Psychopathic traits and social functioning in children

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Abstract
The current cross-sectional study investigated the relationship between self reported psychopathic traits and social functioning in children. The limited data available on this relationship show that children with high levels of psychopathic traits are not well liked by their peers (Barry, Barry, Deming, & Lochman, 2008; Piatigorsky & Hinshaw, 2004) and exhibit lower social competence (Barry et al., 2008). The present study sought to expand on these findings by exploring the relationship between psychopathic traits in children and a range of social functioning variables: social emotions, social goals and social status. Participants were 9–12 year old children (n=669, 47% boys) from the community. As expected, the general finding was that psychopathic traits were negatively related to all social functioning variables, though the relations were generally modest in size. Importantly, the results varied between the three dimensions of psychopathy, with the Callous-Unemotional dimension showing the most consistent negative relations. It was concluded that children with high levels of psychopathic traits suffer from impaired social functioning emotionally, motivationally, and interpersonally and that these problems may be important targets for future interventions for this group.

Introduction
To date, few studies have investigated psychopathic traits in children in relation to social functioning. The available limited data do, however, show that children with high levels of psychopathic traits are not well liked by their peers (Barry, Barry, Deming, & Lochman, 2008; Piatigorsky & Hinshaw, 2004) and exhibit lower social competence (Barry et al., 2008). Gaining more knowledge on social functioning problems in this group is important for several reasons. First, problematic social functioning (e.g. low social standing, low social problem solving skills, poor perspective taking skill) is associated with behavioral problems and delinquency both concurrently and prospectively (Hoglund, Lalonde, & Leadbeater, 2008; Lochman & Lampron, 1986; Lochman & Wayland, 1994; Lochman, Wayland, & White, 1993; Pardini, Barry, Barth, Lochman, & Wells, 2006), and can ensnare children in a persistent pattern of antisocial behavior (Moffitt, 1993, 1996; Parker & Asher, 1987). This is of particular importance for children with psychopathic traits as these characteristics already place an individual at greater risk for an antisocial development (for a review see Frick & Dickens, 2006). Indeed, preliminary evidence suggests that problematic social functioning influences the severity of psychopathic traits (i.e., lower social competence predicted higher persistence over a period of 2 years; Barry et al., 2008). Second, as psychopathic
traits have been shown to be relatively stable personality traits, even in young children, (Barry et al., 2008; Dadds, Fraser, Frost, & Hawes, 2005; Frick, Kimonis, Dandreaux, & Farell, 2003; Obradovic, Pardini, Long, & Loeber, 2007) they are probably difficult to alter. An alternative approach may be to act on the secondary social and behavioral consequences of psychopathic traits to prevent them from interacting with these traits to worsen the prospects of these children. These types of interventions, focusing on peer-relations, social emotional functioning, or social cognitions are already available for children (e.g. Greenberg, Kusche, & Mihalic, 1998; Lochman & Wells, 2002). In conclusion, social functioning in children with psychopathic traits is of potential importance, but the current knowledge base is highly limited. Therefore, the present study seeks to expand on previous findings by exploring the relationship between psychopathic traits in children and a range of social functioning variables: social emotions, social goals and social status.

