Risk and protective factors among preschool children for future psychosocial problems

– What we know from research and how it can be used in practice

Anna-Karin Andershed
Örebro University

Henrik Andershed
Örebro University

David P. Farrington
University of Cambridge

Contact: Dr. Anna-Karin Andershed, Örebro University. E-mail: anna-karin.andershed@oru.se

Summary
Despite extensive knowledge from research telling us which traits, behaviors, relations and circumstances that increases (risk factors) and decreases (protective factors) the risk for long lasting problems, the actual practical use of this knowledge by professionals working with children seems very limited. The purpose of this paper is twofold: 1) To review previous reviews and meta-analyses in order to identify from empirical research risk and protective factors in preschool age (up to age six) for psychosocial problems, specifically externalizing and internalizing problems. 2) To discuss how risk and protective factors can be used by professionals working with children and their families in the framework of concepts such as evidence based practice, risk focused prevention and treatment, and the Risk, Need, and Responsivity principles. The review shows that quite many risk and protective factors that are potentially changeable and thus practically meaningful have been identified via empirical research. It is concluded that there is an extensive amount of research on risk and protective factors in preschool age but that this knowledge is not complete or perfect. However, this extensive amount of research make up the best available evidence and it should be used by well trained professionals so that they can work in an evidence based way to help more children to a better life.

How to refer to this paper:
RISK AND PROTECTIVE FACTORS IN PRESCHOOL AGE

What happens in the lives of young children can influence their future development, health and well-being throughout the life span. We now from research that many of the psychosocial problems of adolescence and adulthood are associated with risk and protective factors that are evident much earlier in life, in the preschool years. Despite this knowledge from research telling us which traits, behaviors, relations and circumstances that increases (risk factors) and decreases (protective factors) the risk for long lasting psychosocial problems, the actual practical use in health care, preschool, social work, and psychiatry of the research based knowledge concerning risk and protection has thus far been very limited. The purpose of this paper is twofold: 1) To review previous reviews and meta-analyses in order to identify from empirical research risk and protective factors in preschool age (up to age six) for psychosocial problems, specifically externalizing and internalizing problems. 2) To discuss how risk and protective factors can be used by professionals working with children and their families in the framework of concepts such as evidence based practice, risk focused prevention and treatment, and the Risk, Need, and Responsivity principles.

The Importance of Focusing Externalizing and Internalizing Problems

Two of the most common forms of mental health problems in youths are externalizing problems, here defined as disruptive, oppositional, defiant, aggressive, and criminal behavior and substance using/abusing behavior and internalizing problems, here defined as anxious and depressive symptoms or behaviors. This is the case in many western countries (American Psychiatric Association, 2000; Kopp & Gillberg, 2003). Both of these problems are associated with a range of negative outcomes in adulthood. They not only predict future externalizing and internalizing problems, but also substance abuse and dependence, psychiatric illnesses, and various types of other psychosocial problems (e.g., Kim-Cohen et al., 2003; Murray & Farrington, 2010; Rutter et al., 2006). Hence, it is important to identify the risk and protective
factors for these psychosocial problems in research and then to use this knowledge in practice with children and their families. Furthermore, it is important to underscore that studies show that it is very common among adults with externalizing problems (e.g., criminal behavior) to also exhibit other problems, for example substance abuse and mental health problems (Moffitt et al., 2001; Wångby et al., 1999). A Swedish study, for example, of about 500 young adult women showed that it is statistically typical (significantly more commonly observed than what would be expected by chance) to simultaneously exhibit criminal behavior, substance abuse, and mental health problems (Wångby et al., 1999). The same study showed that it in fact is extremely uncommon (i.e., anti-typical – less commonly observed than expected by chance) to exhibit criminality only, (i.e., without substance abuse and mental health problems) in young adulthood (Wångby et al., 1999). The implication of this is that the factors considered as risk factors externalizing problems can often tend to be risk factors for other psychosocial problems as well.

What are Risk and Protective Factors?

A risk factor is something, for example a characteristic, relationship, trait, behavior, event or circumstance that increases the probability for a certain outcome. When researchers label something as a risk factor, this usually means that there is a statistical relationship between the factor and the outcome, showing that the two can be observed to exist at the same time or change in a parallel fashion. A limitation of most risk factor research is that we cannot be sure whether the risk factor will cause the outcome or vice versa. Thus, we cannot be sure based on research that an identified risk factor is a cause of externalizing or internalizing problems. We can usually only tell that the factor and the outcome in some way co-vary or are correlated. A statistically significant association may indicate that the risk factor and the outcome indeed are dependent of each other, but, in fact, the risk factor and the outcome may
also be related to each other because they both are caused by a third factor and actually are
not at all causally related to each other.

