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## The Antecedents and Correlates of Agreeableness in Adulthood

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### Abstract

Data from a 25-year prospective study of 194 individuals indicated that teacher and peer reports of aggression, compliance, and self-control at age 8 distinguished high-agreeable from low-agreeable adults at age 33. Profile analyses revealed two behavioral types in childhood and two personality types in adulthood, with considerable continuity in the composition of these high- and low-agreeable types over time. High-agreeable childhood types had fewer disobedience and concentration problems than low-agreeable childhood types, and among boys, high-agreeable childhood types had better school grades and fewer behavior problems than their low-agreeable counterparts. High-agreeable adulthood types reported less alcoholism and depression, fewer arrests, and more career stability than did low-agreeable adulthood types.

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Agreeableness is one of the most salient and influential personality constructs. Five-factor approaches to the study of personality reveal a distinct agreeableness dimension that emphasizes cooperation, compassion, and empathy (John & Srivastava, 1999). When parents in seven distinct cultures were asked to describe their own children, characteristics reflecting agreeableness were consistently among those mentioned most frequently (Kohnstamm, Halverson, Mervielde, & Havill, 1998). Adults tend to volunteer agreeableness descriptors about themselves too (Pulkkinen, Männikkö, & Nurmi, 2000). Agreeableness is of fundamental importance to psychological well-being, predicting mental health, positive affect, and good relations with others (DeNeve & Cooper, 1998; Schmutte & Ryff, 1997). Yet despite strong evidence to support the utility and validity of agreeableness, its developmental significance has yet to be realized. “The value of the five-factor model would be enhanced if it could be shown that Big Five dimensions in adults have developmental antecedents or are linked to previous life adaptations” (Graziano, 1994, p. 339). To this end, in the present investigation, we explore associations between child behaviors and adult agreeableness. In particular, this inquiry was designed to identify childhood behavioral profiles that are antecedent to adulthood personality profiles and to delineate patterns of adjustment associated with these profiles. We used findings from an ongoing longitudinal study to describe individual development in a sample of participants from Central Finland.

Scant attention has been paid to the structure of personality prior to adulthood, but emerging evidence suggests that a dimension akin to agreeableness may apply equally well to late childhood and adolescence (Caspi, 1998). Agreeableness factors that incorporate traits such as

warmth, compliance, and nonaggression have emerged from studies that were based on teacher reports and self-reports of attributes adopted from Big Five inventories for adults (Digman, 1989; Goldberg, 2001; Graziano & Ward, 1992; Scholte, van Aken, & van Lieshout, 1997), maternal California Child Q-Sort descriptions (John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994), and semi-structured interviews with parents and children (Shiner, 2000). Six studies of Dutch children and adolescents provide particularly compelling developmental evidence for the trait (van Lieshout & Haselager, 1994). Across samples, raters, gender, and age groups, agreeableness was the most robust personality dimension to emerge from teacher, parent, friend, and self California Child Q-Sort descriptions. These studies suggest that agreeableness is one of the most prominent personality traits in childhood and adolescence.

To say that a distinct agreeableness dimension can be identified in childhood, adolescence, and adulthood is not the same thing as saying that agreeableness is stable over time. “The initial impulse of psychologists when asked ‘Is the character of people consistent or does personality change over time?’ is to reply primly, ‘Consistent with respect to what? Change with respect to what?’ If pressed to an empirical response, the psychologist will correlate positionings on a single variable over time and report consistency or change only in these variable qualified terms” (Block, 1971, p. 91). Assessing differential, or rank-order, continuity, studies of this sort typically describe the relative standing of individuals in terms of one variable at two or more time points (Caspi, 1998). The differential continuity of Big Five personality traits improves with age (over time, rank-order correlations range from .31 during early childhood to .64 during mid-adulthood to .74 in later life), with agreeableness emerging as one of the most consistent factors within age periods (Roberts & DelVecchio, 2000).

But differential continuity tells only part of the ontogenetic tale. Group-level constancy is not necessarily replicated at the level of the individual; moderate correlations may be the product of moderate stability in many individuals or high stability in some and low stability in others. For this reason, developmental scholars must also consider *morphogenic continuity*, which describes stability in the configuration of personality traits within an individual across time (Caspi, 1998). Studies measuring morphogenic continuity typically adopt a typological or person-centered approach in order to identify individuals with similar traits who share personality profiles. A profile shared by many is known as a *type*; a profile shared by few is known as an *antitype* (von Eye, 1990). Types and antitypes usually describe the personality profiles of individuals at a particular point in time, but they may also be used to describe personality profiles over time. Morphogenic properties of agreeableness are not well understood, in part because stability must be extrapolated from research that predates the five-factor model. But other traits have been examined using this approach. For example, longitudinal research by Block (1971) identified two global personality types, shared by males and females, that appear to prominently feature an agreeableness dimension. The resilient group consists of individuals who are pleasant, controlled, socialized, and interpersonally effective. The undercontrolled group includes individuals who are antagonistic, impulsive, aggressive, and inconsiderate. Subsequent longitudinal studies that have revealed personality types with a similar emphasis on agreeableness have also confirmed their stability over time (Caspi, 2000; Roberts, Caspi, & Moffitt, 2001). Thus, although little is known about the developmental origins and intraindividual coherence of agreeableness as assayed by the five-factor model of personality, there is reason to suspect that agreeable and disagreeable individuals retain these salient characteristics from childhood to adulthood.

The origins of individual differences in agreeableness have prompted considerable speculation. Agreeableness holds the strongest environmental component of the Big Five traits: Estimates of its shared and nonshared environmental influence range as high as 21% and 67%, respectively (Bergeman et al., 1993; Loehlin, 1992). Recognizing that it is not a genetic fixture, the consensus view holds that agreeableness is probably grounded in childhood difficultness

(Graziano, 1994). More than a temperament trait, difficultness encompasses impulsivity, tractability, and negativity (Bates, 1986), all of which have a direct bearing on social interactions and interpersonal relationships. Thus, adult agreeableness should have its origins in emotional and behavioral regulation as indicated by child cooperation, self-control, persistence, and expressed affect (Ahadi & Rothbart, 1994; Caspi, 1998; Pulkkinen, 1982, 1996).

