In presence of risk, what protective factors keep preschool children from displaying conduct problems?

Lia Ahonen

Department of Behavioral, Social and Legal Sciences
Psychology, Örebro University

Abstract

Children that are expressing or are exposed to risk factors experience an elevated risk of developing later psychosocial maladjustment, such as conduct problems. However, all children exposed to risk do not express conduct problems, but develop normally. The aim of the present study was to examine potential protective factors among children exposed to risk, that separate children expressing conduct problem behavior from those who do not. In the study, preschool teachers and parents of 298 three-to five-year-old children participated. Risk factors of the individual, conduct problem behavior, and relationship oriented protective factors were examined. The results indicate that positive peer relationships are important for preschool children’s psychosocial development, while family factors, such as parent’s disciplinary style, seem less important.

Keywords: risk factors, protective factors, conduct problem behavior, preschool

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Supervisors: Henrik Andershed
Anna-Karin Andershed
In presence of risk, what protective factors keep preschool children from displaying conduct problems?

Sammanfattning

Barn som uttrycker eller exponeras för riskfaktorer löper en ökad risk att utveckla psykosocial problematik, såsom anpassningsproblem och kriminalitet. All barn som utsätts för risk uppvisar dock inte problembeteende utan utvecklas normalt. Syftet med föreliggande studie var att bland barn som uppvisar eller exponeras för riskfaktorer undersöka potentiella skyddsfaktorer som separerar barn med normbrytande beteende från barn som inte utvecklar denna slags problematik. I studien deltog förskollärare och föräldrar till 298 barn mellan tre och fem år. Riskfaktorer hos individen, problembeteende, och protektiva relationsrelaterade faktorer undersöktes. Resultatet visar att positiva sociala relationer redan i tidig ålder är av vikt för barnets psykosociala utveckling, medan familjefaktorer såsom föräldrars uppfosstringsstil i denna ålder är av mindre betydelse.

Nyckelord: risk factors, protective factors, conduct problems, preschool

Författare: Lia Ahonen
Handledare: Henrik Andershed
Anna-Karin Andershed
Psykologi C, 61-90 högskolepoäng
VT 2008
Örebro Universitet
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Many children express or experience risk factors for current or future conduct problem behavior (Loeber & Farrington, 2000; Robins & Price, 1991; see also Loeber & Farrington, 1999, for a review). A risk factor is something – a characteristic, experience, process or mechanism – that places a child at risk for a negative psychosocial development, although not necessarily causing it. Many children and adolescents who later on are diagnosed with Conduct Disorder or Oppositional Defiant Disorder start to display signs of conduct problems at an early age (see Andershed & Andershed, 2005, for a review). Moreover, an early onset of conduct problems is strongly associated with further antisocial behavior in adolescence and young adulthood (Biederman et al., 1996). Thus, conduct problem behavior is a phenomenon that might or might not develop into a more severe problem behavior. To avoid this negative psychosocial pathway it is of great importance to investigate the underlying risk mechanisms for conduct problems, as well as the possible protective mechanisms that interact in protecting a child from developing these behaviors. The aim of the present study is to examine if it is possible to identify preschool children at risk from a normal population sample, and to compare risk children with and without conduct problem behavior to see what separates the children that express conduct problems and the children that are well functioning despite the presence of the same risk factors.

According to the DSM-IV-TR (American Psychiatric Association, 2000), Conduct Disorder (CD) is a pattern of negative behaviors that impairs the psychosocial adaptation of the child or adolescent. Behaviors included in the CD-diagnosis are for example aggressiveness, destroying property, deceptive behavior, stealing, and running away from home (American Psychiatric Association, 2000). A slightly less severe form of conduct problems is Oppositional Defiant Disorder (ODD) (American Psychiatric Association, 2000).
Children with ODD are characterized by, for example, disobedience, irritability, aggression, and defiance. For the purpose of the present study, though, it is not meaningful to use CD or ODD as diagnostic terms to describe the children, considering their young age and normal population status. Here, the same behaviors as are described as criteria for the diagnoses are assessed, but on a subclinical level, and the results are considered indicative of conduct problem behavior rather than a diagnosis.

