

## **Predicting the Stability of Conduct Problems in Children with and Without Callous-Unemotional Traits**

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*We tested predictors of persistence in conduct problems for children with and without callous-unemotional (CU) traits. Participants were 79 children of an original 98 children recruited from a community-wide screening to oversample children with conduct problems and to ensure equal numbers of children high and low on CU traits. The sample was reassessed at four yearly intervals and the 79 children (81%) were those with data at all four assessments. Children within each conduct problem group were divided into those with more and less stable patterns of conduct problems based on structured interviews with parent and child. Stability in conduct problems for children without CU traits was more strongly related to level of impulsivity and socioeconomic status, whereas children high on CU traits showed more stable conduct problems if they experienced higher rates of life stressors.*

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**KEY WORDS:** callous-unemotional traits; conduct problems; stability; children.

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It has become increasingly clear that children with severe conduct problems are a very heterogenous group who may differ substantially on the types of conduct problems they display, their prognosis, and the causes of their problem behavior (Frick & Ellis, 1999; Moffitt, 2003). This heterogeneity is perhaps best illustrated by the distinction between childhood-onset and adolescent-onset Conduct Disorder (CD; American Psychiatric Association, 2000). Several decades of research have shown important differences in the severity of conduct problems, the adult adjustment, and the correlates to the two subtypes of CD (see Moffitt,

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2003 for a review). For example, the childhood-onset group is more likely to show an aggressive pattern of behavior, more likely to be diagnosed with an antisocial diagnosis or to be arrested for a violent offense as adults, and more likely to show neurocognitive deficits and family dysfunction.

Recently, another distinction has been made that separates two groups within the childhood-onset category of CD. Specifically, the presence of callous and unemotional (CU) traits (e.g., lacking guilt, lacking empathy) has designated a more severe, more aggressive, and more stable pattern of antisocial behavior in juvenile forensic facilities (Kruh, Frick, & Clements, 2005), outpatient mental health clinics (Christian, Frick, Hill, Tyler, & Frazer, 1997), and school-based samples (Frick, Cornell, Barry, Bodin, & Dane, 2003). Further, the group of children with CU traits also shows a preference for novel and dangerous activities (Frick, Cornell, Bodin, Dane, Barry, & Loney, 2003; Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999), a decreased sensitivity to cues of punishment when a reward-oriented response set is primed (Barry, Frick, Grooms, McCoy, Ellis, & Loney, 2000) and less reactivity to negative emotional stimuli (Blair, 1999; Loney, Frick, Clements, Ellis, & Kerlin, 2003). Based on these findings, causal models have been developed suggesting that children with CU traits show a distinct temperamental style, labeled variously as low fearfulness (Rothbart & Bates, 1998) or low behavioral inhibition (Kagan & Snidman, 1991), which place these children at risk for having problems in their conscience development (Frick & Morris, 2004).

In contrast, children with childhood-onset CD who do not show CU traits are less aggressive overall and, when they do act aggressively, it is more likely to be reactive in nature (Frick, Cornell, Barry et al., 2003). Also, antisocial children *without* CU traits have conduct problems that are more strongly associated with dysfunctional parenting practices (Oxford, Cavell, & Hughes, 2003; Wooton, Frick, Shelton, & Silverthorn, 1997) and with deficits in verbal intelligence (Loney, Frick, Ellis, & McCoy, 1998). Finally, antisocial youth *without* CU traits exhibit high levels of self-reported emotional distress (Frick et al., 1999; Frick, Cornell, Bodin, et al., 2003), are more reactive to the distress of others in social situations (Pardini, Lochman, & Frick, 2003), and are highly reactive to negative emotional stimuli (Loney et al., 2003). These findings suggest that many of these children have problems regulating their emotions that could lead them to act without thinking of the consequences of their behavior in the context of high emotional arousal (Frick & Morris, 2004).

This research suggests that children with and without CU traits likely have different causal processes underlying their conduct problems. Further, the group with CU traits seems to show a more severe and stable pattern of antisocial behavior (Frick, Cornell, Barry, et al., 2003). What has not been addressed by this research is whether factors that predict persistence differ across groups. If there are different causal mechanisms operating across these two groups (e.g., deficit in conscience development vs. poor emotional regulation), it is possible that the

factors leading to the persistence or desistence of problem behavior may also be different.