Agreeableness describes the ability to get along with others. Because it is manifest in interpersonal relations, the influence of agreeableness should be clearest in the arena of social adjustment. Data from nonclinical and clinical samples of children and adolescents have linked the five-factor agreeableness dimension to concurrent externalizing problems (Ehrler, Evans, & McGhee, 1999; Huey & Weisz, 1997; John et al., 1994; Victor, 1994). Child and adolescent agreeableness has also been tied to concurrent outcomes as diverse as conflict management skills, school adjustment, peer social status, and self-esteem (Graziano, Jensen-Campbell, & Finch, 1997; Graziano & Ward, 1992; Jensen-Campbell & Graziano, 2001; Scholte et al., 1997). Among young adults, individuals diagnosed with externalizing as well as internalizing disorders present lower levels of agreeableness and communion, and higher levels of negative emotionality, than those without such disorders (Krueger, Caspi, Moffitt, Silva, & McGee, 1996; Trull & Sher, 1994), and relatedly, agreeableness is reported to mediate links between anger and depression (Finch & Graziano, 2001). Among college students, agreeableness is associated with self-reports of emotional experience and control and with psycho-physiological responses to affectively charged stimuli (Tobin, Graziano, Vanman, & Tassinary, 2000). Across adulthood, low agreeableness has been found to be a health risk, and high agreeableness, especially trust and honesty, has been linked to longevity (Friedman et al., 1995; John & Srivastava, 1999). Finally, two studies suggest that agreeableness forecasts later adjustment. In the first, composite variables describing middle-childhood agreeableness and friendly compliance predicted adolescent academic performance, behavioral conduct, and social competence 10 years later (Shiner, 2000). In the second, explosive and ill-tempered children were found to have higher rates of divorce as adults when compared with their even-tempered peers; ill-tempered men had lower educational attainment, occupational status, and work stability, and ill-tempered women married men with similar low achievement profiles (Caspi, Elder, & Bem, 1987). To summarize, strong developmental evidence implicates agreeableness in individual adjustment.

The present investigation was designed to shed light on the Big Five construct of agreeableness. Results from an ongoing prospective study of individuals, most of whom were born in 1959, are used to describe personality development from ages 8 to 36. Four questions are central to this article: (a) What differentiates high-agreeable adults from low-agreeable adults? (b) What personality profiles encompass high and low agreeableness in adulthood? (c) What are the childhood antecedents of these adult personality profiles? and (d) Do adjustment outcomes differ across child behavioral profiles and adult personality profiles? To answer these questions, we constructed profiles based on the childhood behavioral attributes and the adulthood personality characteristics that best distinguished high-agreeable adults from low-agreeable adults. The antecedents of agreeableness are described both in terms of differential stability (i.e., correlating childhood behaviors with adult agreeableness) and morphogenic stability (i.e., linking childhood behavioral profiles to adulthood personality profiles). The profiles that emerge in each age period are compared in terms of childhood disobedience, concentration and behavior problems, and school grades and in terms of adulthood alcoholism, criminality, depression, and occupational stability. Adult adjustment outcomes are also examined as a function of the morphogenic stability of profiles.

Our hypotheses were informed by Graziano's (1994) model of childhood difficultness and Pulkkinen's (1982, 1995) model of childhood emotional and behavioral regulation. We

anticipated that childhood behavioral attributes of aggression, compliance, and self-control would differentiate high- from low-agreeable adults. We expected adult personality attributes would combine to reveal high- and low-agreeable types and that the aforementioned child behavioral attributes would combine to reveal two parallel antecedent types. Childhood types were hypothesized to predict adulthood types. Within each age period, high-agreeable types were expected to be better adjusted than low-agreeable types. Across age periods, those who were high-agreeable types in childhood and adulthood were expected to be better adjusted than those who were high-agreeable types at one age period but low-agreeable types at another age period; this latter group, in turn, was expected to be better adjusted than those who were low-agreeable types in childhood and adulthood.

## Method

### Participants

Participants were drawn from the ongoing Jyväskylä Longitudinal Study of Personality and Social Development (Pulkkinen, 1998). The present investigation includes a total of 194 participants (98 women and 96 men), or 52.6% of the original sample, for whom there were data from each of four data collection periods: 1968, when participants were 8 years old; 1974, when participants were 14 years old; 1992, when participants were 33 years old; and 1995, when participants were 36 years old.

The original sample of 8-year-olds consisted of 369 participants (173 girls and 196 boys) who represented all students enrolled in 12 randomly selected second-grade classes from urban and suburban public schools in a Central Finland community. At age 14, teacher and peer ratings were available for 356 participants (167 girls and 189 boys), or 96.5% of the original sample. At age 33, mailed questionnaires were returned by 202 participants (106 women and 96 men), or 54.7% of the original sample. At age 36, semi-structured interviews lasting 2–4 hours were conducted with 283 participants (137 women and 146 men), or 76.7% of the original sample. No systematic attrition could be identified in either adult sample. That is, there were no differences on any of the variables described below between adults included in the present investigation and those who were not. Comparisons with census data indicate that adult participants were representative of their Finnish age cohort in terms of marital status, number of children, level of education, religion, income, and unemployment (Kokkonen & Pulkkinen, 1999).

### Instruments

Table 1 presents internal reliability coefficients and descriptive statistics for all variables.

**Age 8 behavioral characteristics**—Teacher ratings and peer nominations were the source of summary scores that described childhood behavioral characteristics. Teachers were presented with a list of descriptive items and asked to rate each student in the class on a 4-point scale ranging from *never observed the characteristic in question* to *the characteristic in question is very prominent*. Classmates were presented with a similar list and asked to select the three children (from a roster of same-sex classmates) best described by each item. Separate standardized *z* scores were calculated for teacher and peer reports within each class. Scores were then summed and averaged across reporters. Items describing childhood behavioral characteristics included six variables from Pulkkinen's (1982, 1995) developmental model of emotional and behavioral regulation. Three items each were included in teacher and peer assessments of anxiety (e.g., "Who is afraid of other children?"), compliance (e.g., "Who is peaceful and patient?"), and constructiveness (e.g., "Who tries to act reasonable, even in annoying situations?"). Four items composed teacher and peer assessments of aggression (e.g., "Who may hurt another child when angry?"). Activity/passivity (e.g., "Who is always busy

and plays eagerly with other children?") assessments included three items for teachers and two items for peers. Self-control (e.g., "Who is considered reliable?") assessments involved four items for teachers and three items for peers.

**Age 8 adjustment**—Teacher ratings and peer nominations provided a measure of childhood adjustment. Separate standardized  $z$  scores were calculated for teacher and peer reports within each class. These scores were summed and averaged across reporters. Disobedience ("Who tends to disobey the teacher?") included one item from each reporter.

**Age 14 adjustment**—Teacher ratings and peer nominations concerning concentration problems ("Who is impulsive and lacks concentration?") included a single item each. Teacher ratings of problem behaviors (e.g., "Does the pupil smoke?") included six items. Separate standardized  $z$  scores were calculated for teacher reports and for peer reports within each class. Scores for concentration problems were summed and averaged across reporters. School officials provided the academic grade point average (GPA) for each participant. In Finland, school grades range from a low of 4 to a high of 10.

**Age 33 personality**—Participants completed an authorized adaptation of the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985) in which approximately 25% of the items were modified from the original English (Pulver, Allik, Pulkkinen, & Hämäläinen, 1995). Items were rated on a 5-point scale ranging from *strongly disagree* to *strongly agree*. Agreeableness (e.g., "I would rather cooperate than compete."), the focus of the present study,<sup>1</sup> represents the sum of scores for 18 items.

**Age 36 personality**—Participants completed the Karolinska Scales of Personality (af Klinteberg, Schalling, & Magnusson, 1990). Items were rated on a 4-point scale ranging from *does not describe me very well* to *describes me very well*. Four adulthood personality variables were included in the present study. Anxiety (e.g., "I often feel uncomfortable and ill at ease for no real reason.") consisted of 30 items that addressed muscular, psychic, and somatic complaints. Impulsivity (e.g., "I consider myself an impulsive person.") included 9 items that described a tendency to act without thinking. Inhibition of aggression (e.g., "I sometimes wish I could speak up when I dislike something.") consisted of 9 items that addressed anger suppression and a lack of assertiveness. Socialization (e.g., "Even when I have gotten into trouble I was usually trying to do the right thing.") consisted of 20 items that addressed independence and social responsibility. For each variable, a summary score was calculated.