A large body of research separates risk factors into different categories. In a classic longitudinal study of deviant children (Robins, 1966; 1991), factors that increased the risk of a negative behavioral development were categorized into five groups: Factors of the child, biological factors, family factors, school related factors, and factors related to the sociocultural context. Although society has changed, most of the risk factors described by Robins (see Robins & Price, 1991) are still commonly researched and mentioned in the literature. According to the accumulated research in the area, some of the most central risk factors for conduct problems among children are: conduct problems; temperament; impulsivity and symptoms of Attention Deficit Hyperactivity Disorder (ADHD); callous and unemotional traits; risk taking; neurological, physiological, and intellectual dysfunction; dysfunctional family structure; parental neglect; parental substance abuse, antisocial behavior and depression; domestic violence, and physical or sexual abuse; rejection by peers; low school motivation and achievement; and academic failure (Farrington, 1989; Lagerberg & Sundelin, 2000; Loeber & Burke, 2000; Loeber & Farrington, 2000; Maguin et al., 1995, ref. in Loeber & Farrington, 1999; Rutter, 1995; Silberg et al., 1996; see also Loeber & Dishion, 1983, for a review). Most researchers agree on these risk factors.

The present study focuses on three risk factors that are considered to be among the most important for the development of conduct problems: ADHD-related behaviors, callous-unemotional traits, and fearlessness. ADHD is one of the most well known individual risk
What protective factors keep children from displaying conduct problems? Researchers suggest that ADHD might predict, for example, future substance abuse and juvenile violence (Farrington, 1989; Mannuzza, Klein, Konig & Giampino, 1989; Schubiner et al., 2000; Wilens, Biederman, Mick, Faraone, & Spencer, 1997). Further, callous and unemotional (CU) traits have for a long time been focus for research on adults with antisocial behavior, mostly in combination with other components of psychopathy. A body of research illustrates that CU-traits also play an important role for understanding childhood conduct problem behavior (Frick, Stickle, Dandreux, Farrell, & Kimonis, 2005; Lynam, 1997: 1998; Pardini & Loeber., 2007). There is also a possibility that CU-traits are related to other factors that in turn are associated with conduct problems, such as risk taking behavior or fearlessness. Fearlessness illustrates the child’s emotional reactions to events and situations where most children show fear or anxiety (Farrington, 1989), and is associated with both ADHD and CU-traits, and also directly with conduct problems (Farrington, 1989). In this study, ADHD, CU-traits, and fearlessness are considered risk factors on the individual level.

Generally speaking, a protective factor is a trait, phenomenon, or characteristic that moderates or even lowers the impact of risk factors. In a research review (Ferrer-Wreder, Stattin, Cass Lorente, Tubman, & Adamson, 2005) protective factors are described as factors that increase the social competence and cognitive skills that can help the child to handle daily functioning despite the presence of risk. Research on protective factors has increased markedly during the last two decades (e.g., Buchanan, Flouri, & Brinke, 2002; Gregory, 1995; Pardini & Loeber, 2007; Rutter, 1995; Salekin & Lochman, 2008; Supplee, Unikel, & Shaw, 2007; Webster-Stratton, Reid, & Stoolmiller, 2008). However, the literature on very early protective factors is limited. Protective factors are not necessarily the same over the life-course, thus, preschool children, middle school children, adolescents, and adults probably experience different protective factors. Examples of possible protective factors are prosocial
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behavior, qualitative relationships between parents and children, parent’s warmth, small family size, sufficient social network, and peer relationships (Luthar, Cicchetti, & Becker, 2000; Masten, 2005; Piaget, 1965; Salekin & Lochman, 2008). Thus, many of the protective factors that are described in the literature are oriented toward relationships with significant others. In the process of growing up, there are a number of important persons involved in people’s lives. Early in life, though, it is probably the children’s immediate family systems/environments that primarily will influence their psychosocial adjustment. Hence, the parent-child relationship, followed by other important interpersonal interactions and relationships during development (e.g., with relatives and peers), are thought to be important predictors of children’s social and psychological adjustment (Bowlby 1997/1969; Bronfenbrenner, 1979; Bronfenbrenner & Morris 1998; Parker & Asher, 1987).

The focus in the present study is on four potential protective factors that are thought to influence children at risk in a positive direction. First examined is positive parenting, which is a parenting style, characterized by encouragement and consistency (Werner & Smith, 1992). The second factor examined is parents’ level of warmth toward the child and the quality of the relationship (McKee et al., 2007). The third factor examined is caregivers’ own well-being (see Werner & Smith, 2001 for discussion on parents’ traits as protective factors). The fourth factor examined in the study is prosocial behavior toward peers. Prosocial behavior toward peers is a possible protective factor even at an early age (Parker & Asher, 1987).