**Social emotions**

Empathy has been described as the emotion leading individuals to understand and share in another’s emotional state or situation (Cohen & Strayer, 1996; Eisenberg & Miller, 1987). It plays a pivotal role in the development of interpersonal relationships and thereby a child’s ability to function socially (Hunter, 2004) and is consequentially described by some as ‘the social emotion’ (Caselman, 2007). A lack of empathy in children is thus likely to be related to problematic social functioning, and indeed, several studies in children have demonstrated a link between low empathy and behavioral problems, such as higher levels of aggression and antisocial behavior (Miller & Eisenberg, 1988; Strayer & Roberts, 2004). A lack of empathy has traditionally been associated with psychopathy in adults (Cleckley, 1941). Likewise, in children, several experimental studies have shown psychopathic traits to be related to lower empathy (i.e. a lower recognition of and psycho-physiological reaction to signs of distress in others; (Blair, 1999; Blair, Budhani, Colledge, & Scott, 2005; Blair & Coles, 2000; Blair, Colledge, Murray, & Mitchell, 2001; Stevens, Charman, & Blair, 2001). Much of the theoretical and empirical work on the relationship between psychopathic traits and empathy in youth has focused on ‘affective empathy’ (feeling others’ emotions) versus ‘cognitive empathy’ (understanding others’ emotions or perspective taking ability, often equated with Theory of Mind). Children with psychopathic traits are hypothesized to lack affective empathy but not cognitive empathy (Blair, 2005). Within the empathy literature (e.g. Eisenberg, 2000; Hoffman, 2000), however, the broad inclusive concept of ‘affective empathy’ is commonly apportioned into sub-constructs: empathic concern or sympathy (experiencing warm compassionate feelings toward people in distress), personal distress (self-oriented feelings of anxiety and distress resulting from observing another’s negative experiences) and emotion contagion (the involuntary experience of another person’s painful emotional state). Importantly,
these affective empathy sub-constructs have been shown to relate differentially to behavioral problems (Eisenberg, 2000; Miller & Eisenberg, 1988). No studies on the relation between empathy and psychopathy in children have incorporated this division, but one study in adolescents, did indeed show different dimensions of psychopathy to be differentially related to different forms of affective empathy. Using a somewhat dated two factor solution of the APSD psychopathy measure (Frick & Hare, 2001), the affective Callous-Unemotional (CU), dimension was negatively related to empathic concern and personal distress, while the interpersonal and behavioral Impulsive/Conduct Problems (I/CP) dimension was not related to empathic concern and was positively related to personal distress (Pardini, Lochman, & Frick, 2003). Therefore, the relationship between affective empathy and psychopathy has been established in youth but is in need of refinement.

With respect to cognitive empathy, as mentioned, children with higher psychopathic traits are not hypothesized to show reduced levels of this ability (Blair, 2005). To our knowledge, no empirical work in children supporting this notion currently exists, but studies in adolescents suggest that, in fact, youth with high psychopathic traits may show lower cognitive empathy abilities (Hogan, 1969; Jurkovic & Prentice, 1977; Pardini et al., 2003). It should, however, be noted that these studies employed out-of-date measures of psychopathy (Jurkovic & Prentice, 1977) or empathy (Hogan, 1969) or used an empathy measure (IRI; Davis, 1980) in which we feel cognitive empathy is contaminated with motivational (i.e. affective) components (e.g. “I try to look at everybody’s side of a disagreement before I make a decision” as an item reflecting cognitive empathy) (Pardini et al., 2003). Hence, like with affective empathy, the nature of the relationship between psychopathic traits and cognitive empathy in children is need of further empirical investigation.

**Social Goals**

Social goals motivate children’s behaviors because behavioral strategies are, in part, generated, evaluated and selected, on the basis of the desired end state for self in relation to peers (i.e., social goal; Crick & Dodge, 1994). No studies have investigated the types of social goals children with higher psychopathic traits endorse. However, studies in other child samples (e.g., Erdley & Asher, 1996; Renshaw & Asher, 1983) suggest that social motivational factors (i.e., social goals) play an important part in social adjustment and problematic behaviors. Aggressive children, for example, endorse more antisocial goals than their nonaggressive peers (Erdley & Asher, 1996; Lochman et al., 1993), and proactively aggressive children tend to select instrumental/egocentric over relational goals in conflict situations more often than their nonaggressive peers (Crick & Dodge, 1996). Narcissistic children have been shown to endorse agentic social goals (i.e., goals that reflect the aim to be admired and respected by others and having control over peer-group activities) rather than communal social goals...
goals (goals encompassing the aim for closeness with others) (Thomaes, Stegge, Olthof, Bushman, & Denissen, 2008). As manipulation and egocentricity are components of psychopathy, we expect children with higher levels of psychopathic traits to show lower communal goals, higher agentic goals, and when showing prosocial behavior to others, to do so with an egocentric but not an altruistic motivation. We expect this choice of goals to be related primarily to the Callous-Unemotional and Grandiose-Manipulative dimensions of psychopathy.

**Social status**

As mentioned earlier, two studies have been conducted on the social status of children with psychopathic traits. Piatorsky and Hinshaw (2004) found that psychopathic traits (measured through an expert-derived psychopathy profile of the California Child Q-set; CCQ) in boys with attention deficit/hyperactivity disorder (ADHD) problems predicted peer rejection above and beyond known diagnostic and behavioral risk-factors. This rejection could not be explained by the annoyance generated by the hyperactive and impulsive behavior patterns resulting from the ADHD in these boys. Barry and colleagues (2008) found similar results in a sample of aggressive children. Social preference (a combined score of rejection and popularity ratings) was negatively related to all three dimensions of psychopathy (i.e., Callous-Unemotional traits, Narcissism, and Impulsivity/Conduct Problems) of the APSD (Frick & Hare, 2001) both concurrently and prospectively (2 years). Additionally, peer-rated social preference moderated change from Time 1 to Time 3 Impulsivity/Conduct Problems in that lower social preference was related to higher persistence of these behaviors. These findings are in line with a recent finding in adults showing that psychopathy negatively predicts future life success in terms of status and wealth but also in terms of social relationships (Ullrich, Farrington, & Coid, 2007). We thus expect all psychopathic trait dimensions in our sample to be related to lower social status.