**Age 36 adjustment**—Participants completed an abridged Depression subscale from the General Behavior Inventory (Depue, 1987) and the CAGE alcoholism questionnaire (Ewing, 1984). Depression (e.g., "Have there been periods of time when you felt a persistent sense of gloom?") included the average of 16 items rated on a 4-point scale ranging from *never* to *very often*. Alcoholism (e.g., "Have you ever felt that you ought to cut down on your drinking?") represented the average of four items rated on a 3-point scale ranging from *no or never* to *often*. Career stability was a composite variable that described employment stability from age 27 to age 36 and was based on descriptions of education, training, and the number of years an individual was employed, in school, on maternity leave, or unemployed (Pulkkinen, Ohranen, & Tolvanen, 1999). Participants were classified on a 3-point scale ranging from *unstable career* (those who were unemployed for extended periods of time or who could not find work to correspond with their training) to *stable career* (those who were continuously employed in their fields of training or who returned to their previous job after maternity leaves). Finally,

<sup>1</sup>Internal reliability (alpha) ranged from .70 to .84 for the remaining NEO-PI variables: conscientiousness,  $M = 46.65$ ,  $SD = 9.1$ ; extraversion,  $M = 107.60$ ,  $SD = 19.8$ ; neuroticism,  $M = 82.14$ ,  $SD = 22.8$ ; and openness,  $M = 113.95$ ,  $SD = 21.7$ .



police records provided information for each participant about the total number of criminal arrests as an adult.

## Plan of Analyses

Preliminary analyses were conducted to explore associations between child behavior and adjustment variables and adult personality and adjustment variables. Of particular interest were correlations that determined links between child behavior and adult agreeableness and between adult agreeableness and adult adjustment. Regression analyses were used to determine whether patterns of association differed for males and females.

In terms of the central hypotheses, the first set of analyses addressed the question, What differentiates high-agreeable adults from low-agreeable adults? Median splits of age 33 agreeableness scores were used to create groups of high-agreeable and low-agreeable adults. Two separate discriminant function analyses (Pedhazur, 1997) were conducted to determine the relative adequacy of the childhood behavioral variables (age 8 activity/passivity, aggression, anxiety, compliance, constructiveness, and self-control) and the adulthood personality variables (age 36 anxiety, impulsivity, inhibition of aggression, and socialization) in distinguishing between the high-agreeable and low-agreeable groups.

The second set of analyses addressed the question, What personality profiles accompany high and low agreeableness in adulthood? In preceding analyses, discriminant function analyses were used to identify the two age 36 personality variables that best distinguished high-agreeable from low-agreeable adults. Median splits were then used to classify participants as high or low on each of these two variables. Thus, all participants were categorized into one of eight profiles consisting of high or low scores on age 33 agreeableness and high or low scores on age 36 socialization and impulsivity (e.g., high agreeableness, high socialization, and low impulsivity). Configural frequency analyses (CFAs; von Eye, 1990) were conducted to determine the relative frequency of each profile and to identify *types* (profiles that occurred at greater than chance levels in one-way chi-square tests) and *antitypes* (profiles that occurred at less than chance levels in one-way chi-square tests). The sample size limited the number of CFA variables to three. Chi-square analyses were used to determine whether the distribution of profiles differed for men and women.

The third set of analyses addressed the question, What are the childhood antecedents of these adult profiles? Preliminary analyses answered this question in terms of differential continuity, correlating child behavior with adult agreeableness. Additional analyses exploring morphogenic continuity provided another answer to this question. In preceding analyses, discriminant function analyses were used to identify the three age 8 behavioral variables that best discriminated high-agreeable from low-agreeable adults. Median splits were then used to classify participants as high or low on each of these variables. In this manner, all participants were categorized into one of eight profiles consisting of high or low scores on three age 8 behavioral variables (e.g., high compliance, low aggression, and high self-control). CFA was used to determine the relative frequency of each profile and to identify types and antitypes. Again, the sample size limited the number of CFA variables to three. Chi-square analyses were conducted to determine whether the distribution of profiles differed for boys and girls. Childhood behavior profiles were then cross-tabulated with adulthood personality profiles; one-way CFA chi-square analyses were performed to identify stable and unstable profiles over time and to identify types and antitypes.

The fourth set of analyses addressed the question, Do adjustment outcomes differ across childhood behavioral profiles and adulthood personality profiles? Analyses considered whether child outcomes differed as a function of childhood profiles and whether adult outcomes differed as a function of adulthood profiles. Separate analyses of variance (ANOVAs) were

conducted comparing children with different behavioral profiles on four outcome variables: age 8 disobedience and age 14 concentration problems, GPA, and problem behaviors. ANOVAs were also performed to compare adults with different personality profiles on four outcome variables: age 36 alcoholism, arrests, depression, and career stability. Additional analyses were conducted to determine whether adult outcomes differed as a function of the morphogenic stability of profiles from childhood to adulthood. These analyses were limited to adulthood personality types and the childhood behavioral types that predicted them. Separate ANOVAs were used to compare individuals whose profiles were stable from childhood to adulthood with individuals whose profiles were unstable from childhood to adulthood on four outcome variables: age 36 alcoholism, arrests, depression, and career stability.

## Results

Preliminary analyses involved correlations among the variables (see Table 1). We focus here on two sets of correlations involving agreeableness.<sup>2</sup> The first set of correlations concern childhood behavioral antecedents of agreeableness, which provide a measure of differential stability. Age 8 compliance, constructiveness, and self-control were positively associated with age 33 agreeableness; there was a negative association between age 8 aggression and age 33 agreeableness. The second set of correlations concern adulthood adjustment correlates of agreeableness, which suggest the contributions of agreeableness to adjustment. There was a negative association between age 33 agreeableness and age 36 alcoholism. Separate sets of regression analyses revealed no evidence that gender moderated these associations.

### Distinguishing High-Agreeable Adults From Low-Agreeable Adults

Two sets of discriminant analyses were conducted to determine which variables best distinguished high-agreeable adults from low-agreeable adults. The first included six childhood behavioral variables (age 8 activity/passivity, aggression, anxiety, compliance, constructiveness, and self-control) as predictors. The second included four adulthood personality variables (age 36 anxiety, impulsivity, inhibition of aggression, and socialization) as predictors. Wilks's lambda provided a measure of the discriminating power of the variables before the discriminant functions were derived. Both discriminant functions were statistically significant ( $p < .01$ ). In each case, 60% to 65% of the participants were correctly classified in original analyses and in subsequent cross-validating analyses (see Table 2).

Table 2 presents standardized discriminant coefficients and structure coefficients as two measures of the relative ability of the predictor variables to discriminate between the groups. Standardized discriminant coefficients are analogous to beta weights in a regression, whereas structure coefficients represent simple correlations between discriminant functions and predictor variables. Standardized coefficients are affected by the variability of the variables with which they are associated and by intercorrelations among the variables, so structure coefficient correlations were used to determine the relative importance of predictor variables (Pedhazur, 1997).