Although no study has investigated different predictors of antisocial behavior in children with and without CU traits, there is a rather substantial body of longitudinal research that has identified factors that predict persistence more generally for CD (see Frick & Loney, 1999 for a review). First, several demographic variables have predicted conduct problem stability in longitudinal studies. Specifically, boys, children from lower socio-economic statuses, and children with lower intelligence are more likely to persist in their conduct problem behavior over time. In addition, a number of social variables have predicted conduct problem stability, such as peer rejection and association with a deviant peer group and dysfunctional family processes, such as poor supervision, family conflict, and harsh and inconsistent discipline. Finally, impulsivity has proven to predict stability in conduct problems.

In the current study, we tested whether these factors differentially predicted stability for children low or high on CU traits over a four-year study period. The sample was a non-referred sample of children that avoids referral biases associated with clinic-referred youth. However, because only a minority of all children in a community sample would show severe conduct problems, and only a minority of these children would be expected to show CU traits (see Christian et al., 1997), the recruitment was done in two steps designed to oversample children with conduct problems and to ensure sufficient numbers of youth with and without CU traits. The sample was reassessed yearly and those children who participated in each follow-up assessment were divided into those with more and less stable levels of conduct problems using individual growth curves of their conduct problem trajectory across the four assessment points.

Given that low intelligence, family dysfunction, and peer rejection have been more strongly associated with conduct problems in children without CU traits (Loney et al., 1998; Oxford et al., 2003; Wootton et al., 1997), these variables were predicted to also be more strongly associated with conduct problems in children without CU traits. Also, although both groups of children with conduct problems have shown high rates of impulsivity in past samples (Christian et al., 1997; Frick, Cornell, Bodin, et al., 2003), problems of impulsivity have been theorized to be more important in the development of conduct problems for children without CU traits (Frick & Morris, 2004). Thus, level of impulsivity was predicted to be more strongly related to persistence in children without CU traits. In contrast, children with conduct problems and CU traits show higher levels of affiliation with deviant peers (Kimonis, Frick, & Barry, 2004); thus, deviant peer affiliation was predicted to be associated with higher levels of persistence in this group of children with CD. Further, given the importance of deficits in conscience development for children with CU traits (Frick & Morris, 2004), it was predicted that the initial level of CU traits would be associated with poorer outcome for children in this group

because it is an indicator of more severe impairments in conscience development. Several variables that could be related to persistence, such as low SES and greater number of life stressors, have not been consistently related to either conduct problem group and could be a predictor of persistence for both groups. These predictions, while consistent with previous research on the differential correlates to these two subtypes of childhood-onset CD and with the theorized differences in causal mechanisms for these two groups of youth, were made tentatively given the absence of previous longitudinal research separating these groups and recognizing that factors associated concurrently with conduct problems and/or associated with the development of the problem behavior may not be the same as those that predict persistence.

## METHODS

### Participants

A two-step stratified random sampling procedure was employed to recruit the sample. In the first step, approximately 4,000 parents of children in third, fourth, sixth and seventh grades of two school systems in a moderate sized city in the southeastern United States received announcements about the study. The two school systems were chosen because one served the immediate urban area and the second served the surrounding rural region. Parents completed consent forms and screening questionnaires used to assess symptoms of Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) and CU traits. For children whose parents returned consent forms and screening questionnaires, their teachers completed analogous questionnaires. This first phase yielded a sample of 1136 children that was 53% female, 77% Caucasian, 19% African-American, and 21% receiving special education services, all of which closely matched the overall demographics of the two school systems. The range of Duncan's Socioeconomic Index (SEI; Hauser & Featherman, 1977) was 0 to 92.30, with a mean of 47.20, indicating a normative range socioeconomic statuses.