**Conclusion**

To sum up, preliminary evidence shows psychopathic traits in children to be related to problematic social functioning, and there is some indication that this problematic social functioning may even exacerbate their traits. There is also evidence from the child psychopathy literature, paralleled by findings in the adult and adolescent psychopathy literature and general developmental psychology, to suspect that the different dimensions of psychopathy in children relate differentially to various aspects of social functioning. Previous studies investigating this relationship, though ground setting, have studies only a narrow range of social functioning variables and had a limited focus on the differential relationship of the different psychopathy factors to social functioning. Furthermore, they have investigated only high-risk and no community children, and have used third party ratings of psychopathic traits only. The
scope of the current study is therefore to further this potentially important line of research. We do this by investigating the relationship between the different dimensions of self-reported psychopathy and social functioning variables of peer popularity and rejection, various social goals and a comprehensive range of empathy dimensions.

**Method**

**Participants**

Participants were 669 children (47% boys) from 17 primary schools in the Netherlands ($M_{age}=11.62$ years, $SD=0.64$; range 9.64–12.96). Parental consent rate was 97%. Most children (80%) were Caucasian, 20% had other (e.g., Surinam/Lesser Antilles, North African) or mixed ethnical/cultural origins.

**Procedure**

The children completed their questionnaires in two one hour sessions during regular school time. It was pointed out to all participants that the results would remain confidential and that neither parents nor teachers would be informed of their individual answers. Children received a small gift (e.g., markers) in exchange for their participation.

**Measures**

*Youth Psychopathic traits Inventory – Short Child Version (YPI-SCV)* – The Youth Psychopathic trait Inventory- Child Version YPI-CV (Van Baardewijk et al., 2008) is an age-appropriate adaptation of the adolescent Youth Psychopathic traits Inventory (YPI; (Andershed, Kerr, Stattin, & Levander, 2002) that matches the cognitive, emotional, and verbal development and social realities of 9–12 year olds. Consistent with the adult and youth psychopathy literature, boys scored higher than girls, and scores were moderately to highly stable over 2-month and 6-month periods (total score ICCs of .77 and .76, respectively) and at 18 months (ICC =.73; (Van Baardewijk et al., submitted). With respect to the validity of the instrument, the three dimensions were found to be uniquely related to conceptually similar measures: narcissism was uniquely related to the Grandiose-Manipulative dimension, (affective) empathy inversely to the Callous-Unemotional dimension, and impulsivity/hyperactivity/inattention to the Impulsive-Irresponsible dimension (Van Baardewijk et al., 2008). Additionally, higher scores on the YPI-CV have been shown to be related to aggression in an experimental procedure (volume of noise blasts delivered to another child; $\beta=.43$; Van Baardewijk, Stegge, Bushman, & Vermeiren, 2008) and prospectively to self-reported aggression and peer-, and teacher-reported conduct problems and proactive aggression 18 months after baseline assessment ($r=.36$ to .46; Van Baardewijk et al., submitted).
Recently, paralleling the adolescent YPI, a short version of the 50-item YPI-CV was developed, encompassing 18 items (Van Baardewijk, Stegge, Andershed et al., in press). A comprehensible three factor structure identical to the original YPI-CV was demonstrated for this short measure, which was cross-validated in an independent sample (CFI=.97, RMSEA=.038). Results were similar for boys and girls. The short instrument showed good reliability (Cronbach’s alpha=.83) and covered all core characteristics of the psychopathic personality construct. The short version showed high convergence with the original long instrument ($r=.93$) and similar correlations to an external criterion measure of conduct problems. Therefore, it was concluded that the abbreviated version, which was named the Youth Psychopathic trait Inventory-Short Child Version, is a practical and valid alternative for the original YPI-CV when administration time is limited.