In the first analyses, structure coefficients revealed that childhood compliance, aggression, and self-control discriminated high-agreeable from low-agreeable adults better than did activity/passivity, constructiveness, and anxiety. In the second analyses, structure coefficients indicated

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<sup>2</sup>Similar analyses were conducted for the remaining NEO-PI variables. Statistically significant ( $p < .05$ ) correlations emerged between age 8 constructiveness and age 33 neuroticism ( $r = -.18$ ) and between age 8 disobedience and age 33 neuroticism ( $r = .15$ ). In addition, significant correlations emerged between age 33 neuroticism and age 36 alcoholism ( $r = .38$ ), career stability ( $r = -.28$ ), and depression ( $r = .57$ ), between age 33 conscientiousness and age 36 alcoholism ( $r = -.30$ ), arrests ( $r = -.17$ ), and career stability ( $r = -.18$ ), and between age 33 openness and age 36 career stability ( $r = -.26$ ).

that adulthood socialization and impulsivity discriminated high-agreeable from low-agreeable adults better than did inhibition of aggression and anxiety.<sup>3</sup>

### The Personality Profiles of High- and Low-Agreeable Adults

CFA and chi-square analyses were conducted to determine personality profiles in adulthood. These analyses included agreeableness and the two age 36 personality variables that best discriminated high-agreeable adults from low-agreeable adults (i.e., socialization and impulsivity). On the basis of median splits, participants were categorized as high ( $n = 97$ ) or low ( $n = 97$ ) on agreeableness, high ( $n = 101$ ) or low ( $n = 93$ ) on socialization, and high ( $n = 115$ ) or low ( $n = 79$ ) on impulsivity. Each participant was then categorized into one of eight personality profiles (see Table 3). From these eight personality profiles, separate one-way CFA chi-squares identified two personality types: (a) high agreeableness, high socialization, and low impulsivity, and (b) low agreeableness, low socialization, and high impulsivity. These analyses also identified one personality antitype: low agreeableness, high socialization, and high impulsivity.<sup>4</sup>

A 2 (sex)  $\times$  8 (adulthood personality profile) chi-square analysis revealed statistically significant differences between men and women in the distribution of the eight profiles,  $\chi^2(7, N = 194) = 21.24, p < .01$ . Follow-up binomial tests ( $p < .01$ ) traced these differences to the high-agreeableness, low-socialization, low-impulsivity profile, which included more women ( $n = 13$ ) than men ( $n = 1$ ). There were no gender differences in the high-agreeableness, high-socialization, low-impulsivity type ( $n = 20$  women and 13 men) or in the low-agreeableness, low-socialization, high-impulsivity type ( $n = 16$  women and 29 men).

### Childhood Behavioral Antecedents of Adulthood Personality Profiles

**Childhood behavioral profiles**—CFA and chi-square analyses were conducted to determine the prevalence of behavioral profiles in childhood. Profiles were defined in terms of the three age 8 behavioral variables that best differentiated high-agreeable from low-agreeable adults: compliance, self-control, and aggression. On the basis of median splits, participants were categorized as high ( $n = 97$ ) or low ( $n = 97$ ) on compliance, high ( $n = 101$ ) or low ( $n = 93$ ) on self-control, and high ( $n = 97$ ) or low ( $n = 97$ ) on aggression. Each participant was then categorized into one of eight behavioral profiles (see Table 3). From these eight personality profiles, one-way CFA chi-squares identified two behavioral types: (a) high compliance, high self-control, and low aggression and (b) low compliance, low self-control, and high aggression. These analyses also identified six behavioral antitypes: (a) low compliance, low self-control, and low aggression; (b) high compliance, low self-control, and low aggression; (c) low compliance, high self-control, and low aggression; (d) high compliance, low self-control, and high aggression; (e) low compliance, high self-control, and high aggression; and (f) high compliance, high self-control, and high aggression.

A 2 (sex)  $\times$  8 (childhood behavioral profile) chi-square analysis revealed statistically significant differences between boys and girls in the distribution of these profiles,  $\chi^2(7, N = 194) = 16.05, p < .05$ . Follow-up binomial tests, however, failed to identify differences in the number of boys and girls included in any specific profile. There were no gender differences in the high-

<sup>3</sup>Similar discriminant analyses using conscientiousness, extraversion, neuroticism, and openness to predict high and low agreeableness were statistically significant (Wilks's lambda = .92,  $p < .01$ ). Standardized coefficients and structure coefficients were higher for neuroticism (-.67 and -.68, respectively) and openness (.82 and .62, respectively) than for conscientiousness (.35 and .30, respectively) and extraversion (-.28 and .21, respectively).

<sup>4</sup>In additional analyses, median splits were used to classify participants as high or low on the NEO-PI variables that best discriminated high-agreeable from low-agreeable adults (i.e., neuroticism and openness). Thus, all participants were categorized into one of eight profiles consisting of high ( $n = 90$ ) or low ( $n = 92$ ) agreeableness, high ( $n = 91$ ) or low ( $n = 91$ ) neuroticism, and high ( $n = 92$ ) or low ( $n = 90$ ) openness. CFA revealed no antitypes and one statistically significant ( $p < .05$ ) profile type: high agreeableness, high openness, and low neuroticism ( $n = 33$ ).



compliance, high-self-control, low-aggression type ( $n = 38$  girls and 32 boys) or in the low-compliance, low-self-control, high-aggression type ( $n = 27$  girls and 42 boys).

#### **Linking childhood behavioral profiles to adulthood personality profiles—**

Separate one-way CFA chi-squares were used to examine the morphogenic stability of profiles in terms of the across-time association between childhood behavioral profiles and adulthood personality profiles (see Table 3). Childhood types predicted adulthood types. High-compliant, high-self-control, and low-aggressive children were most likely to become high-agreeable, high-socialized, and low-impulsive adults; these children were unlikely to become low-agreeable, low-socialized, and high-impulsive adults. Similarly, low-compliant, low-self-control, and high-aggressive children were likely to become low-agreeable, low-socialized, and high-impulsive adults; these children were unlikely to become high-agreeable, high-socialized, and low-impulsive adults. In addition, children classified as low-compliance, low-self-control, low-aggression antitypes and children classified as high-compliance, high-self-control, low-aggression types had a greater than chance probability of becoming adults with high-agreeableness, high-socialization, high-impulsivity profiles.

### **Adjustment Outcomes as a Function of Childhood Behavioral Profiles, Adulthood Personality Profiles, and Profile Stability**

**Childhood profiles and child adjustment—**Children with different behavioral types differed in terms of adjustment (see Table 4). Four separate 2 (gender)  $\times$  8 (childhood behavioral profile) ANOVAs were conducted. In the first ANOVA, age 8 disobedience was the dependent variable. Results revealed a main effect for behavioral profile,  $F(7, 173) = 17.23$ ,  $p < .01$ . In the second ANOVA, age 14 concentration problems was the dependent variable. Main effects emerged for gender,  $F(1, 168) = 5.76$ ,  $p < .05$ , and behavioral profile,  $F(7, 168) = 4.44$ ,  $p < .01$ . Boys ( $M = 0.14$ ,  $SD = 0.9$ ) had more concentration problems than girls ( $M = -0.16$ ,  $SD = 0.7$ ). Post hoc analyses revealed that low-compliance, low-self-control, high-aggression types scored higher on disobedience and concentration problems than did high-compliance, high-self-control, low-aggression types.

