between parenting and maltreatment with adolescent personality were similar for Black and White adolescents in this sample with one exception. It is possible that other small interaction effects with race are present in this sample but we were not able to detect them statistically.

Post Hoc Analysis: Using a Continuous Latent Factor Rather than a Categorical Latent Class to Define Parenting

The empirically derived latent classes used here are, in essence, creating extreme groups of parenting. Thus, to examine whether the above pattern of findings is robust, we examine associations between each individual parenting scale (assessed between 10 and 12 years of age) and personality by both parent- and self-report (assessed at age 16; see Table 7). We also examined associations between a latent factor of parenting and personality at age 16 (see Table 7). We performed a principal component analysis on the four parenting scales (intercorrelations ranged from $r = .27$ to $r = .79$) and obtained a one-factor solution (i.e., one eigenvalue greater than 1.0). This Parenting factor accounted for

approximately 62% of the variance and factor loadings were between .61 and .89, with parent reports of parent–child communication having the lowest loading. We created a Parenting factor score for each participant through unit weighting. Results, shown in Table 7, suggest that the original results are robust. When analyzed in separate regressions, each individual scale and the Parenting factor all significantly predicted *parent reports* of personality, mirroring results from latent class predictor analyses (found in Table 4). For children's *self-reports* of personality, patterns also closely corresponded to results from the latent class predictor analyses. Specifically, each individual scale and the Parenting factor all significantly predicted self-reports of neuroticism and conscientiousness, most were significantly associated with extraversion, and most were *not* associated with openness to experience, mirroring latent class analyses. However, most individual scales and the Parenting factor were significantly associated with agreeableness, whereas the association between latent parenting classes and agreeableness was marginal ($p = .059$, see Table 4). Additionally, examination of *p*-values as well as standardized beta values suggests that parent-reported parental communication between the ages of 10 and 12 was not a strong predictor of self-reported personality at age 16 (particularly for agreeableness, openness, and extraversion; Table 7).

TABLE 6
Effects of Latent Parenting Profiles on Self- and Parent Reports of Adolescent Personality Controlling for Maltreatment

	Parent ratings					Child ratings				
	N B [95% CI]	O	E	A	C	N B [95% CI]	O	E	A	C
Intercept	0.32** [.22, .42]	0.61** [.49, .73]	0.70** [.58, .82]	0.77** [.60, .80]	0.62** [.48, .76]	0.40** [.28, .52]	0.63** [.49, .77]	0.57** [.41, .73]	0.76** [.66, .86]	0.77** [.63, .91]
Profile membership										
1. High positive parenting	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
3. Average positive parenting	0.05 [−.01, .11]	−0.07** [−.13, −.01]	−0.04 [−.10, .02]	−0.03 [−.07, .01]	−0.08* [−.14, −.02]	0.06 [.00, .12]	−0.01 [−.07, .05]	−0.10** [−.18, −.02]	−0.04 [−.08, .00]	−0.10** [−.16, −.04]
2. Low positive parenting	0.06 [−.02, .14]	−0.13** [−.21, −.05]	−0.12** [−.20, −.04]	−0.10** [−.16, −.04]	−0.19** [−.27, −.11]	0.13** [.03, .23]	−0.05 [−.15, .05]	−0.15** [−.25, −.05]	−0.06* [−.12, .00]	−0.06 [−.14, .02]
Control variables										
Black	−0.02 [−.06, .02]	0.04+ [.00, .08]	−0.03 [−.09, .03]	0.01 [−.03, .05]	0.06* [.00, .12]	−0.02 [−.08, .04]	−0.03 [−.09, .03]	−0.02 [−.08, .04]	0.02 [−.02, .06]	0.06* [.00, .12]
Family SES	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]	0.00 [.00, .00]
CYS referral	0.08** [.08, .14]	0.05 [−.01, .11]	0.04 [−.02, .10]	−0.04 [−.10, .02]	−0.03 [−.09, .03]	−0.02 [−.08, .04]	−0.04 [−.12, .04]	0.02 [−.06, .10]	0.00 [−.04, .04]	−0.01 [−.09, .07]