Each item in the YPI-SCV is scored on a four-point Likert-type response scale ranging from Does not apply at all to Applies very well. Sample items are: “I think that crying is weak, even if no one sees you.” and “When other people have problems, it is usually their own fault and that’s why you should not help them.”

Interpersonal Reactivity Index (IRI) – To assess different components of empathy, we adapted the Interpersonal Reactivity Index which was originally developed for adults by Davis (1980) but has also been used in adolescents (e.g. Pardini et al., 2003). The items of the original measure are organized into four subscales that measure four components of empathy (Perspective Taking, Fantasy, Empathic Concern and Personal Distress). The Perspective Taking (PT) subscale assesses attempts and willingness to adopt other people’s perspective and see things from their point of view. It resembles cognitive empathy, but also has a motivational component. Fantasy (FS) measures the tendency to identify with characters in movies, books and other fictional situations. Empathic Concern (EC) pertains to experiencing warm compassionate feelings toward people in distress. Empathic concern is sometimes also referred to as ‘sympathy’ (Hunter, 2004; Eisenberg 2000). Personal Distress (PD), measures self-oriented feelings of anxiety and distress resulting from observing another’s negative experiences.

To adapt the IRI for this study, we reworded some of the items for usage in 9–12 year old children without essentially affecting their content. We tested this adaptation in a school based pilot study ($n=401$, 53% boys, $M=11.3$, $SD=.7$). Principal components analysis revealed four theoretically comprehensible subscales explaining 47% of the variance. These subscales were named Perspective Taking, Fantasy, Empathic Concern and Personal Distress, identical to the original IRI subscales. Each scale had six items. Cronbach’s alphas ranged from .64 to .81.

Sample items: “When I watch a good movie, I sometimes feel like I am one of the characters” (Fantasy). “If I see someone in pain, I get upset” (Personal Distress),
“I sometimes don’t feel very sorry for someone who get’s treated unfairly” (Empathic Concern/Sympathy), “Before telling someone that I don’t like something about them, I try to imagine how I would feel if someone told me that.” (Perspective Taking)

Fantasy is not regarded as a component of empathy by most theorists (Eisenberg, 2000; Hoffman, 2000), and therefore this subscale is often not discussed in empathy studies (e.g. Pardini et al., 2003). This will also be the case in the current study.

Cognitive and Affective Empathy Scales (CAES) – Empathy was further assessed using the Cognitive and Affective Empathy Scales (CAES) which was developed for the current study. The CAES measures two components of empathy: Emotion Contagion and Cognitive Empathy. According to (Hoffman, 1975) emotion contagion (also referred to as empathic distress, empathic sadness or empathy) is the involuntary experience of another person’s painful emotional state. Emotion contagion is a very basic form of affective empathy which can already be seen in infants (e.g., reactive crying). Items for the Emotion Contagion scale were taken from Bryant’s Index of Empathy (Bryant, 1982). Cognitive empathy measured in the CAES can be compared to the Perspective Taking (PT) scale of the IRI (Davis, 1980). However, whereas the PT scale measures the willingness and motivation to take on another person’s point of view (e.g. “I try to look at everybody’s side of a disagreement before I make a decision”), the CAES Cognitive Empathy scale intends to measure ‘pure’ cognitive empathy skills uncontaminated by motivation (e.g., “I often find it difficult to realize how someone else is feeling”).

We tested this measure in a school based pilot study (n= 401, 53% boys, M=11.3, SD=.7). Principal components analyses of an item-pool resulted in the two scales, Cognitive empathy (5 items, Cronbach’s alpha=.80) and Emotion contagion (7 items, Cronbach’s alpha=.88).

Sample items: “I often find it difficult to realize how someone else is feeling” (Cognitive Empathy, reversed) and “I feel sad when other children are sad or in trouble” (Emotion Contagion).

The Interpersonal Goals Inventory – Child (IGI-C; Ojanen, Gronroos, & Salmivalli, 2005) The IGI-C is based on the Circumplex scales of the Interpersonal Values measure (CSIV; Locke, 2000). Interpersonal dispositions in this circumplex can be conceptualized along eight scales, which represent different blends of agentic (reflecting the aim for assertiveness and admiration) and communal (reflecting the aim for closeness with others) goals. In the current study only the two higher order scales (agentic and communal, respectively) will be discussed. Cronbach’s alpha of the two higher order scales were .83 and .79, respectively.