In the second phase of recruitment, the sample of 1136 children was divided into four groups based on combined parent and teacher ratings of conduct problem symptoms and CU traits. The first group was below the mean on both dimensions ( $n = 225$ ), a second group was at or above the upper quartile on the conduct problem measure but below the mean on the measure of CU traits ( $n = 66$ ), one group was at or above the upper quartile on the measure of CU traits but below the mean on the measure of conduct problems ( $n = 77$ ), and the last group was above the upper quartile on both dimensions ( $n = 128$ ). Twenty-five children in each of the four groups were recruited to participate in the four yearly follow-up assessments. These children were selected through a stratified random sampling procedure that ensured that the four groups matched the group from

which they were sampled on gender, ethnicity, and socioeconomic status. Errors in data collection resulted in the loss of two participants leading to a sample of 98 children that fell into the four groups described above.

These children were assessed at four yearly assessments. At the first assessment, all predictors of persistence were collected. At each of the four assessments, parent and child report of conduct problem symptoms and the child's receipt of mental health services were assessed. At the first assessment, which was approximately one year after the initial screening, the sample had an average age of 12.36 ( $SD = 1.73$ ) and the average Duncan SEI was 46.67 ( $SD = 19.96$ ). Twenty-one percent of the children were African-American, 47% were girls, and the sample had an average Kaufman Brief Intelligence (K-BIT; Kaufman & Kaufman, 1990) composite score of 104.83 ( $SD = 12.88$ ). The mean length of time between the first and fourth follow-up assessments was 38.60 months ( $SD = 2.90$ ).

### Measures for Group Formation

#### *Antisocial Process Screening Device (APSD; Frick & Hare, 2001)*

The APSD is a 20-item questionnaire completed by each child's parent and teacher as part of the community-wide screening. The six-item callous-unemotional (CU) scale was used to form groups. The CU dimension, which includes items such as "feels bad or guilty," "concerned about the feelings of others," and "does not show emotions" has proven to be the most stable dimension of the APSD across multiple samples (Frick, Bodin, & Barry, 2000). It had an internal consistency of .76 in the full screening sample. Parent and teacher ratings on the APSD CU scale were correlated  $r = .38$  ( $p < .01$ ). Ratings from parents and teachers were combined by using the higher score from either informant for each item (Frick & Hare, 2001; Piacentini et al., 1992).

#### *Child Symptom Inventory – 4 (CSI-4; Gadow & Sprafkin, 1995)*

The CSI-4 is a rating scale designed to assess symptoms of several childhood disorders. Only the items assessing the symptoms of ODD and CD were used for group formation. A multi-informant composite was formed by using the highest rating from parent and teacher for each symptom. The parent and teacher correlations in the community sample were .29 ( $p < .01$ ) for CD symptoms and .35 ( $p < .01$ ) for the ODD symptoms. Using a combination of parent and teacher reports on the CSI-4, Gadow and Sprafkin (1995) reported good correspondence between CSI-4 scores and clinician diagnoses in a clinic sample of school-aged children, with sensitivity rates for predicting the diagnoses of ODD and CD of .93 for both diagnoses and specificity rates of .61 and .70, respectively.

### Measures for Predictors of Stability

#### *Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990)*

Kaufman Brief Intelligence Test is a brief screening of intelligence that correlates highly with more comprehensive assessments of intelligence.

#### *Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996)*

The APQ is designed to assess parenting practices across a number of sources and formats. Only the three scales that were most strongly related to conduct problems in a young adolescent sample were used in analyses (i.e., poor parental monitoring and supervision-10 items, parental use of inconsistent discipline-6 items, and corporal punishment-3 items) (Frick, Christian, & Wootton, 1999). For the present study, the two parental-report formats of the APQ were used. On the global report format, the 42 items are rated by parents on a 5-point scale from 1 ("Never") to 5 ("Always"). In the telephone format, parents are called four times at least three days apart and asked how often in the past three days each parenting behavior had taken place. The score for each item is the average frequency across the four interviews. Composites for each assessment method were formed by converting the subscales scales to z-scores and summed. The rating and interview composites were correlated  $.37$  ( $p < .001$ ) and were summed to form a single score for dysfunctional parenting.