In the third ANOVA, age 14 GPA was the dependent variable. There was a main effect for gender,  $F(1, 161) = 22.18$ ,  $p < .01$ , and a two-way interaction between gender and behavioral profile,  $F(6, 161) = 2.74$ ,  $p < .05$ . Girls ( $M = 7.74$ ,  $SD = 0.7$ ) received better school grades than boys ( $M = 6.92$ ,  $SD = 0.8$ ). In the fourth ANOVA, age 14 problem behaviors were the dependent variable. Main effects emerged for gender,  $F(1, 166) = 12.47$ ,  $p < .01$ , and behavioral profile,  $F(7, 166) = 4.26$ ,  $p < .01$ . In addition, there was a two-way interaction between gender and behavioral profile,  $F(6, 166) = 3.12$ ,  $p < .01$ . Boys ( $M = 0.14$ ,  $SD = 0.7$ ) had more problem behaviors than girls ( $M = -0.28$ ,  $SD = 0.4$ ). Low-compliance, low-self-control, high-aggression types ( $M = 0.19$ ,  $SD = 0.7$ ) had more problem behaviors than did high-compliance, high-self-control, low-aggression types ( $M = -0.32$ ,  $SD = 0.4$ ). Follow-up analyses of both two-way interactions contrasted all possible combinations of behavioral profiles, separately for each gender. There were no statistically significant differences between profiles for girls. For boys, high-compliance, high-self-control, low-aggression profile types received better school grades and had fewer problem behaviors than did low-compliance, low-self-control, high-aggression types.

**Adulthood profiles and adult adjustment—**Adults with different personality types differed in terms of adjustment (see Table 5). Four separate 2 (gender)  $\times$  8 (adulthood personality profile) ANOVAs were conducted. In the first ANOVA, age 36 alcoholism was the dependent variable. Main effects emerged for gender,  $F(1, 170) = 7.15$ ,  $p < .01$ , and personality profile,  $F(7, 170) = 4.47$ ,  $p < .01$ . Men ( $M = 1.96$ ,  $SD = 2.0$ ) reported higher levels of alcoholism than women ( $M = 0.79$ ,  $SD = 1.2$ ). In the second ANOVA, age 36 arrests was

the dependent variable. There was a main effect for personality profile,  $F(7, 178) = 2.15, p < .05$ . In the third ANOVA, age 36 career stability was the dependent variable. Here, too, a main effect for personality profile emerged,  $F(7, 185) = 3.10, p < .01$ . In the fourth ANOVA, age 36 depression was the dependent variable. Results revealed a main effect for personality profile,  $F(7, 179) = 3.49, p < .01$ . Altogether, high-agreeableness, high-socialization, low-impulsivity types had fewer criminal arrests, reported less alcoholism and depression, and had more career stability than did low-agreeableness, low-socialization, high-impulsivity types.

**Profile stability and adult adjustment**—A final set of analyses examined adult adjustment as a function of the morphogenic stability of profiles from childhood to adulthood. These analyses were limited to the 57 individuals who were (a) high-agreeable types (high compliance, high self-control, low aggression) or low-agreeable types (low compliance, low self-control, high aggression) in childhood and (b) high-agreeable types (high agreeableness, high socialization, low impulsivity) or low-agreeable types (low agreeableness, low socialization, high impulsivity) in adulthood. We hypothesized that stable high agreeables (high-agreeable types in childhood and in adulthood) would have better adult outcomes than stable low agreeables (low-agreeable types in childhood and in adulthood); those with unstable profiles (high-agreeable types in childhood and low-agreeable types in adulthood or low-agreeable types in childhood and high-agreeable types in adulthood) were expected to fall somewhere in between. Separate  $2$  (childhood behavioral profile)  $\times 2$  (adulthood personality profile) ANOVAs revealed two-way interactions between childhood profile and adulthood profile in terms of alcoholism,  $F(3, 50) = 6.41, p < .01$ , arrests,  $F(3, 53) = 2.67, p < .05$ , career stability,  $F(3, 53) = 3.85, p < .05$ , and depression,  $F(3, 50) = 5.61, p < .01$ . Follow-up  $t$  tests (see Table 6) indicated that stable low agreeables reported less career stability and more depression when compared with stable high agreeables and low to high agreeables. In addition, stable high agreeables reported lower levels of alcoholism than did the other groups and fewer arrests than did stable low agreeables.<sup>5</sup>

## Discussion

Agreeableness in adulthood was associated with distinct developmental trajectories and patterns of adjustment. Self-reports of adult agreeableness were correlated with teacher and peer reports of child aggression, compliance, constructiveness, and self-control as well as with adult alcoholism. Child behavioral characteristics distinguished high-agreeable from low-agreeable adults with a discriminatory power comparable to that of adult personality traits. Two types dominated each age group, and there was considerable stability in these types over time. The stable high-agreeable type included children who were high on compliance, high on self-control, and low on aggression and adults who were high on agreeableness, high on socialization, and low on impulsivity. The stable low-agreeable type included children who were low on compliance, low on self-control, and high on aggression and adults who were low on agreeableness, low on socialization, and high on impulsivity. These distinctions carried implications for individual adaptation. Relative to their low-agreeable counterparts, high-agreeable types enjoyed greater success in school and at work and experienced fewer adjustment difficulties.

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<sup>5</sup>The results suggest that agreeableness shapes adult outcomes only in concert with other personality variables. To explore this possibility further, we conducted additional analyses to examine whether age 33 agreeableness mediated associations between age 8 behavioral characteristics and age 36 adjustment. A necessary precondition for this mediation is an association between age 8 behavioral characteristics and age 36 adjustment (Baron & Kenny, 1986). A regression with age 8 behavioral characteristics (activity/passivity, aggression, anxiety, compliance, constructiveness, and self-control) as predictor variables and age 33 agreeableness as the outcome variable revealed no statistically significant associations between predictor variables and the outcome variable. This result, coupled with the absence of statistically significant correlations between agreeableness and all adult outcomes except alcoholism, gives rise to the conclusion that there is no evidence that agreeableness mediated associations between childhood behavioral characteristics and adulthood adjustment.

What are the origins of agreeableness? The absence of infant temperament measures and childhood personality indices precludes a definitive answer to this question, but the present data offer some intriguing insights nevertheless. As children, low-agreeable types were aggressive, out of control, and noncompliant. For these individuals, low agreeableness seems to be the product of an inability to regulate emotions and behaviors (Ahadi & Rothbart, 1994; Caspi, 1998; Pulkkinen, 1982, 1996). It is easy to imagine how the latter might lead to the former; in the absence of experiences that promote social skills, difficult children may adopt a coercive interpersonal style that renders them unhappy and unpleasant (Graziano, 1994). Likewise, it is possible to infer how children who are not difficult grow to be agreeable adults; compliance and restraint may foster positive social interactions, which promote an accommodating interpersonal style and a benevolent disposition. Worth noting here is the absence of support for a presumed pathway from child activity and distractibility to adult agreeableness (Caspi, 1998; Graziano, Jensen-Campbell, & Sullivan-Logan, 1998). The findings were not consistent with assertions that low agreeableness arises from passivity or an absence of persistence, although we do not rule out the possibility of such an association.