In sum, research has documented numerous risk factors for conduct problems. Similarly, research has documented protective factors for the same problematic behaviors. We also know that not all children growing up with risk factors display problem behavior. Hence, the research questions of this study are: Is it possible to identify children at risk and if so, do they differ in levels of conduct problems? and Do children at risk who are not expressing conduct problem behavior have higher levels of protective factors present than children at risk who are
Method

Participants

Children from 17 preschools in Kumla, Örebro, and Linköping participated in the study. The target sample consisted of 500 children, ages three to five years. In total, 486 questionnaires were distributed to preschool teachers and parents. Preschool teachers completed questionnaires for 298 (61%) children, and parents completed questionnaires for 239 (49%) children. Both parents and preschool teachers gave information about 228 (47%) children. Some of the parents, \( n = 43 \) (8%), chose to not participate in the study, and three parents would not answer the questions speaking for their children but approved of the preschool teachers’ participation on behalf of the children. None of the preschool teachers declined participation.

Of the 298 children included 76 (26%) were three years old, 114 (38%) were four years old, and 108 (36%) children were five years old. Boys accounted for 52% of the total sample and girls for 48%.

Measures

Several of the measures described are commonly used for older children and adolescents. Despite the possible age difficulties, the assessment instruments used are known to have temporal validity, and as such can be considered good predictors of future behavior.

Conduct Problem Behavior. The assessment of conduct problem behavior was comprised of three different types of measurement: Conduct problem behavior, Oppositional Defiant behaviors, and proactive and reactive aggressive behaviors. Behaviors considered as Conduct problems e.g., “Does the child destroy other’s belongings”, and Oppositional Defiant behaviors e.g., “Does the child argue a lot”, were measured with the Teacher Report Form (Ivanova et al., 2007; Rescorla et al., 2007) through 13 items (\( \alpha = .86 \)) and 5 items (\( \alpha = .71 \)),

expressing conduct problem behavior?
What protective factors keep children from displaying conduct problems? respectively. The questionnaire was filled out by preschool teachers, with response alternatives ranging from $1 = \textit{not true}$ to $3 = \textit{very true or often true}$.

Aggressive behavior was measured with the Reactive and Proactive Aggression Scale (Brown, Atkins, Osborne, & Milnamow, 1996) through 21 items answered by both preschool teachers and parents ($\alpha = .98$, and $\alpha = .84$, respectively). The scale measures the child’s aggressive behaviors in terms of reactions to events that causes anger (reactive aggression), e.g., “This child gets angry when corrected”, and aggressive behaviors that are not caused by a provoking event, but rather expressed for their own sake (hostile/proactive aggression), e.g., “This child gets others to gang up”, with ratings ranging from $1 = \textit{never}$ to $3 = \textit{very often}$. The subscales of reactive and proactive aggression were not utilized in the present study since this was not relevant for the purpose of the study. Since parents’ and preschool teachers’ responses were significantly correlated with each other, their scores were averaged to compute an overall score of aggressive behavior ($r = .356$, $p < .01$).

All children with scores above the mean value on two or more of the measures of Conduct problems, Oppositional Defiant behaviors and/or aggressive behavior were considered to display conduct problem behavior while the remaining children were considered not to display conduct problem behavior (for descriptive statistics, see results section).

Risk factors. Behaviors descriptive of ADHD were assessed with DuPaul’s ADHD rating scale IV (DuPaul et al., 1998). The scale measures hyperactivity and attention deficits through 19 items answered by teachers and parents ($\alpha = .94$, and $\alpha = .89$ respectively), e.g., “Does the child often get distracted by things happening around him/her”, with response alternatives ranging from $1 = \textit{never}$ to $4 = \textit{always}$. Since preschool teachers’ and parents’ reports were significantly correlated with each other, their scores were averaged to compute an overall score representing ADHD ($r = .346$, $p < .01$).

The Child Problematic Traits Inventory (CPTI) measures callous and unemotional traits
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through 10 items answered by teachers ($\alpha = .93$), e.g., “The child does not get upset when others are getting harmed”, with response alternatives ranging from $1 = \text{do not agree at all}$ to $4 = \text{completely agree}$.