#### *Behavioral Assessment System for Children (BASC; Reynolds & Kamphaus, 1992)*

The BASC is a behavior rating scale system that has been standardized on a nationwide sample of children. Both the parent and the child completed the appropriate form of the BASC. On the parent version (BASC-PRS), *T*-scores on the Social Skills subscale were included in analyses. This scale assesses the skills necessary for a child to interact successfully with both adults and peers (e.g., "makes suggestions without offending others"). On the self-report version of the BASC (BASC-SRP), *T*-scores on the Social Stress subscale were used in the analyses. This scale was designed to assess a child's perception of problems in his or her peer relationships, such as being rejected or excluded from activities with peers (e.g., "I wish I were invited to more parties").

#### *Peer Delinquency Scale (PDS; Keenan, Loeber, Zhang, Stouthamer-Loeber, & van Kammen, 1995)*

The PDS was developed to assess level of deviant peer group affiliation in a high-risk community sample of young adolescents. On the PDS, participants rate

how many of their friends engage in a number of deviant behaviors (i.e. selling drugs, skipping school, or shoplifting) in the last 6 months. The scale ranges from 0, which means none of his/her friends have done so, to 4, which means all of his/her friends have done so. Consistent with past uses of this scale, any rating above none was considered as indicating some level of delinquent peer association and the number of behaviors in which there was some level of peer delinquency was summed. The coefficient alpha for this scale in the current sample was .84.

*Life Events Checklist (LEC; Johnson & McCutcheon, 1980)*

The negative events portion of the Life Events Checklist was used to assess the number of minor (e.g., got a poor grade in school) and major (e.g., had a parent die) life stressors experienced by the child over the last 12 months. The LEC lists 29 such negative events and the child simply marks “yes” or “no” as to whether or not an event had happened to him or her in the past year.

### **Measures for Repeated Assessment of Conduct Problems**

*Diagnostic Interview Schedule for Children – Version 4 (Shaffer & Fisher, 1996)*

The Disruptive Behavior Disorders Module of the most recent revision of the NIMH Diagnostic Interview Schedule for Children (DISC-IV; Shaffer & Fisher, 1996) was administered to each child and parent at each of the four follow-up assessments. The DISC-IV was used to assess the number of Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD) symptoms. The Impulsive-Overactive symptoms for Attention-Deficit Hyperactivity Disorder (ADHD) assessed at the first follow-up assessment were used as the measure of impulsivity for predicting stability in conduct problems.

Interviewers were either a licensed psychologist or advanced graduate students in psychology who completed a course on the psychological assessment of children and who were trained in standardized administration procedures for the DISC-IV. Consistent with other measures, symptoms were considered present if endorsed by either the parent or child. The correlations between parent and child report of ODD-CD symptoms were  $r = .25$ ,  $r = .41$ ,  $r = .29$ , and  $r = .36$  (all  $p < .01$ ) at the four assessments, respectively. The correlation between parent and child report of impulsive-hyperactive symptoms at the first assessment was  $r = .42$  ( $p < .001$ ).

### **Procedures**

For the initial follow-up assessment, participants were tested in two sessions with procedures standardized for all participants. The first session started with an informed consent procedure conducted with the parent and the child together. They

were then separated and parents were administered a semi-structured interview to obtain demographic information followed by the DISC-IV interview, APQ and the BASC-PRS. In a separate room, the children were administered the K-BIT as an intellectual screening, the youth version of the DISC-IV, youth version of BASC (BASC-SRP), the PDS, and the LEC. The APQ telephone interviews were completed within the month following the initial assessment. Parents received \$65.00 for their participation in the comprehensive assessment procedures and the youth received a \$15.00 gift certificate to either a local music store or bookstore.

The remaining three follow-up assessments took place as close to the one-year anniversary of the initial assessment as possible. To reduce attrition, all information collected at these latter follow-up assessments were completed by phone and mail. The DISC-IV was conducted in a phone interview with each child's parent and the youth version was administered in phone interviews with each child participant. Questions concerning mental health treatment were asked during the parental phone interview. As in the initial assessment, parents received \$65.00 for their participation in each follow-up assessment and the youth received a \$15.00 gift certificate to either a local music store or bookstore.