The findings suggest a measure of differential stability in personality development from childhood to adulthood. Considered alone, the strongest of the over-time associations between child behavior and adult agreeableness may strike some as rather modest in terms of magnitude (correlations ranging from .26 to .28). But these results should be considered in the larger context of personality trait consistency. Population estimates calculated over an average of 7 years (Roberts & DelVecchio, 2000) indicate that rank-order stability coefficients for agreeableness are moderate when collapsed across age groups ( $r = .52$ ) and that personality trait assessments are even less stable during middle childhood ( $r = .43$ ). Seen in this light, it is remarkable that any significant precursors to agreeableness could be identified across this 25-year period. Additional, perhaps more compelling, evidence for differential stability comes from the discriminant analyses, which indicated that teacher and peer reports of childhood behavior were sufficient in approximately 2 out of every 3 cases in predicting whether an individual became a high- or low-agreeable adult. In sum, reports of childhood behavior may be somewhat limited in their ability to predict levels of adulthood agreeableness, but childhood reports of behavior were reliable markers in terms of whether specific adults were considered agreeable relative to the group average.

In terms of morphogenic stability, the findings revealed individual continuity amidst developmental change. If we consider the group as a whole, almost one quarter of the participants ( $n = 46$ ) had profiles that were consistent from childhood to adulthood (see Table 3). This figure is greater than that expected by chance, but it cannot be described as an overwhelming display of stability. Admittedly, it is an imperfect index: Because the relative importance of different personality traits was not assessed, the results lump together individuals who differed in terms of the salience of agreeableness. Greater morphogenic stability is evident if we limit our discussion to the two personality types: 40 of 78 individuals had profiles in adulthood that were consistent with their profiles in childhood. This finding raises the intriguing possibility that profile types are the most stable personality configuration. It also suggests, consonant with findings from other samples (Caspi et al., 1987), that most ill-tempered adults begin life as ill-tempered children. Perhaps less well documented is the finding that most good-tempered adults have the benefit of a good-tempered childhood. In sum, the profiles of the majority of participants changed from middle childhood to midlife, but there was substantial continuity in the configurations of the high-agreeable and low-agreeable types.

The virtues of agreeableness are well documented (Graziano & Eisenberg, 1997), but its role in the lives of individuals is not. Previous studies have determined that individuals with psychological and behavioral disorders score lower on agreeableness than do those without disorders (Krueger et al., 1996; Trull & Sher, 1994). The present study elaborates and extends

such findings, suggesting that adjustment is a function not simply of agreeableness but rather of how agreeableness is manifest in individuals. Agreeableness appears to enhance the benefits of positive traits, and its absence appears to exacerbate the detrimental impact of less desirable traits. Adults with the advantageous combination of high agreeableness, high socialization, and low impulsivity reported less alcoholism and depression, fewer arrests, and more career stability than did those with the unfavorable combination of low agreeableness, low socialization, and high impulsivity. Much the same was found for the childhood antecedents of agreeableness: (a) Compliant, self-controlled, and nonaggressive children had fewer disobedience and concentration problems than their noncompliant, un-dercontrolled, and aggressive classmates, and (b) compliant, self-controlled, and nonaggressive boys had better school grades and fewer behavior problems than did noncompliant, undercontrolled, and aggressive boys. We conclude that agreeableness alone rarely determines the course of individual adjustment (witness the modest correlations between agreeableness and adult outcomes), but when agreeableness acts in concert with other traits, it exerts considerable influence over the developmental trajectories of some individuals.

This conclusion raises a fundamental question: What is the significance of agreeableness? The answer depends on the individual. Consider the global personality types identified by Block (1971). High agreeableness appears to anchor resilient personalities, whose cooperative and pleasant demeanors facilitate efficacy and success. Antagonism, or low agreeableness, appears to be the focal point of undercontrolled personalities, whose hostile and impulsive styles prompt maladaptive and antisocial behavior. Then there are those for whom agreeableness is but an ancillary attribute, as appears to be the case for overcontrolled personalities as well as for those classified in the present study as antitypes and those who were neither types nor antitypes. Antitypes are of interest because they suggest relatively unusual personality configurations, but they—like those who were neither types nor antitypes—tended not to be distinct in terms of adjustment outcomes. This result underscores the conclusion that agreeableness may not be important to everyone but that it is of particular significance to the stable high-agreeable and stable low-agreeable types.

Both variable-centered and person-centered approaches were described in this study. These approaches are complementary; there are advantages and disadvantages to each, so the selection of an analytic strategy should be guided by the empirical problem at hand. Because variable-centered strategies are best suited for identifying associations among two or more variables, we used correlations to determine the differential continuity between childhood behaviors and adult agreeableness and to gauge the contributions of adult agreeableness to adult adjustment, and we used discriminant analyses to identify attributes that best distinguished high-agreeable from low-agreeable adults. Such an approach has considerable power to detect associations among variables, but large error terms may reduce the magnitude of these effects (McCartney & Rosenthal, 2000). Because person-centered strategies are best suited for describing individual differences, we used profile analyses to group individuals who shared similar attributes during childhood and adulthood. These profiles served as the basis for a determination of morphogenic stability and a comparison of adjustment outcomes. Such an approach may sacrifice power, but minimizing error terms tends to increase effect sizes (McCartney & Rosenthal, 2000). Thus, the variable-centered strategy offered some evidence of differential stability and identified several childhood precursors to adult agreeableness, but with the exception of a modest correlation between agreeableness and alcoholism, it provided little support for assertions that agreeableness shapes adult adjustment, directly or indirectly. Instead, this evidence was provided by the person-centered approach, which revealed that there were some individuals for whom agreeableness was an integral part of a stable and enduring constellation of attributes that had broad implications for adjustment during childhood and adulthood but that there were other individuals for whom agreeableness distinctions offered little explanatory power.

This investigation described a homogeneous cohort growing up in northern Europe during a period of peace and prosperity. Generalizability is an appropriate concern. “The question, to what universe may we generalize the relationships observed within the subject sample studied? leads to an intricate, epistemological thicket . . . No one knows how a proper universe of subjects for longitudinal study should be defined nor, for significant considerations in regard to the systematics of research design, is random selection from a definable universe necessarily the most efficient strategy for developing understanding” (Block, 1971, p. 23). This issue is less critical when replication is in hand than when new areas of inquiry are broached. It will fall to future investigators to determine the extent to which the antecedents and correlates of agreeableness identified herein are unique to the individuals who submitted to this longitudinal inquiry.