The Child Fearlessness Scale (Andershed, unpublished) measures the child’s behavior in situations where most children show fear, through 6 items, answered by preschool teachers and parents ($\alpha = .82$ and $\alpha = .85$ respectively), e.g., “The child does not seem to be afraid of anything” with response alternatives ranging from $1 = \text{not at all true}$ to $4 = \text{definitely true}$. Since preschool teachers’ and parents’ reports were significantly correlated with each other, their scores were averaged to compute an overall score representing fearlessness ($r = .03$, $p < .05$).

Scores on ADHD, CU-traits, and fearlessness were used to create a group of children with risk factors present. Children scoring above the mean value on two or three risk factors were considered to have risk factors present, $n = 102$. Hence, these are the children that are involved in the statistical analyses.

**Protective factors.** The Alabama parenting questionnaire (Frick, 1991; Shelton, Frick, & Wooton, 1996) measures parental disciplinary style and one out of four subscales were used to measure positive parenting through 6 items ($\alpha = .81$), e.g., “Do you consistently reward the child in some way when he/she behaved well”, with response alternatives ranging from $1 = \text{never}$ to $5 = \text{always}$.

Warmth (Stattin & Kerr, unpublished) measured the parents’ level of warmth towards their children through 6 items per parent ($\alpha = .67$, and $\alpha = .76$, for mother and father, respectively), e.g., “Do you always show your love to the child, almost no matter what he or she does”, with response alternatives ranging from $1 = \text{never}$ to $3 = \text{most of the time}$. Responses for mother and father were averaged and computed together to achieve an overall score representing parent’s warmth.
The caregivers’ well-being was measured using the Center for Epidemiological Studies - Depression scale (Radloff, 1977). Here, the subscales measuring well-being was used. Well-being is measured through 4 items ($\alpha = .54$), e.g., “During the past week I felt hopeful about the future”, with response alternatives ranging from $1 = never or almost never$ to $4 = always or almost always$.

The Child Behavior Scale (Ladd & Profilet, 1996) measures the child’s peer relationships and interactions with other children. Here, the subscale prosocial with peers was used. The subscale contains 7 items ($\alpha = .71$), e.g., “Does the child offer help or comfort when another child is sad”, with response alternatives ranging from $1 = does not agree at all$ to $3 = agree completely$.

Procedure

Participating school units were contacted through the school principal who gave permission to contact the preschool units directly. All information to the participating schools was given both verbally and in writing. The children’s parents received written information about the study together with the questionnaires, distributed via preschool personnel. Both parents and preschool personnel were given four weeks to complete the questionnaires. Research assistants collected the questionnaires at the units. Participating preschools were rewarded with a book and participating parents took part in a movie ticket lottery.

Statistical analyses

The data are described in terms of number of participants, frequency distribution of the children’s ages and gender respectively. The descriptive statistics illustrate the assignment of children to groups considered high on risk, across gender and age groups. Associations between conduct problems, risk-, and protective factors were investigated through correlations. To investigate possible differences in protective factors between children at risk
without conduct problem behavior and children at risk displaying conduct problem behavior, t-tests were conducted.

Results

The distribution of children at risk was rather even across genders and age groups, see Table 1, with a slight under-representation of five-year-olds (24% of the total number of five-year-olds) than three- (41%) or four-year-olds (39%) within their respective age groups. Also, boys were slightly over-represented, in accordance with previous research (e.g. Rutter, Giller, & Hagell, 1998).

Table 1

<table>
<thead>
<tr>
<th>Gender and Age</th>
<th>At Risk</th>
<th>Risk and Conduct Problem Behavior</th>
<th>Risk but no Conduct Problem Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys, 3 yrs</td>
<td>17 (42.5)</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Girls, 3 yrs</td>
<td>14 (39.0%)</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Boys, 4 yrs</td>
<td>20 (35.0%)</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Girls, 4 yrs</td>
<td>25 (43.8%)</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Boys, 5 yrs</td>
<td>16 (28 %)</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Girls, 5 yrs</td>
<td>10 (19.6 %)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>56</td>
<td>46</td>
</tr>
</tbody>
</table>

Conduct problem behaviors were strongly related to each other, and had similar patterns of associations with the three risk factors, see Table 2. There were significant associations among the three risk factors measured. That is, if one risk factor is present there is a chance that the others are too. The associations among factors were slightly weaker for girls than for boys. The protective factors are not as strongly associated with each other, with a few
exceptions, see Table 2. Also, there were no significant associations to conduct problem behaviors or risk factors, except for between warmth and ADHD in girls. Positive parenting even had a positive association with fearlessness in boys, indicating that high levels of positive parenting are co-occurring with high levels of fearlessness.
What protective factors keep children from displaying conduct problems?