## RESULTS

Only the 79 children (81%) who completed all four assessments were included in analyses. Importantly, there was no differential attrition across the study groups, with 19 children in both groups high on conduct problems (76%) completing all four assessments. Also, children who were missing at the last follow-up were no different ( $t(df = 96) = 1.02$ ;  $p = n.s.$ ) in their level of conduct problems at the first assessment ( $Mn = 2.95$ ;  $SD = 3.70$ ) than those who completed the last follow-up ( $Mn = 1.83$ ;  $SD = 2.12$ ).

Children were divided into five groups based on their trajectory of conduct problems across the four assessments. Using ordinary least squares regression, individual growth curves for each child were estimated. From these curves, five groups were formed using their initial level (intercept), rate of change (slope), and their ending level of conduct problems. One group, the control group, included children not rated high in conduct problems at the initial screening and rated low on conduct problems across all four assessments ( $n = 18$ ). The other four groups were children rated with significant conduct problems at screening by parents and teachers but who differed in their stability of conduct problems across the four follow-up assessments. The group of children with conduct problems but no CU traits (CP) at screening was divided into a more stable group ( $n = 10$ ) and a less stable group ( $n = 9$ ). The children rated with both conduct problems and CU traits (CU + CP) were also divided into more ( $n = 8$ ) and less stable ( $n = 11$ ) groups.

A description of the growth trajectories across groups is provided in Table I and depicted pictorially in Fig. 1. As noted in Table I, the two stable groups (CP



**Table 1.** Growth Trajectories of Conduct Problem Behavior and Initial Level of Callous-Unemotional Traits for the Five Study Groups

	Control (n = 18)	CP Stable (n = 10)	CP Non-stable (n = 9)	CU + CP Stable (n = 8)	CU + CP Non-stable (n = 11)	F(4,51)
Time 1 conduct problems	.283 (0.46) <sup>D</sup>	4.12 (2.63) <sup>BC</sup>	2.22 (2.82) <sup>CD</sup>	9.21 (4.39) <sup>A</sup>	4.96 (4.13) <sup>B</sup>	14.35***
Slope	.117 (0.34) <sup>A</sup>	.02 (0.77) <sup>BA</sup>	-.07 (0.93) <sup>BC</sup>	-.60 (1.11) <sup>BAC</sup>	-.99 (1.06) <sup>C</sup>	4.21**
Time 4 conduct problems	.722 (1.07) <sup>C</sup>	4.90 (2.02) <sup>B</sup>	.44 (0.73) <sup>C</sup>	7.75 (3.15) <sup>A</sup>	1.64 (1.36) <sup>C</sup>	32.61***
CU Traits	0.89 (0.83) <sup>C</sup>	3.00 (0.94) <sup>B</sup>	3.11 (1.27) <sup>B</sup>	8.39 (1.53) <sup>A</sup>	7.45 (1.37) <sup>A</sup>	89.72***

*Note.* CP: Conduct problems; CU: Callous-unemotional traits. Means with different letters are significantly different at the  $p < .05$  level using Duncan's test for pairwise comparisons.  
 \*\* $p < .01$ ; \*\*\* $p < .001$ .

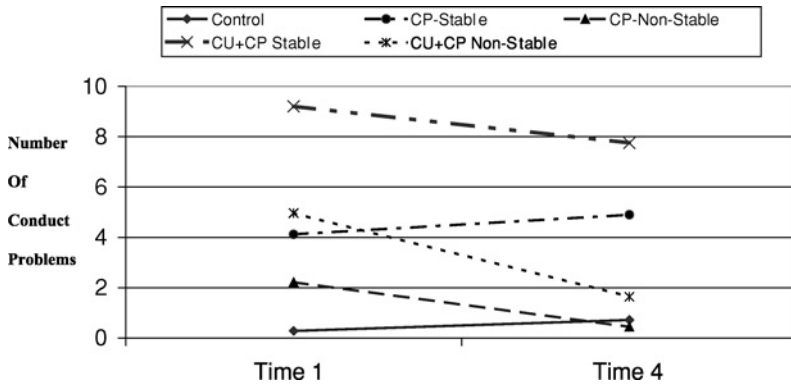


Fig. 1. Growth trajectories for five study groups.