Sample items: When with other children, how important is it for you that the others respect and admire you” (Agentic). When with other children, how important is it
for you that you can put the others in a good mood” (Communal). Children evaluated each item using Likert scale like ratings ranging from 0 (not important for me at all) to 3 (very important to me).

Prosocial goals – To measure prosocial goals, we developed an instrument measuring five different types of motivations for performing prosocial behaviors (4 items each), based on Carlo & Randall (2002). These motivations were ‘moral norms’ (sample item: “I do kind things for others because I believe that you should help others”), ‘need of others’ (sample item: “I do kind things for others when I see someone needs it”), ‘making an effort’ (sample item: “I do kind things for others even when I have to make an effort”), ‘tit for tat’ (sample item: “I do kind things for others so I can ask them for something later, as well”) and ‘public’ (sample item: “I do kind things for others so I’ll make a good impression”). Participants were asked to rate the extent to which statements described themselves on a 5-point scale ranging from 0 (completely not true) to 5 (completely true). Principal component analyses revealed a two factor solution explaining 52% of the variance. The two factors were named Altruistic motivation (comprising items reflecting ‘moral norms’, ‘need of others’ and ‘making an effort’, 12 items; Cronbach’s alpha was .87) and Egocentric motivation (comprising items reflecting ‘tit for tat’ and ‘public’; 8 items; Cronbach’s alpha was .72).

Peer popularity and peer rejection – Sociometric status was assessed by asking children to write down the names of up to five classmates they liked most and up to five classmates they liked least. Children were provided with a list of all classmates as a reminder. Participants were instructed not to include themselves. The number of liked-most and liked-least nominations were calculated for each child and standardized within classes to control for class size, creating measures of ‘popularity’ and ‘rejection’. Alternatively, some authors combine popularity and rejection scores into one ‘social status’ variable by subtracting standardized rejection score from the popularity score. To allow for comparison with different studies, this social status variable was also computed in the current study. This method of obtaining peer social preference has been used in other studies (e.g., Boivin & Begin, 1989; Hughes, Cavell, & Grossman, 1997).

Results Descriptives

Descriptive statistics for all study variables are presented in Table 1. Boys scored higher on psychopathic traits, agentic social goals, and peer-reported rejection. Girls scored higher on all empathy components, communal social goals, and egocentric and altruistic prosocial goals. Boys thus generally showed more problematic social functioning.
A series of regression analyses were performed to investigate the unique relationship between the different dimensions of psychopathy and social functioning variables (Table 2). Analyses involving one of the YPI-SCV dimensions were controlled for the effect of the other two dimensions. All significant relationships remained after controlling for age and gender. With respect to social emotions, the Callous-Unemotional dimension was negatively related to all components of empathy. The Impulsive-Irrresponsible dimension was marginally positively related to personal distress but negatively to both conceptualizations of cognitive empathy. Finally, the Grandiose-Manipulative dimension was not related to any of the empathy components, with one exception: scores on this dimension were related to higher reported levels of cognitive empathy.

With respect to social goals, we found the Callous-Unemotional dimension to be negatively associated with the desire for closeness with others (Communal Goals) and the tendency to act prosocially for altruistic reasons (Altruistic Goals). Both the
Callous-Unemotional and Grandiose-Manipulative dimensions were positively related to egocentric motivations to perform prosocial behaviors (Egocentric Goals). The Grandiose-Manipulative dimension was also positively related to the aim to be admired and respected by others, and having control over peer-group activities (Agentic goals). Few significant relationships between the Impulsive-Irresponsible dimension and social goals were found. This dimension was only marginally negatively related to Agentic goal choice. Finally, with respect to social status, children with high Callous-Unemotional traits were both rejected by their peers and also slightly less often picked as the nicest kid or most fun to be with (Popularity). The Impulsive-Irresponsible dimension was related to being rejected but not to being popular. When combining popularity and rejection variables into one social status variable, both the Callous-Unemotional and the Impulsive-Irresponsible dimension were found to be negatively related to social status, as was to be expected from the individual status variables. No relation between the Grandiose-Manipulative and social status variables were found.