Table 2

**Bivariate correlations between conduct problems, risk factors and protective factors respectively.**

<table>
<thead>
<tr>
<th>Conduct problems</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODD</td>
<td></td>
<td>.62**</td>
<td>.59**</td>
<td>.40**</td>
<td>.37**</td>
<td>.36**</td>
<td>-.01</td>
<td>-.09</td>
<td>.10</td>
<td>-.26**</td>
</tr>
<tr>
<td>CD</td>
<td>.73**</td>
<td>--</td>
<td>.56**</td>
<td>.38**</td>
<td>.43**</td>
<td>.14</td>
<td>-.02</td>
<td>-.07</td>
<td>-.03</td>
<td>-.33**</td>
</tr>
<tr>
<td>Aggression</td>
<td>.76**</td>
<td>.67**</td>
<td>--</td>
<td>.60**</td>
<td>.50**</td>
<td>.39**</td>
<td>-.14</td>
<td>-.07</td>
<td>.01</td>
<td>-.37**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk factors</th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>.63**</td>
<td>.61**</td>
<td>.69**</td>
<td>--</td>
<td>.47**</td>
<td>.39**</td>
<td>-.20*</td>
<td>-.22*</td>
<td>.07</td>
<td>-.37**</td>
</tr>
<tr>
<td>CU</td>
<td>.56**</td>
<td>.68**</td>
<td>.59**</td>
<td>.66**</td>
<td>--</td>
<td>.30**</td>
<td>-.10</td>
<td>-.04</td>
<td>-.03</td>
<td>-.60**</td>
</tr>
<tr>
<td>Fearlessness</td>
<td>.38**</td>
<td>.47**</td>
<td>.41**</td>
<td>.36**</td>
<td>.39**</td>
<td>--</td>
<td>-.02</td>
<td>-.06</td>
<td>.18</td>
<td>-.20*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protective factors</th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive parenting</td>
<td>.06</td>
<td>.04</td>
<td>.10</td>
<td>.08</td>
<td>.09</td>
<td>.25**</td>
<td>--</td>
<td>.41**</td>
<td>.10</td>
<td>.12</td>
</tr>
<tr>
<td>Warmth</td>
<td>-.12</td>
<td>-.09</td>
<td>-.12</td>
<td>-.15</td>
<td>-.01</td>
<td>-.04</td>
<td>.40**</td>
<td>--</td>
<td>.21*</td>
<td>.12</td>
</tr>
<tr>
<td>Caregivers’ well-being</td>
<td>-.13</td>
<td>-.05</td>
<td>-.06</td>
<td>-.13</td>
<td>-.03</td>
<td>-.06</td>
<td>.08</td>
<td>--</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Prosocial with peers</td>
<td>-.41**</td>
<td>-.49**</td>
<td>-.47**</td>
<td>-.56**</td>
<td>-.67**</td>
<td>-.25**</td>
<td>-.10</td>
<td>.06</td>
<td>-.05</td>
<td></td>
</tr>
</tbody>
</table>

Note. The values above the diagonal represent girls, and the values below the diagonal represent boys.

*p < .05; **p < .01
Prosocial behavior with peers seems to have the strongest associations with both risk factors and conduct problem behaviors, in that high levels of prosocial behaviors were related to low levels of risk and conduct problem behavior.

*T*-tests show no significant group differences between the risk-problem group and the risk-no problem group in terms of positive parenting, see Table 3. The two groups experience a similar level of positive parenting. Similarly, no significant group differences were found in parents’ warmth towards their children between the risk-conduct problem behavior group and the risk-no conduct problem behavior group. Further, the parents’ reports of their own well-being were not significantly different between the groups. Hence, the risk-conduct problem group did not differ significantly from the risk-no conduct problem group in terms of protective factors attributable to the family. Finally, analyses revealed that the risk-conduct problem group significantly differs from the risk-no conduct problem group in levels of prosocial behavior with peers, see Table 3. The children at risk not expressing conduct problem behavior are significantly more prosocial with peers than the group of children at risk showing conduct problem behavior.