For the present, there are other limitations that merit consideration. Perhaps the greatest concerns the interpretation of null findings. Evidence for stability is easier to interpret than evidence for instability because unless the categories representing a dimension are conceptually equivalent across time, it is impossible to determine whether discontinuity is a product of measurement change or personality change (Hartup & van Lieshout, 1995). One way to address the problem is to specify a model of individual coherence that articulates why behaviors such as compliance, self-control, and aggression are assumed to be the source of a personality trait such as agreeableness (Caspi, 1998). Fortunately, there is conceptual convergence on a model of agreeableness with origins in difficultness (Graziano, 1994), and the present study provides a measure of empirical support for the proposition that early markers include compliance, self-control, and aggression. Some postulated associations, however, failed to emerge, and these findings are not easily interpreted. For instance, the absence of the proposed link from child activity to adult agreeableness (Caspi, 1998; Graziano et al., 1998) may signal a lack of association between these variables; alternatively, it may be a product of measurement differences or an analytic strategy with low power to detect small effects. As a consequence, caution is warranted when interpreting the null results from this study. We claim only to have identified a few of the more robust antecedents of agreeableness—we do not rule out the possibility that other variables may also make contributions.

To paraphrase O. Henry (1906/1994): The world is made up of those who sob, those who snuffle, and those who smile. Adults who described themselves as relatively agreeable, socialized, and nonimpulsive were depicted by teachers and peers 25 years earlier as compliant, controlled, and nonaggressive. In contrast, adults who considered themselves to be relatively disagreeable, unsocialized, and impulsive were viewed as noncompliant, undercontrolled, and aggressive children. The significance of these types lies not just in their stability but in their implications for well-being: High-agreeable types fared better than low-agreeable types in terms of their social, achievement, and psychological outcomes. We conclude that it is not only nice to be agreeable, it is advantageous, particularly for those whose smiles are accompanied by other auspicious traits.

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Discriminant Analyses Predicting High-Agreeable and Low-Agreeable Adults From Childhood Behavior and Adulthood Personality

Table 2

| Variable              | Standardized discriminant coefficient | Structure coefficient | % original grouped cases correctly classified | % cross-validated grouped cases correctly classified | Wilks's lambda |
|-----------------------|---------------------------------------|-----------------------|---|--|----------------|
| Childhood behavior    |                                       |                       | 64.9  | 60.8   | .92**          |
| Activity/passivity    | -.37                                  | -.47                  |   |  |                |
| Aggression            | -.28                                  | -.73                  |   |  |                |
| Anxiety               | -.60                                  | -.30                  |   |  |                |
| Compliance            | .77                                   | .79                   |   |  |                |
| Constructiveness      | -.28                                  | .36                   |   |  |                |
| Self-control          | -.10                                  | .72                   |   |  |                |
| Adulthood personality |                                       |                       | 64.4  | 62.4   | .89**          |
| Anxiety               | -.10                                  | -.22                  |   |  |                |
| Impulsivity           | -.43                                  | -.63                  |   |  |                |
| Inhibit aggression    | .57                                   | .43                   |   |  |                |
| Socialization         | .66                                   | .71                   |   |  |                |

Note. Childhood behavior,  $df = 6$ . Adulthood personality,  $df = 4$ .

\*\*\*  $p < .01$ .



**Table 3** Transition of Behavioral Profiles in Childhood as a Function of Personality Profiles in Adulthood

|        | Adulthood                                   |  |   |  |   |  |  |   |       |        |          |               |     |        |     |        |          |
|--------|---|--|---|--|---|--|--|---|-------|--------|----------|---------------|-----|--------|-----|--------|----------|
|        | High agree,<br>low social,<br>low impulsive | High agree,<br>low social,<br>high impulsive | Low agree,<br>high social,<br>low impulsive | High agree,<br>high social,<br>low impulsive | Low agree,<br>low social,<br>high impulsive | High agree,<br>low social,<br>high impulsive | Low agree,<br>high social,<br>high impulsive | High agree,<br>high social,<br>high impulsive | Total | Obs    | (Exp)    | Type/antitype |     |        |     |        |          |
| (0.6)  | 1   | (0.6)  | 0   | (0.8)  | 0   | (1.5)  | 3  | (2.1)   | 1     | (0.9)  | 0        | (0.9)         | 4*  | (1.4)  | 9   | (23.3) | Antitype |
| (0.4)  | 1   | (0.4)  | 1   | (0.5)  | 1   | (0.9)  | 1  | (1.2)   | 0     | (0.5)  | 1        | (0.5)         | 0   | (0.8)  | 5   | (23.3) | Antitype |
| (0.9)  | 3   | (0.9)  | 1   | (1.2)  | 4   | (2.2)  | 2  | (3.0)   | 1     | (1.3)  | 0        | (1.3)         | 2   | (2.0)  | 13  | (25.3) | Antitype |
| (5.1)  | 5   | (5.1)  | 6   | (6.5)  | 19**  | (11.9)                                       | 11*  | (16.2)  | 4     | (7.2)  | 6        | (7.2)         | 16* | (10.8) | 70  | (25.3) | Type     |
| (5.0)  | 3   | (5.0)  | 8   | (6.4)  | 6*  | (11.7)                                       | 21*  | (16.0)  | 10    | (7.1)  | 7        | (7.1)         | 7   | (10.7) | 69  | (23.3) | Type     |
| (0.7)  | 0   | (0.7)  | 1   | (0.9)  | 2   | (1.7)  | 2  | (2.3)   | 2     | (1.0)  | 2        | (1.0)         | 1   | (1.5)  | 10  | (23.3) | Antitype |
| (0.4)  | 0   | (0.4)  | 1   | (0.6)  | 0   | (1.0)  | 1  | (0.4)   | 0     | (0.6)  | 2        | (0.6)         | 0   | (0.9)  | 6   | (25.3) | Antitype |
| (0.9)  | 1   | (0.9)  | 0   | (1.1)  | 1   | (2.0)  | 4  | (0.9)   | 2     | (1.2)  | 2        | (1.2)         | 0   | (1.9)  | 12  | (25.3) | Antitype |
| (18.9) | 14  | (18.9)                                       | 18  | (20.6)                                       | 33  | (20.6)                                       | 45   | (27.6)  | 20    | (27.6) | 20       | (29.9)        | 30  | (29.9) | 194 |        |          |
|        |   |  |   |  | Type  |  | Type   |   | Type  |        | Antitype |               |     |        |     |        |          |

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Exp = expected frequency; agree = agreeableness; social = socialization; impulse = impulsivity; comply = compliance; control = self-control; aggress = aggression.  
 \*statistical significance (p < .05) for chi-square test of independence.  
 \*\*statistical significance (p < .01) for chi-square test of independence.  
 \*\*\*statistical significance (p < .001) for chi-square test of independence.