and CU + CP) showed significantly higher rates of conduct problems at the final assessment ( $Mn = 4.90, SD = 2.20$  and  $Mn = 7.75, SD = 3.15$ , respectively) than all other groups. Further, both of the non-stable groups showed negative slopes to their conduct problem trajectories ( $CP = -.07$  and  $CU + CP = -.99$ ) showing a decrease in their rate of conduct problems over time. Importantly, children in the CU + CP Stable group also showed an average negative slope in their conduct problem trajectories ( $-.60$ ). Given their high starting level, however, it was difficult to find a large number of children who did not decline somewhat over the course of the study, likely due to regression to the mean. However, this group maintained their high level of conduct problems in comparison to all other groups, even with this negative slope in trajectory (see Fig. 1). Although not included in the determination of growth trajectories, Table I also shows that the more and less stable groups of children high on CU traits did not differ significantly in their initial level of these traits.

In Table II, analyses comparing these five groups on demographic variables are summarized. The groups did not differ on age, gender, race, or intelligence but did differ on socioeconomic status ( $F(4, 51) = 3.40, p < .01$ ). Pairwise comparisons indicated that the non-stable group of children with conduct problems but without CU traits (CP-Non-stable) came from families of significantly higher socioeconomic statuses than all other conduct problem groups. This pattern of results suggests that higher socioeconomic status was associated with less stability for children with conduct problems who did not show CU traits.

At each assessment, questions were asked of each child's parent as to whether their child had been seen by a mental health professional, hospitalized for emotional or behavioral problems, or taken any medication for emotional or behavioral problems. A single dichotomous code was formed to indicate whether the child received any mental health treatment. Twenty-six percent of the participants received mental health treatment at some point during the study. Importantly, there

**Table II.** Comparison of Study Groups on Demographic Variables and Mental Health Treatment

	Control (n = 18)	CP Stable (n = 10)	CP Non-stable (n = 9)	CU + CP Stable (n = 8)	CU + CP Non-stable (n = 11)	F(4,51)
Age	11.1 (1.49)	10.6 (1.58)	11.9 (1.61)	10.9 (1.64)	12.11 (1.7)	1.68
SES	53.4 (13.9) <sup>BA</sup>	44.0 (22.6) <sup>B</sup>	62.7 (14.7) <sup>A</sup>	41.9 (14.0) <sup>B</sup>	37.2 (21.8) <sup>B</sup>	3.40**
IQ	108.9 (12.0)	108.2 (11.9)	108.0 (11.5)	104.9 (7.68)	97.6 (13.62)	0.1374
Sex (% Girls)	61%	60%	44%	38%	27%	4.1 <sup>a</sup>
Race (% African-American)	17%	20%	0%	13%	46%	7.2 <sup>a</sup>
Mental health treatment	11% <sup>A</sup>	30% <sup>A</sup>	33% <sup>A</sup>	87% <sup>B</sup>	18% <sup>A</sup>	16.3 <sup>a,**</sup>

*Note.* CP: Conduct problems; CU: CU traits. Means with different letters are significantly different at the  $p < .05$  level using Duncan's test for pairwise comparisons; or pairwise chi-square tests.

<sup>a</sup>  $\chi^2(df = 4)$ .

\*\* $p < .05$ ; \*\*\* $p < 0.01$ ; \*\*\*\* $p < 0.001$ .

were significant differences in the rate of mental health treatment across groups ( $\chi^2$  ( $df = 4$ ;  $N = 56$ ) = 16.3,  $p < .01$ ) and these rates are provided in Table II. Pairwise comparisons revealed that it was the group with both CU traits and stable conduct problems (CU + CP Stable) who showed a significantly higher rate of mental health treatment (87%) than all other groups (11%–33%).