A protective factor is something, for example a characteristic, relationship, trait,
behavior, event or circumstance that decreases the probability for a certain outcome in the
presence of risk. Thus, the presence of one or several protective factors can make the child
more resilient against risk factors, i.e., can make it possible for the individual to develop well
despite the presence of risks. Many, perhaps most children are likely to experience at least one
risk factor during development. Children growing up in adverse environments will experience
many risk factors. Thus, strengthening and maximizing protective factors in children is a very
important task both for parents and professionals working with children. One can also talk
about promotive factors, which are usually defined as factors being associated with positive
development regardless of the level of risk of the child. In this paper, the focus will be on
protective rather than promotive factors.

Risk and Protective Factors May Exist in Many Layers

To understand the development of behaviors in general, a perspective that encompasses
the individual in his or her context is necessary. The holistic-interactionistic perspective
provides such a point of view (see e.g., Stattin & Magnusson, 1996). It implies that behavior
develops through continuous interactions between the individual and his or her social
environment. Hence, characteristics, experiences and conditions of the individual, as well as
circumstances and conditions of the environment need to be considered when we want to
explain the development of psychosocial problems. This can be illustrated via a model such as
the one presented in Figure 1, which shows the different levels /layers in which risk and
protective factors potentially can be found affecting the development of externalizing and
internalizing problems. The arrows show that factors on different levels can affect each other
(e.g., that the child can affect the family/care-givers and that the care-givers in turn can affect the child, etc.).

Figure 1. An ecological model of reciprocal effects between levels or layers in which risk and protective factors can exist.

Different types of risk and protective factors
RISK AND PROTECTIVE FACTORS IN PRESCHOOL AGE

There are several ways of categorizing risk- and protective factors and these ways of
categorizing can have practical implications. First of all, there are factors that are changeable
(dynamic) and factors that cannot be changed (static). Dynamic factors such as certain
behaviors of the child or certain relationship qualities, can be affected via interventions
whereas static factors such as gender or ethnicity cannot. Second, there are direct (proximal)
and indirect (distal) factors. Direct factors are more directly and causally related to the
outcome (here defined as externalizing or internalizing problems), while indirect factors are
more likely to be related to the outcome through their relation to the direct factors. For
example, a child’s problems with disinhibition could be directly related to a child’s
externalizing behavior problems, while young motherhood probably is more indirectly related
to the child’s problem behavior through its potential relation to problems with parenting
skills, low education, low socioeconomic status, single motherhood, etcetera. Third, there are
initiating and maintaining factors, where the initiating factors can cause the first appearance
of externalizing or internalizing problems, while the maintaining factors make the behavior
continue over time. These factors can be, but are not necessarily always the same. For
example, shop lifting can be initiated as a consequence of peer pressure, but maintained
through individual needs of thrill seeking activities.

The first purpose of the present paper is to review previous reviews and meta-analyses
in order to identify from empirical research risk and protective factors in preschool age (up to
age six) for psychosocial problems, specifically externalizing and internalizing problems. The
second purpose is to discuss how risk and protective factors can be used by professionals
working with children and their families in the framework of concepts such as evidence based
practice, risk focused prevention and treatment, and the Risk, Need, and Responsivity
principles.
Method

The present review of risk and protective factors for externalizing and internalizing problems is a review of previous reviews (i.e., narrative compilations, systematic reviews, or meta-analyses). A number of concepts have been used in these publications to describe externalizing problems: Delinquency, antisocial behavior, offending, arrests, convictions, police contacts, aggression, alcohol use/abuse, conduct disorder oppositional behaviors, disruptive behavior disorder, comorbid ADHD and conduct problems. A number of concepts have been used in these publications to describe internalizing problems: Anxiety, anxiety disorders, depression, mood disorder, poor psychiatric adjustment, internalizing problems. We have included clinical (diagnosis) as well as subclinical levels of these problems in our review.

The main literature searches were conducted in PsycINFO, the Campbell Collaboration and Cochrane Collaboration libraries, Biological Abstracts and Medline looking for papers classified as literature reviews, systematic reviews, or meta-analyses published from 1990 onward. To be as inclusive as possible in this first stage, the search terms were built on overarching and common descriptions, rather than specific concepts and narrow syndromes. Consequently, the terms internaliz*, externaliz*, conduct*, crim*, antisocial*, delinquen*, depress*, or anxi* were included to capture potential outcomes, in combination with the terms risk*, protect*, or resilien* to capture the area of research, and child* or preschool* to capture research on children in the target age period. The terms were not restricted to titles or keywords, but could be present anywhere in the database records. However, we added the restriction that the papers had to be classified either as reviews or meta-analyses, and be written in English. Based on title information, the records were more closely scrutinized, and the potentially relevant titles were retrieved in full text. Additional papers were added through suggestions from participants of a reference group of researchers in the field.
We have included recent literature reviews, published since 2006, and meta-analyses (no time limit) focusing on prospective, longitudinal research (follow up periods > 2 years) on risk and protective factors among children up to age 6 for long-lasting psychosocial problems, with a specific focus on externalizing and internalizing problems. The research presented here is based exclusively on empirical quantitative scientific studies of risk and protective factors. We also use individual, original empirical studies when necessary, to exemplify certain important points (e.g., showing that several risk factors are worse than a few).