Table 2. Regression analyses showing the unique relationship between the different dimensions of psychopathy and social functioning variables

<table>
<thead>
<tr>
<th></th>
<th>YPI-SCV Callous-Unemotional (CU)</th>
<th>YPI-SCV Grandiose-Manipulative (GM)</th>
<th>YPI-SCV Impulsive-Irresponsible (II)</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social emotions</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>IRI Personal Distress</td>
<td>−.37 (.07) −.24**</td>
<td>.09 (.07) .06</td>
<td>.14 (.06) .09*</td>
<td>.05</td>
</tr>
<tr>
<td>IRI Empathic Concern</td>
<td>−.62 (.05) −.46***</td>
<td>.02 (.06) .02</td>
<td>−.09 (.05) −.07</td>
<td>.22</td>
</tr>
<tr>
<td>IRI Perspective Taking</td>
<td>−.30 (.06) −.21***</td>
<td>.11 (.06) .08</td>
<td>−.20 (.06) −.14**</td>
<td>.07</td>
</tr>
<tr>
<td>CAES Emotion Contagion</td>
<td>−.60 (.07) −.35***</td>
<td>.04 (.08) .02</td>
<td>−.01 (.07) −.00</td>
<td>.12</td>
</tr>
<tr>
<td>CAES Cognitive Empathy</td>
<td>−.22 (.06) −.16***</td>
<td>.20 (.06) .14**</td>
<td>−.15 (.06) −.11*</td>
<td>.04</td>
</tr>
<tr>
<td>Social Goals</td>
<td></td>
<td></td>
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<tr>
<td>IGI-C Agentic</td>
<td>.15 (.09) .07</td>
<td>.43 (.09) .20**</td>
<td>−.21 (.09) −.10*</td>
<td>.05</td>
</tr>
<tr>
<td>IGI-C Communal</td>
<td>−.59 (.10) −.25**</td>
<td>−.08 (.11) −.03</td>
<td>−.02 (.10) −.01</td>
<td>.07</td>
</tr>
<tr>
<td>Prosocial goals: altruistic</td>
<td>−.44 (.06) −.33**</td>
<td>−.05 (.06) −.03</td>
<td>.03 (.06) .02</td>
<td>.12</td>
</tr>
<tr>
<td>Prosocial goals: egocentric</td>
<td>.19 (.06) .14**</td>
<td>.27 (.06) .18**</td>
<td>.02 (.06) .02</td>
<td>.08</td>
</tr>
<tr>
<td>Social status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers popular (standardized)</td>
<td>−.12 (.08) −.06</td>
<td>−.08 (.09) −.04</td>
<td>−.19 (.08) −.10*</td>
<td>.02</td>
</tr>
<tr>
<td>Peers rejection (standardized)</td>
<td>.35 (.08) .18**</td>
<td>−.02 (.09) −.01</td>
<td>.27 (.08) .14**</td>
<td>.06</td>
</tr>
<tr>
<td>Social status (combined popularity/rejection score)</td>
<td>−.48 (.13) −.15**</td>
<td>−.07 (.14) −.02</td>
<td>−.44 (.13) −.14*</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note: YPI-SCV = Youth Psychopathic traits Inventory – Short Child Version, IRI= Interpersonal Reactivity Index; CAES = Cognitive and Affective Empathy Scales, IGI-C = The Interpersonal Goals Inventory for Children; *** regression coefficient is significant at the 0.001 level (2-tailed), ** regression coefficient is significant at the 0.01 level (2-tailed), * regression coefficient is significant at the 0.05 level (2-tailed).
Discussion

This study investigated the relation between psychopathic traits and social functioning in preadolescent children. Previous studies had shown that children with high levels of psychopathic traits are not well liked by their peers (Barry et al., 2008; Piatirosky & Hinshaw, 2004) and exhibit lower social competence (Barry et al., 2008). The current study sought to expand on these preliminary findings by investigating the relationship between the different dimensions of self-reported psychopathy in preadolescent children and a broad array of social functioning variables: a comprehensive range of empathy dimensions, various social goals, and social status variables. As expected, the general finding was that psychopathic traits were negatively related to social functioning, though the relations were generally modest in size and the explained variance was low to moderate in size. Also consistent with the hypothesis was that the results varied between the three dimensions of psychopathy, with the Callous-Unemotional dimension showing the most consistent negative relation.