Notes.. The intercept represents the mean value for the reference group after controlling for covariates. Means for the other groups are relative to the reference group. For example, the estimated mean parent ratings of N in the high positive parenting latent group (referent) is 0.32, which does not differ significantly from the estimated mean parent ratings in the low positive parenting group of 0.37 (.32 +.05) controlling for covariates. High positive parenting is used as the referent profile in all models. High positive parenting is used as the referent profile in all models. N = neuroticism, O = openness, E = extraversion, A = agreeableness, C = conscientiousness. SES = socioeconomic status. CYS = office of Children Youth and Family Services.
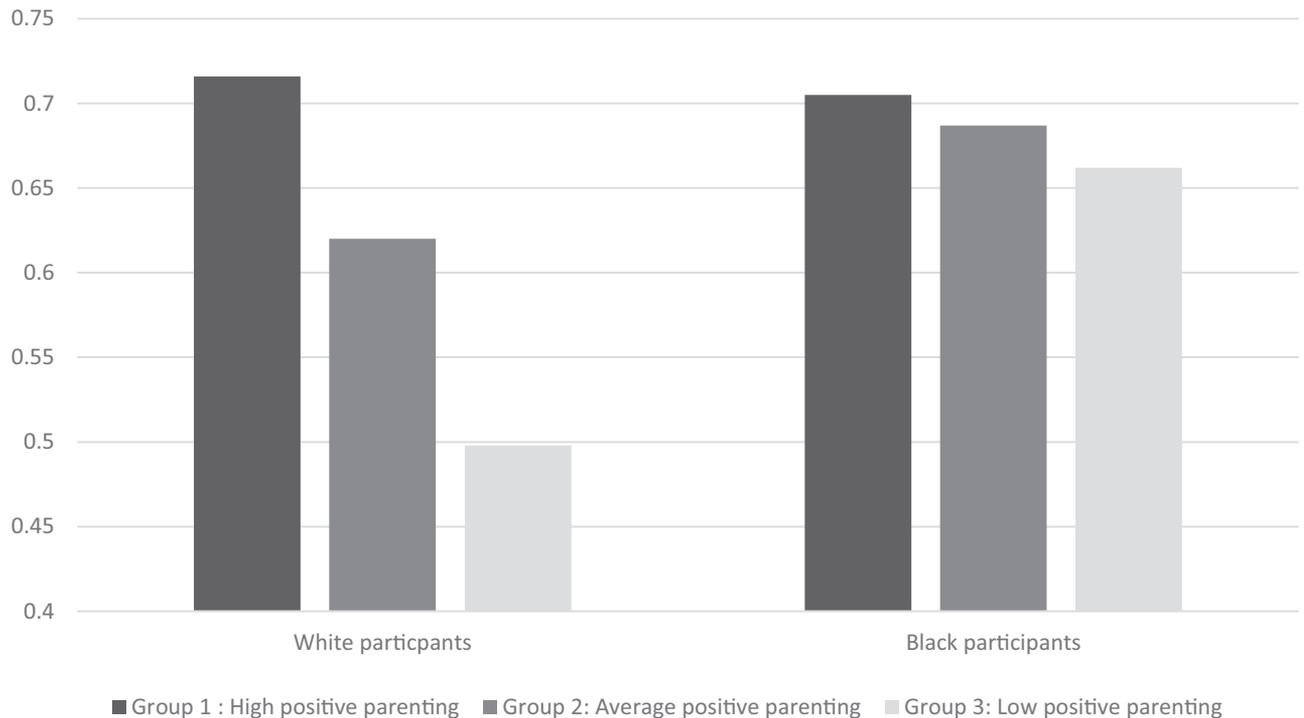*p≤.05, **p≤.01, +p = .055.

FIGURE 2   Race differences in the prospective association between latent parenting classes and parent-reported openness to experience.

DISCUSSION

In this large, multiinformant, and racially diverse longitudinal study, data-driven latent classes of parenting between the ages of 10 and 12 were prospectively associated with adolescent personality at age 16. Similar (though not identical) results were observed using the four individual parenting scales underlying the latent classes and also when a latent factor based on these four individual scales was used to predict personality (Tables 4 and 6). Personality outcomes were assessed by multiple informants (parent and self-reports); and overall, parenting in middle childhood was associated with more adaptive five-factor model traits in adolescence, with the exception of adolescents' self-reports of openness which were not associated with parenting (Tables 4 and 7). The remaining traits (neuroticism, extraversion, agreeableness, and conscientiousness) were generally associated with earlier parenting independent of how parenting was operationalized, who reported on parenting, or who reported on later personality. These findings suggest that warmth and structure in middle childhood may presage adaptive personality during adolescence and add to the scant literature linking parenting to five-factor model traits in adolescence (Lengua et al., 2018).