Group comparisons for the other predictors of persistence are summarized in Table III. For all predictors, there were statistically significant differences across groups. However, there were very different patterns of differences across these variables. The primary focus is on the pairwise comparisons between children with more and less stable patterns of conduct problems within each conduct problem group (CP and CU + CP). For children with conduct problems without CU traits, lower levels of impulsivity was associated with less stability in their conduct problem behavior across time and there was a trend in the same direction for dysfunctional parenting, although this latter pairwise comparison did not reach significance.

In contrast, greater number of life stressors were associated with greater stability in conduct problems for children high on CU traits. Interestingly, higher levels of delinquent peer association was associated with *less* stability in conduct problems for children with CU traits. Also, both groups of children with CU traits were rated by parents as having poorer social skills and rated themselves as being more rejected by peers. However, the more and less stable groups did not differ on these measures of social adjustment.

## DISCUSSION

The current study attempts to integrate two bodies of research that have been important for understanding children with severe conduct problems. Namely, there is a growing body of research suggesting that children with conduct problems who also show CU traits differ in important ways from conduct problem children without these traits (Frick & Morris, 2004), including a number of studies from the first wave of data collection in the current sample (Frick, Cornell, Bodin, et al., 2003; Frick, Cornell, Barry, et al., 2003; Kimonis et al., 2004). Further, there are a large number of longitudinal studies documenting several consistent predictors of persistence in children with conduct problems (Frick & Loney, 1999). The current study is the first to test whether the predictors of persistence may differ for children with and without CU traits. Several interesting differences in predictors of persistence emerged.

First, for conduct problem children without CU traits, children with more persistent conduct problems had higher levels of impulsivity and came from families from with lower socioeconomic statuses (SES). There was also a trend for this group to have somewhat higher rates of dysfunctional parenting. These findings are consistent with the emphasis placed on impulsivity and dysfunctional social

**Table III.** Comparison of Study Groups on Predictors of Stability

	Control ( <i>n</i> = 18)	CP Stable ( <i>n</i> = 10)	CP Non-stable ( <i>n</i> = 9)	CU + CP Stable ( <i>n</i> = 8)	CU + CP Non-stable ( <i>n</i> = 11)	<i>F</i> (4,51)
Peer delinquency	1.11 (1.53) <sup>B</sup>	2.40 (2.91) <sup>B</sup>	0.78 (0.83) <sup>B</sup>	2.38 (1.69) <sup>B</sup>	4.81 (3.19) <sup>A</sup>	6.06 <sup>***</sup>
BASC-PRS social skills	53.78 (7.30) <sup>A</sup>	48.7 (5.54) <sup>A</sup>	47.11 (9.36) <sup>A</sup>	36.0 (9.06) <sup>B</sup>	37.1 (9.33) <sup>B</sup>	10.9 <sup>***</sup>
BASC-SRP social stress	40.28 (6.06) <sup>B</sup>	43.8 (7.07) <sup>BA</sup>	40.22 (5.47) <sup>B</sup>	47.75 (8.35) <sup>A</sup>	48.5 (9.19) <sup>A</sup>	3.37 <sup>**</sup>
Dysfunctional parenting composite	-1.20 (2.82) <sup>B</sup>	0.47 (2.87) <sup>BA</sup>	-1.10 (1.91) <sup>B</sup>	2.88 (3.93) <sup>A</sup>	0.74 (3.29) <sup>BA</sup>	3.04 <sup>*</sup>
Impulsivity	1.22 (1.86) <sup>B</sup>	4.20 (2.15) <sup>A</sup>	1.33 (2.18) <sup>B</sup>	5.13 (2.85) <sup>A</sup>	3.64 (2.94) <sup>A</sup>	6.09 <sup>***</sup>
Total life stressors	7.26 (5.65) <sup>CB</sup>	9.80 (5.42) <sup>CB</sup>	5.70 (4.18) <sup>C</sup>	18.3 (8.41) <sup>A</sup>	11.27 (4.75) <sup>B</sup>	6.54 <sup>***</sup>
Severe life stressors	2.22 (2.02) <sup>C</sup>	3.27 (2.09) <sup>CB</sup>	1.63 (1.98) <sup>C</sup>	7.25 (3.62) <sup>A</sup>	4.67 (1.66) <sup>B</sup>	9.12 <sup>***</sup>

*Note.* CP: Conduct problems; CU: CU traits. Means with different letters are significantly different at the *p* < .05 level using Duncan's test for pairwise comparison.