Social Emotions (Empathy) – With respect to the social emotion of empathy, the Callous-Unemotional dimension was consistently negatively related to all subtypes of empathy (i.e., personal distress, empathic concern or sympathy, emotion contagion and both operationalizations of cognitive empathy). The Impulsive-Irresponsible dimension was negatively related to both scales measuring cognitive empathy, and it was marginally positively related to personal distress. The Grandiose-Manipulative dimension showed no relation to any form of empathy, except for a positive relation to cognitive empathy but only as measured through the CAES Cognitive Empathy scale (but not through the IRI-perspective taking skill). This last finding may be an artifact of an instrument-trait interaction rather than reflecting an actual relationship. A favorable attribute of the CAES Cognitive Empathy scale, opposed to the analogous IRI-Perspective Taking scale, is that it measures cognitive empathy as a cognitive ability, uncontaminated by motivational factors that may bear resemblance to affective empathy. Many items are worded: “I have the ability to…” or “I can …” rather than “I try to.” The positive answers that children with high grandiose-manipulative traits gave may have reflected their sense of grandiosity, rather than actual higher levels of cognitive empathy. Alternatively, the differential relation to both operationalizations may indicate that grandiose-manipulative traits in children are not linked to a lack of ability but rather to a lack of effort or concern to take other’s perspective (“I can take another’s perspective, I just choose not to try too”).

Our results with respect to empathy show some similarity to previous findings. The overall negative association between psychopathic traits and empathy fits the description of psychopathy as comprising a lack of empathy and experimental studies that have linked psychopathic traits in children to lower sensitivity to others’ distress (Blair, 1999; Blair et al., 2001; 2005; Blair & Coles, 2000; Stevens et al., 2001). The differential relationships of callous-unemotional traits and impulsive-irresponsible traits...
to personal distress are generally in line with earlier findings using the two factor structure of the APSD in incarcerated adolescents in which the Callous-Unemotional (CU) factor was negatively related to personal distress, whereas the Impulsive/Conduct problems dimension (I/CP) was positively related to this subtype of empathy (Pardini et al., 2003). Because personal distress is an aversive affective reaction to the apprehension of another’s discomfort (e.g., feeling anxious when seeing another being sad; Eisenberg, 2000) the current finding also bears resemblance to the finding that in referred children, the I/CP factor was related to higher anxiety, whereas the CU factor was related to lower anxiety (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999). It should be noted that despite being a subtype of empathy, self-oriented personal distress is generally negatively associated with prosocial behavior (Eisenberg, 2000), and therefore, the (marginally) positive relation to the Impulsive-Irresponsible dimension is not indicative of more prosocial behavior.

Another noticeable finding with respect to empathy is that Callous-Unemotional and Impulsive-Irresponsible dimensions of psychopathy were both negatively related to cognitive empathy, which held for both conceptualizations of cognitive empathy. This finding does not support the hypothesis put forward elsewhere (Blair, 2005) that children with psychopathic traits are not impaired in their perspective taking abilities, but it is consistent with indicators from research in adolescents (Jurkovic & Prentice, 1977; Hogan, 1969; Pardini et al., 2003).

Social goals – With respect to social goals, it was expected that children with higher psychopathic traits would show lower communal goals, higher agentic goals and when showing prosocial behavior to others, would do so with an egocentric/instrumental but not an altruistic motivation. This choice of social goals was expected to relate primarily to the affective Callous-Unemotional and interpersonal Grandiose-Manipulative dimensions of psychopathy. The results confirmed these hypotheses; children with high affective and interpersonal psychopathic traits felt a low need for intimacy and affiliation with others but rather strived to be admired and to dominate. When acting prosocially (i.e., being kind to other children), they reported doing so not for altruistic reasons but rather egocentrically and instrumentally (e.g., to make a good impression on others). No research has been done on social goal choice in children with psychopathic traits, but in young adults, there have been comparable findings. Specifically, psychopathic traits were negatively associated with a need for affiliation and social closeness (Braid, 2001). Our findings also show some similarity to a study in which children with high narcissistic traits scored high on agentic and low on communal goals (Thomaes et al., 2008). Importantly, it has been shown that certain social goals can result in problematic functioning. Specifically, the same pattern of high agentic and low communal goals that we see in the children with high affective and interpersonal psychopathic traits in our sample has been shown to be negatively related to prosocial behavior and positively to proactive aggression.
(Salmivalli, Ojanen, Haanpaa, & Peets, 2005). Other studies in children have also linked high agentic goals to aggression (Ojanen et al., 2005) and bullying (Sijtsema, Veenstra, Lindenberg, & Salmivalli, 2009).