Table 3

<table>
<thead>
<tr>
<th>Results from <em>t</em>-tests comparing risk-problem groups on protective factors.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>Positive parenting</td>
</tr>
<tr>
<td>Warmth</td>
</tr>
<tr>
<td>Caregivers’ well-being</td>
</tr>
<tr>
<td>Prosocial with peers</td>
</tr>
</tbody>
</table>

* *p < .05*
What protective factors keep children from displaying conduct problems?

Discussion

The overall aim of this study was to investigate if it is possible to identify children at risk with and without conduct problem behavior in a normative sample, and further to examine what protects some children from displaying conduct problem behavior despite the presence of risk. The results suggest that social relationships are an important factor for a positive development even at an early age and that prosocial behavior with other children seems to have an important impact. The results also indicate that parental warmth and positive parenting are not by themselves enough to protect preschool children from concurrently displaying conduct problem behavior.

Conduct problem behaviors were associated with high scores on behaviors descriptive of ADHD, callous and unemotional traits, as well as fearlessness. Further, these risk factors were also associated with each other, which makes them a congruent base for creating an overall risk score. If parents and preschool teachers rated the child high on two or more of those risk factors, the child was considered being at risk. The reason for choosing the presence of at least two risk factors was a precaution due to difficulties of estimating what indicates temporally stable abnormality and what can be explained by individual differences and normative development. For example, a retrospective study of children’s conduct problem behavior at ages two through nine years illustrate that problem behavior, especially aggression, declines with age (Miner & Clarke-Stewart, 2008). Thus, certain problem behaviors, such as aggression, might be less stable predictors of future conduct problems, when assessed at this young age and in particular without reference to other factors. Due to for example temperamental differences (Boyd & Bee, 2006), or individual maturation, very early aggressive behavior might be experienced as a problem behavior when really it is not.

For many years there has been a debate on whether children as early as in preschool ages can benefit from social relations or even friendships (Dunn, 1993; Howes, 1987; Park,
What protective factors keep children from displaying conduct problems? Lay, & Ramsay, 1990, ref. in Dunn, 1993; Selman, 1989). However, when the children in this study were compared on levels of protective factors, only one significant difference between the risk-conduct problem behavior and risk-no conduct problem behavior groups appeared: The children at risk who did not express conduct problem behavior were significantly more prosocial with peers than the children at risk who did express conduct problem behavior. This result confirms previous research (Dunn, 1993; Howes, 1987; Park, Lay, & Ramsay, 1990 ref. cannot benefit from social relationships.

None of the parental factors differed between the risk-conduct problem behavior and risk-no conduct problem behavior groups. A possible explanation of the results are that parental influences of any kind on young children is more difficult to measure than on children old enough to speak for themselves, perhaps as a result of social desirability. Even though research has shown that children are capable of conducting self-reports on conduct problems as early as from five years (Arseneault, Kim-Cohen, Taylor, Caspi, & Moffit, 2005), and thus also might have the ability to report on parents’ behavior, it is still undoubtedly a problem achieving preschool children’s self-reports due to processes of natural maturation such as language difficulties and lack of words (Boyd & Bee, 2006). This leaves the parents to decide whether the children are experiencing warmth and a positive disciplinary style. As can be seen in the results, mean values of parents’ reports of positive parenting and warmth are close to the maximum value of the scale, with little of variance. Hence, most parents have rated their relationship with their children as quite positive, which may have resulted in “ceiling effects”.

To get an overall score that has as much stability and broad spectra as possible, only children who were rated by both parents and preschool teachers were included in the study, which leads to the consequence that the study has a large drop out (53%). This is important to take into consideration, since the explanations for this phenomenon also might tell us
What protective factors keep children from displaying conduct problems? Something about the sample. Several questions arise in this matter; do the families that chose not to participate differ in any aspect from those who did participate, and could this be an indication of for example lower family function? And if they do differ, in what aspects? There are several other possible explanations to the low answering frequency, for example the way the questionnaires were distributed. On one hand, this drop out decreases the possibility to generalize the results, but on the other hand it strengthens the results from the individuals actually included in the study. This might be a matter for future research.