Substantiated history of maltreatment was also prospectively associated with greater neuroticism and lower agreeableness and conscientiousness at age 16 but only when these traits were reported by parents. Substantiated history of maltreatment showed no reliable association with either extraversion or openness to experience assessed by parent report, or with any of the five personality domains when assessed by adolescent self-report (Table 5). These results are consistent with other past methodologically rigorous work that found associations between maltreatment and more adaptive levels of these same three five-factor model traits (Rogosch & Cicchetti, 2004; Rosenman & Rodgers, 2006), though notably these other studies were predicting personality but not specifically in adolescence. Additionally, the results suggest that variations in parental supervision and parent–child communication during childhood are more closely associated with later adolescent personality than substantiated maltreatment. Notably substantiated maltreatment was not a rare occurrence in the current sample; approximately 20% of the boys had a documented experience of maltreatment by age 12.

It has been argued that neuroticism, agreeableness, and conscientiousness are the three domains of the five-factor model that most closely index

TABLE 7
Post Hoc Results of Linear Regression Analyses Predicting Self- and Parent Reports of Adolescent Personality from Individual Parenting Scales and a Latent Factor of Parenting

Grouped Outcome Variables	Parent Ratings		Child Ratings		Parenting factor
	Supervision	Communication	Supervision	Communication	
Parent ratings					
Neuroticism	.16*	.38*	.14*	.14*	.24*
Openness to Experience	−.14*	−.19*	−.14*	−.19*	−.21*
Extraversion	−.14*	−.25*	−.10*	−.17*	−.20*
Agreeableness	−.16*	−.49*	−.17*	−.17*	−.29*
Conscientiousness	−.24*	−.44*	−.20*	−.18*	−.32*
Child ratings					
Neuroticism	−.17*	.18*	.17*	.20*	.23*
Openness to Experience	.02	−.04	.02	.11	.04
Extraversion	−.17*	−.08	−.13*	−.15*	−.18*
Agreeableness	−.18*	−.07	−.21*	−.22*	−.23*
Conscientiousness	−.13*	−.14*	−.15*	−.22*	−.20*

Values represent standardized betas. Each value is from a separate regression analysis. Race and family socioeconomic status concurrent with ratings of parenting were used as covariates in all models. Parent and child ratings of supervision and communication were used as indicators of the latent Parenting factor.
*$p \leq .05$.

adaptive personality functioning (e.g., Schofield et al., 2012). Additionally, rather than orthogonal dimensions, these three dimensions of the big five have been shown to form a latent construct labeled 'Stability' in a large community sample using ratings from multiple informants (DeYoung, 2006). Parenting in middle childhood is associated with each of these traits in adolescence and thus perhaps general adolescent stability. Our data suggest that parent reports of prosocial traits (agreeableness and conscientiousness) and adolescents' self-reports of their affective experience (neuroticism) may show the closest associations with parenting. We hypothesize that this discrepancy may be due to the fact that conscientiousness and agreeableness are more easily assessed in interpersonal interactions, perhaps making parents better reporters of those traits relative to neuroticism.

Past research also suggests that others' reports of adolescent personality may be more strongly linked to later life outcomes. Here, we find that *parenting and maltreatment* are also more consistently linked to others' (i.e., parents') reports of five-factor model traits in adolescents; though notably, most differences by reporter on the same five-factor model trait are not particularly marked. For parenting, the five-factor model traits showing the largest and most consistent differences between self- and other reports are openness to experience and conscientiousness, with parent reports of these traits showing closer associations with earlier

parenting by both parent and child reports. For maltreatment, only parent reports showed significant associations (Table 5).

Both Black and White male adolescents and their parents participated in this study in roughly equal numbers and were all recruited from the same urban city (Pittsburgh, PA), allowing us to examine whether race may moderate associations between parenting quality and maltreatment on later personality in similar samples of Black and White adolescents. Parenting was more strongly associated with openness in White participants compared to Black participants (Figure 2). Otherwise, prospective associations with personality were statistically indistinguishable for Black and White adolescents. Such findings are consistent with findings from a large review showing no race differences in parenting practices on child outcomes (e.g., Amato & Fowler, 2002) and with recent perspectives suggesting that warmth and structure (e.g., monitoring, discipline) foster successful development across racial lines, though the ideal level of structure may differ insomuch as environmental threat and safety overlap with race due to the historical context of race in America (Gaylor-Harden et al., 2018).