\**p* < .05; \*\**p* < 0.01; \*\*\**p* < 0.001.

contexts as primary causal factors for this group of conduct problem youth, whose conduct disturbance appears to be related to problems regulating their emotions and behaviors (Frick & Ellis, 1999; Frick & Morris, 2004).

For the group high on CU traits, those with more stable conduct problems experienced more life stressors, both overall, and when it was limited to only more severe stressors (e.g., parental divorce or death of parent). It is possible that children with CU traits may be more susceptible to the effects of stressors. That is, their emotional detachment may prevent them from obtaining social support from significant others in their environment. Also, past research suggests that children with CU traits have stronger family histories of criminal and antisocial behavior than other children with conduct problems (Christian et al., 1997). Given that antisocial individuals are more likely to experience life stressors (Frick & Loney, 2002), it is quite possible that the higher rate of major stressors in the stable group may be a marker for a stronger family history of antisocial behavior.

An unexpected finding was that children with CU traits who showed a more stable pattern of conduct problems showed less association with a deviant peer group. This finding is inconsistent with a number of studies showing that associating with deviant peers predicts more severe and stable antisocial behavior (Fergusson, Swain, & Horwood, 2002; Patterson, Capaldi, & Bank, 1991). Given that both groups of children with CU traits were rated by parents as showing deficits in social skills and rated themselves as being more rejected by peers, it is possible that an ability to form social relationships, even with deviant peers, is an indicator of less severe problems in social adjustment. This would be consistent with past research on the “undersocialized” pattern of antisocial behavior in which such youth who could not form bonds with either prosocial or antisocial peers showed more severe and chronic behavioral problems (Frick & Ellis, 1999).

All of these interpretations need to be made in light of the relatively small number of participants in each group with conduct problems. Clearly, this should be considered a preliminary study that needs to be replicated in larger samples. Also, the designation of children with conduct problems were based on parent and teacher ratings of ODD and CD symptoms and based on sample dependent cut-offs (upper quartile of the community sample). As a result, the level of conduct problems and their impairment may not be at the same level as children with clinically diagnosed ODD or CD. Finally, the groups in the study were not equivalent in their conduct problems at the start of the study and may have had other differences that were not measured that could have accounted for differences in their persistence across time. That is, while this study focused on factors that predicted changes in the conduct problem trajectory across the four assessment points, factors that led to their initial level of behaviors were not controlled and could have contributed to their different trajectories.

Within the context of these limitations, these findings do suggest that future research should test differential predictors of persistence in conduct problem

children with and without CU traits. Such findings could have important implications for designing more individualized interventions for different groups of antisocial youth (Frick, 1998, 2001). That is, children with childhood-onset CD without CU traits may benefit more from interventions focused on reducing their level of impulsivity and improving their social context (e.g., dysfunctional parenting, stressors associated with impoverished living conditions). It is difficult to develop clear recommendations from the current findings for children high on CU traits. However, elsewhere we have focused on the need to intervene early for these youth to promote empathy development and to use motivational strategies that capitalize on their reward-oriented response style and that appeal to their self-interest (Frick, 2001). The overarching implication, however, is that treatments for CD may differ in their effectiveness across subgroups of antisocial youth.

To underscore the potential importance of improving treatment effectiveness, there was no evidence that receiving mental health services led to less stability in conduct problems in this community sample. In fact, the highest rate of mental health treatment was in the group high on CU traits with more stable conduct problems. This high rate of treatment likely reflects the very high rate of conduct problems across time in this group that likely resulted in significant disruptions in the child's functioning. However, this pattern of results indicates that the treatments that were being delivered in the community were not successful in altering the course of conduct problems for children with or without CU traits. Further, it suggests that a large number of children with CU traits are being referred for treatment because of the severity of their behavioral disturbance. Taken together, this provides substantial motivation for finding more effective interventions for this group of children.

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