\*\*\*  
 $p < .01$

**Table 4**  
Behavioral Profiles in Childhood and Indices of Adjustment

| Adjustment variable    | Antitype:<br>Low comply,<br>low aggress |     | Antitype:<br>High comply,<br>low control,<br>low aggress |     | Antitype:<br>Low comply,<br>high control,<br>high aggress |     | Antitype:<br>High comply,<br>low control,<br>high aggress |     | Antitype:<br>High comply,<br>high control,<br>high aggress |     |                    |     |       |     |                    |     |
|------------------------|---|-----|--|-----|---|-----|---|-----|--|-----|--------------------|-----|-------|-----|--------------------|-----|
|                        | M                                       | SD  | M  | SD  | M   | SD  | M   | SD  | M  | SD  |                    |     |       |     |                    |     |
| Age 8                  |   |     |  |     |   |     |   |     |  |     |                    |     |       |     |                    |     |
| Disobedience           | -0.47 <sub>b</sub>                      | 0.3 | -0.30 <sub>b</sub>                                       | 0.3 | -0.51 <sub>b</sub>  | 0.2 | -0.56 <sub>b</sub>  | 0.3 | 0.63 <sub>a</sub>  | 1.0 | -0.18 <sub>b</sub> | 0.5 | 0.06  | 0.7 | -0.29 <sub>b</sub> | 0.4 |
| Age 14                 |   |     |  |     |   |     |   |     |  |     |                    |     |       |     |                    |     |
| Concentration problems | -0.23                                   | 0.8 | 0.11   | 0.7 | -0.16   | 0.7 | -0.35 <sub>b</sub>  | 0.6 | 0.41 <sub>a</sub>  | 0.9 | -0.16              | 0.8 | -0.08 | 0.6 | 0.06               | 1.0 |
| GPA                    |   |     |  |     |   |     |   |     |  |     |                    |     |       |     |                    |     |
| Girls                  | 7.14                                    | 0.4 | 7.54   | 0.8 | 7.61  | 0.5 | 7.78  | 0.7 | 7.76   | 0.8 | 7.78               | 0.8 | 7.95  | 0.2 | 8.03               | 0.4 |
| Boys                   | 7.10                                    | 0.0 |  |     | 6.52  | 0.6 | 7.28 <sub>a</sub>   | 0.8 | 6.68 <sub>b</sub>  | 0.6 | 7.45               | 0.2 | 6.55  | 0.5 | 6.59               | 0.7 |
| Problem behaviors      |   |     |  |     |   |     |   |     |  |     |                    |     |       |     |                    |     |
| Girls                  | 0.03                                    | 0.7 | -0.39  | 0.1 | -0.34   | 0.3 | -0.36   | 0.4 | -0.17  | 0.5 | -0.31              | 0.3 | -0.52 | 0.1 | -0.25              | 0.3 |
| Boys                   | -0.01                                   | 0.2 |  |     | 0.84 <sub>b</sub>   | 1.4 | -0.27 <sub>a</sub>  | 0.4 | 0.42 <sub>b</sub>  | 0.7 | 0.04               | 0.5 | 0.41  | 0.5 | -0.13              | 0.5 |

Note. All means except those for GPA (grade point average) represent z scores. Across rows, means with different subscripts differ significantly at  $p < .05$  in Tukey's honestly significant difference comparisons. <sub>a</sub> = comply = compliance; control = self-control; aggress = aggression.

**Table 5**  
 Personality Profiles in Adulthood and Indices of Adjustment

| Adjustment variable | Low agree, low social, low impulse |     | High agree, low social, low impulse |     | Low agree, high social, low impulse |     | High agree, high social, low impulse |     | Type: Low agree, low social, high impulse |     | High agree, low social, high impulse |     | Antitype: Low agree, high social, high impulse |     | High agree, high social, high impulse |     |
|---------------------|------------------------------------|-----|-------------------------------------|-----|-------------------------------------|-----|--------------------------------------|-----|---|-----|--------------------------------------|-----|--|-----|---------------------------------------|-----|
|                     | M                                  | SD  | M                                   | SD  | M                                   | SD  | M                                    | SD  | M   | SD  | M                                    | SD  | M  | SD  | M                                     | SD  |
| Alcoholism          | 1.54                               | 2.0 | 1.15                                | 1.2 | 0.56 <sub>b</sub>                   | 1.0 | 0.57 <sub>b</sub>                    | 1.3 | 2-41 <sub>a</sub>                         | 2.0 | 1.74                                 | 2.0 | 1.32   | 1.4 | 0.87 <sub>b</sub>                     | 1.4 |
| Arrests             | 0.64                               | 1.0 | 0.07                                | 0.3 | 0.33                                | 1.0 | 0.24 <sub>b</sub>                    | 0.8 | 3.84 <sub>a</sub>                         | 9.7 | 1.15                                 | 2.1 | 0.85   | 1.5 | 0.10 <sub>b</sub>                     | 0.3 |
| Career stability    | 2.57                               | 0.9 | 2.21                                | 0.8 | 2.44                                | 0.8 | 2.67 <sub>a</sub>                    | 0.5 | 2.07 <sub>b</sub>                         | 0.9 | 2.20                                 | 0.7 | 2.74   | 0.7 | 2.60                                  | 0.7 |
| Depression          | 1.54                               | 0.3 | 1.49                                | 0.3 | 1.39                                | 0.3 | 1.29 <sub>b</sub>                    | 0.3 | 1.55 <sub>a</sub>                         | 0.3 | 1.64                                 | 0.3 | 1.35   | 0.3 | 1.37                                  | 0.3 |

Note. Across rows, means with different subscripts differ significantly at  $p < .05$  in Tukey's honestly significant difference comparisons. agree = agreeableness; agree = agreeableness; social = socialization; impulse = impulsivity.

Table 6

Profile Stability and Indices of Adjustment in Adulthood

| Adjustment variable | Type: Stable low agreeables                               |   | Antitype: High to low agreeables                           |   | Antitype: Low to high agreeables                          |  | Type: Stable high agreeables                               |  |
|---------------------|---|---|--|---|---|--|--|--|
|                     | Childhood:<br>Low comply,<br>low control,<br>high aggress | Adulthood:<br>Low agree,<br>low social,<br>high impulse | Childhood:<br>High comply,<br>high control,<br>low aggress | Adulthood:<br>Low agree,<br>low social,<br>high impulse | Childhood:<br>Low comply,<br>low control,<br>high aggress | Adulthood:<br>High agree,<br>high social,<br>low impulse | Childhood:<br>High comply,<br>high control,<br>low aggress | Adulthood:<br>High agree,<br>high social,<br>low impulse |
|                     | <i>M</i>  | <i>SD</i>   | <i>M</i>   | <i>SD</i>   | <i>M</i>  | <i>SD</i>  | <i>M</i>   | <i>SD</i>  |
| Alcoholism          | 2.70 <sub>a</sub>   | 2.0   | 2.20 <sub>a</sub>  | 2.3   | 2.00 <sub>a</sub>   | 2.2  | 0.18 <sub>b</sub>  | 0.5  |
| Arrests             | 2.48 <sub>a</sub>   | 4.0   | 1.00   | 2.6   | 0.50  | 1.2  | 0.05 <sub>b</sub>  | 0.2  |
| Career stability    | 1.95 <sub>b</sub>   | 1.0   | 2.55   | 0.8   | 2.83  | 0.4  | 2.68 <sub>a</sub>  | 0.6  |
| Depression          | 1.67 <sub>a</sub>   | 0.4   | 1.44   | 0.3   | 1.19  | 0.4  | 1.29 <sub>b</sub>  | 0.2  |

Note. Across rows, means with different subscripts differ significantly at  $p < .05$  in follow-up  $t$  tests. comply = compliance; control = self-control; aggress = aggression; agree = agreeableness; social = socialization; impulse = impulsivity.