The present study is cross-sectional, which makes it impossible to draw conclusions about causality. Neither is it possible to consider children’s development over time, due to the lack of repeated measures. For example, there were strong negative associations between prosocial behaviors and conduct problem behaviors, although it is not clear which behaviors cause the other. Theoretically, children that express problem behavior such as aggression might be rejected by peers as a reaction to their behavior, and therefore become less prosocial with peers. However, such developmental hypotheses could not be tested with the data available. There should also be a notification on the risk factors used to create the over all risk score. ADHD for example can influence the children’s emotional capabilities, thus increasing the scores on callous and unemotional traits. Further, the study uses a normative sample, and although there is a possibility that there are children under clinical care included in the sample, this has not been investigated. This altogether might, for example, lead to that children with an ADHD-diagnosis, or suffering from ADHD but not yet diagnosed, remain undetected in the data. These children receive high scores also on callous and unemotional traits, since flattened emotional life is a common symptom of ADHD. Moreover, the cut off score for being considered at risk is set to all values above the calculated mean. The consequences of this liberate classification is that as many as 102 children are considered at risk for future conduct problem behavior (46%), which obviously does not represent a
normative distribution. The reason for this cut off score is mainly that when using a stricter assessment for example ADHD very few children would be in the risk group. On the other hand, many children this age sometimes display a behavior descriptive of ADHD, although not consistent. Since the purpose of this study was to investigate protective factors, the focus was to get as many children as possible in the study. To make it possible to include as many children as possible without ignoring the issue of symptoms descriptive of ADHD as a part of individual differences in development, one assumption was for the child to get high scores on at least two of the risk factors measured.

When it comes to assessment, another possible weakness with the study is the inter-rater reliability issue. Parents and preschool teachers often differ in responses (Christensen, 2006), perhaps as a result of context specific behaviors. Parents interact with the child in the home environment, where the child hopefully feels secure and acts naturally, both on positive and negative behaviors. Teachers meet the child in a completely different context, where conflicts and negative peer interactions are more likely to occur. There is also a risk that parents and preschool teachers interpret and respond to the assessment instruments differently due to differences in education and experience. Information collected from parents most likely is more or less subjective, while information gathered from teachers probably is much more objective. Parents have their own preconceptions concerning child rearing and they also have their own personality traits and mental health status. This altogether is likely to affect parents’ answers. Finally, the questionnaires used are not specialized for young children, meaning that the questions differ in degree of appropriateness for this age-group (see e.g., Sharp & Kine, 2008, for a discussion). However, the great majority of the instruments used in the study is well known and validated instruments and as such the reliability (the repeatability and consistency) of the study is considerably good. Finally, analyzing mean values on group level does not illustrate individual constellations of risk and protective factors. One of the
disadvantages with such an approach is that the possible individual differences in patterns of risk and protection are not taken into account. Risk as well as protective factors most likely differ between children, and what is risk or protection for one child has no effect on another. Hence, person-oriented analyses would perhaps be more appropriate, or at least complementary to the variable-oriented approach.

According to Christensen (2006) sample size is one of the most important assumptions for validity, especially external validity (the ability to generalize the results). Generalizability is well worth mentioning since we want to be able to predict outcomes in other populations (population validity) and other contexts (ecological validity). This study can be considered to have acceptable validity considering that there were 17 different preschools and 41 preschool units from three different cities, of different sizes, participating in the study.

The present study contributes to the research on protective factors by opening up more specific questions such as whether children benefit from very early interactions with and interventions that involve peers. Another important area of questions concerning the phenomenon of protective factors is for example whether protection is cumulative. Does the child “buffer” protection, or do protective factors only kick in at the presence of risk in general, certain risks, or at certain levels or constellations of risk? Future research should focus on developing assessment instruments of protective factors that are specialized for young children. There are however, difficulties with using only questionnaires for measuring emotional quality. Hence, observational studies could be an important complement in studying the actual interactions between parent and child, or the child and other children. Observational studies where the researchers follow validated criteria are perhaps more objective, and will therefore eliminate some of the bias that can occur both when using self-reports and parent or teacher reports (Patton, 2000; Silverman, 2000). Future studies should also be longitudinal to be able to assess development over time.
Children are more or less vulnerable to the exposure of risk factors that might influence their psychosocial development negatively. Some children have something that lowers the risk or even protects them from future psychosocial and psychological maladjustment. Early social relationships, not only in the closest family context, could be an important predictor of future positive psychosocial development. Further, it is possible that protective factors interact with each other to protect the child, and this should be taken into consideration when developing interventions. Over and above the actual implemented intervention, the aspect of close relationships and social networks should perhaps constitute a large portion of the program. Still, no factor alone is likely to solely change a negative behavior pattern. Cumulative or not, one might assume that the more protective factors, the better the protection.
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