The data analyzed here are 20 years old. It is possible that associations among parenting and adolescent personality could differ from a current cohort of adolescents. This concern is perhaps most relevant for the assessment of supervision. For

example, there is evidence that children's days are more scheduled and thus more structured now than they have been in the past and this, like parental supervision, is associated with positive outcomes (Mahoney & Vest, 2012), although this may vary by demographics (Randall, Travers, Shapiro, & Bohnert, 2016). Hence, supervision by parents may be less important for children whose days are highly scheduled, as these activities tend to be monitored by other adults (e.g., involvement in sports, clubs, community service). Further, the supervision scale used here may evince lower construct validity if used today. For example, supervision would likely include different items relevant to technology and the item asking whether parents and children know how to get in touch with each other when one is away from home may no longer be a sensitive item due to widespread use of cell phones.

Strengths and Limitations

There are many methodological strengths to the current study, such as multiple assessments and multiple informant ratings of both independent and dependent variables, which reduce error and bias in measurement, as well as a longitudinal design. An additional unique strength of the current analysis is the prospective assessment of substantiated maltreatment, rather than relying on retrospective self- or parent reports of maltreatment years or decades later, which may be biased. These are key, as no prior studies to our knowledge have been able to examine prospective associations of multirater personality and parenting, as well as substantiated maltreatment and in a racially diverse sample.

Despite these strengths, no causal conclusions can be drawn from the current nonexperimental data, particularly given that personality could not be statistically controlled at baseline. Similarly, causal direction cannot be identified. For example, part of the association between parenting and personality is likely due to environmental elicitation, whereby parenting is shaped by the child's personality at an earlier time point (e.g., less agreeable children may elicit more negative parenting behaviors; Lengua, 2006; Shiner & Caspi, 2003). These data allow for rigorous testing of longitudinal associations between parenting and personality, but not bidirectional processes among these constructs. Additionally, although assessing maltreatment using objective criteria addresses many limitations of self-reports, relying on objective corroboration

by an outside agency likely still results in underestimation of the prevalence of maltreatment (e.g., Gilbert et al., 2009). The sample was also limited geographically in that all participants grew up in and around the city of Pittsburgh. While this may be a strength in terms of comparison of racial groups within the same geographic area, it is a limitation in terms of geographic generalizability (i.e., findings may not extend to rural populations). Although our sample was diverse in terms of race, the Pittsburgh Youth study only included boys and we do not know whether these results would generalize to girls. Notably, at least one other rigorous longitudinal study found no gender differences in prospective associations between parenting and offspring personality, though that study examined different dimensions of parenting and some different dimensions of personality than those examined here (Van den Akker et al., 2014).

We used listwise deletion in our analyses, which excludes cases with missing data on any variable and there was more missing data for adolescents' self-reports of personality than parent reports of these same traits. Listwise deletion can reduce statistical power because it reduces sample size, though we note that our analytic samples were large and we report effect sizes (which are not dependent on sample size) to simplify comparison across reporters. Additionally, our parenting measures do not represent an exhaustive assessment of parenting behaviors or parent–child relationship factors; other scales measuring the constructs of structure and warmth could show different associations as could other parenting constructs (e.g., autonomy support, expectations, and parenting typologies). The supervision scale was a four-item scale and showed lower internal consistency compared to the communication scale, but despite this difference, the supervision scale showed a much higher correlation between parent and child reports compared to the communication scale ($r = .27$ vs .79). Thus, each parenting scale had psychometric strengths and weakness, which may be useful to consider when comparing these results to results of future studies. We speculate that the communication scale showed higher internal reliability compared to the supervision scale because items are more subjective and ratings likely reflect a general sense of a warm and trusting relationship between caregiver and child, whereas supervision items are very behaviorally specific and so may be less influenced by general perceptions. Notably, measures with lower reliability may impact the reproducibility of latent profile analyses because LPA

categorizes people into groups based on clustering of scaled scores; thus, if scale scores are less reliable, this affects the reliability of the classes derived from those scale scores. It is also important to note that we averaged scaled scores over four assessments to get the measures of supervision used in this study, increasing the reliability of the measure.

CONCLUSIONS

These results provide methodologically rigorous evidence that the quality of parenting provided to children is prospectively associated with adaptive personality profiles rated by both parents and children during adolescence. Parenting quality was more closely and reliably associated with later personality than was substantiated maltreatment, and only parent reports of personality at age 16 showed associations with objective maltreatment. Further, longitudinal associations between parenting and adolescent personality were independent of maltreatment, and no associations were moderated by race, with the exception of parenting on openness to experience.

DECLARATION OF CONFLICTING INTERESTS

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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