**Social status** – Previous research had shown psychopathic traits to be related to lower overall social status (Barry et al., 2008) and to higher peer-rejection but not to lower peer-popularity (Piatorsky & Hinshaw, 2004). The results of the current study largely replicated these earlier findings, showing that children with psychopathic traits are not well-liked by their peers. In our study, children with higher impulsive-irresponsible psychopathic traits were less popular than those with lower traits, and they were also more often rejected (chosen as least liked by their classmates). Children with higher callous-unemotional traits were also more often rejected. When combining rejected and popularity scores into one social status variable, both these dimensions were related to lower social status.

The current study thus showed that children with high psychopathic traits suffer from impaired social functioning both emotionally (affective empathy), motivationally (social goals), and interpersonally (social status). This is worrisome as each of these social functioning variables has been linked to problematic functioning such as higher behavioral problems, aggression and delinquency (Hoglund et al., 2008; Lochman & Lampron, 1986; Lochman & Wayland, 1994; Miller & Eisenberg, 1998; Pardini et al., 2006; Salmivalli et al., 2005). Additionally, there is even some preliminary evidence that suggests that lower social functioning may worsen the perspective of children with high psychopathic traits (i.e., result in higher persistence of psychopathic traits over time; Barry et al., 2008).

However, it should be noted that due to the cross-sectional nature of the current study, questions regarding causality cannot be answered. Moreover, the interaction between psychopathic traits, social functioning variables, and problematic social behaviors (not measured in this study) is probably complex. For example, relational aggression and social status reciprocally influence each other (Puckett, Aikins, & Cillessen, 2008). Low peer status has been shown to result in higher aggression (Cillessen & Mayeux, 2004), but this has also been demonstrated in the reverse direction (Newcomb, Bukowski, & Pattee, 1993). Likewise, indirect mediational relations between social functioning and behaviors have been shown as well. Behaviors such as aggression and prosocial behavior mediated the relation between social goals (communal and agentic) and peer status (Ojanen et al., 2005). Future studies could investigate if and how exactly these constructs relate and interact and consequentially find ways to break this cycle. For example, one could aim at the social emotions: it has repeatedly been suggested that parental empathy inducing techniques that foster empathic concern in young children could be effective in countering psychopathic traits (Frick & White, 2006; Van Baardewijk et al, 2009). Alternatively, social skills (e.g. Greenberg et al., 1998) or perspective taking abilities (e.g. Grizenko et al., 2000) could be targeted.
**Limitations**

The current study should be seen in the light of a number of limitations. First, the YPI-CV and YPI-SCV have currently only been tested in community samples and it is a, yet unanswered, empirical question whether it can be used successfully in other aggressive, adjudicated or high-risk children. However, in juvenile psychopathy research, studies in community samples have generally rendered similar results to those in high-risk or adjudicated samples (Kotler & McMahon, 2005). Specifically, the highly similar adolescent equivalent of the YPI-CV, the YPI (Andershed et al., 2002), has been shown to be reliable and valid in community samples as well as high-risk and adjudicated groups (Andershed, Hodgins, & Tengstrom, 2007; Andershed et al., 2002; Dolan & Rennie, 2006; 2007; Larsson et al., 2006; 2007; Poythress, Dembo, Wareham, & Greenbaum, 2006; Skeem & Cauffman, 2003). Despite these positive indications, the validity of the YPI-SCV in other samples will need to be formally substantiated in future studies. Second, the current study only supports the reliability and validity of self-reported psychopathic traits in a research situation. No conclusion can be drawn from the current research on the utility of the YPI-SCV when anonymity cannot be guaranteed (i.e. clinical practice). Third, the current study relied primarily on self-report questionnaires which could have created method variance problems. In future studies, it would be valuable to use a wider range of informants (self, peers, teachers, parents) and methods (e.g. laboratory paradigms). Fourth, with respect to social goals we focused on children's global goal orientations, indicative of a general representation, or a ‘working model’, for their behaviors. It should be noted that this does not preclude the possibility that social goals vary according to cues provided by interaction partners or situations. The same holds for empathy. We focused on dispositional empathy, rather than situational empathic responding which may be closer to actual behaviors. Future studies could examine children's goals and empathic responding in different social situations.

The present studies showed children with high psychopathic traits to suffer from a wide range of impaired social functioning: emotionally (empathy), motivationally (social goals), and interpersonally (social status). This is worrisome, as problematic social functioning, like psychopathy, is associated with negative outcomes and there are indications that the two can interact to worsen children's perspective. Therefore, future studies should continue to investigate if and how exactly psychopathic traits and social functioning relate and interact and consequentially find ways to break this negative cycle.