It should be noted that studies specifically studying or separating out children in this particular age group are not very common, especially in comparison to research on older children and adolescents. Actually, the primary reason for exclusion of papers that were relevant in topic, was the sample used or the way information was presented. Mostly, samples included older children or the papers did not differentiate between children of different ages making it impossible to determine whether a certain risk- or protective factor could be considered valid for the preschool population or not. Most studies are initiated when children are starting to be able to self-report on their feelings, thoughts and behaviors through questionnaire responses – usually at school age (approx. age 7 or later). In addition, as research is being compiled in reviews or meta-analyses, there is often a lack of differentiation between children of different ages. Associations between risks and outcomes for preschoolers are rather rarely kept separate from similar associations for older children. For example, a common distinction is that of childhood, which usually encompasses all children up to the age of 12. In this review, such studies, when the preschool population has not been separated out from children of other ages, have not been included.

A second common reason for excluding a review or meta-analysis from our review was the lack of prospective analyses, or lack of possibilities to disentangle cross sectional from
longitudinal research due to insufficient presentation of data. We required a minimum follow up time of 2 years, since the scope of our review was to describe research on risk and protective factors that are related to future psychosocial problems. The entire search procedure resulted in that 31 reviews or meta-analyses that met our criteria were included in the present review.

Results

Which are the Risk and Protective Factors Among Preschool Children?

Table 1 displays the risk and protective factors identified in our present review of previous reviews and meta-analyses. Important to note is that the table in no way rank the risk and protective factors. This was not possible to do. Thus, Table 1 is merely a list of risk and protective factors that have been shown to significantly be associated with future externalizing or internalizing problems.

What is clear from Table 1 is that quite many factors have been identified as risk and protective factors in the preschool years, and that the factors exists primarily in the child and the closest social environment, e.g., in the family and among peers. Clear is also that many but not all identified factors seem practically useful in that they seem to be potentially dynamic/changeable. Moreover, an important finding to highlight is that the opposite side of a risk factor is not always a protective factor. This is clear in the results because we do not identify with the included reviews and meta-analyses, the same amount of protective factors as risk factors.

Table 1. Risk and Protective Factors among Children up to 6 Years of Age for Future Externalizing and Internalizing Problems.
## Risk and Protective Factors in Preschool Age

### Risk Factors

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Childhood/Adolescence</th>
<th>Adulthood</th>
<th>Childhood/Adolescence</th>
<th>Adulthood</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adoptee</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sleep problems, malnutrition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cognitive factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurological abnormalities, low verbal and performance IQ, low IQ, low cognitive ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conduct problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing problems, behavior problems, conduct disorder, oppositional behaviors, disruptive behavior disorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ADHD-symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperactivity, attention problems, impulsivity, restlessness, poor motor coordination, delayed motor development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Temperamental factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult temperament, irritability, disinhibition, undercontrol, aggression, sensation seeking, fearlessness, low harm avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Early behavioral inhibition, Oppositional defiant disorder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internalizing problems, depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marital conflict, home discord, family stress</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abuse and neglect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maltreatment, neglect, physical punishment, physical abuse, family violence, witnessing violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Demographic factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family structure, large family size, young motherhood, marital disruption, early broken home, single parenthood, parental separation, foster care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Socioeconomic factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low SES, low income, overcrowding, social dependency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parents’ characteristics and behaviors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers’ low IQ, parents’ low education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers’ alcohol use, parents’ alcoholism, parents’ criminality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers’ depression, parents’ psychopathology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parent-child relationship factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor parenting, deviant parent-child interaction, coercive interactions, insecure attachment, poor monitoring/supervision, low involvement, mothers’ negative control, low affect, low responsiveness, rejection, low warmth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protective factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Child factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective self-regulation, emotion regulation, easy temperament, high IQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parent-child relationship factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental acceptance and responsivity, warmth, secure attachment, positive family relationships, few infant-caregiver separations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical aspects of caregiving environment (safety, stimulation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*a* e.g., Delinquency, antisocial behavior, offending, arrests, convictions, police contacts, aggression, alcohol use/abuse, conduct disorder oppositional behaviors, disruptive behavior disorder, comorbid ADHD and conduct problems.

*b* e.g., Anxiety, anxiety disorders, depression, mood disorder, poor psychiatric adjustment, internalizing problems.
RISK AND PROTECTIVE FACTORS IN PRESCHOOL AGE

The number given at the risk and protective factors in the table means that the corresponding review has shown that this factor is a risk or protective factor.


Several Perhaps Many Risk Factors of Limited Predictive Value Before Age 3

An important observation we make via some of the reviews and their included longitudinal studies is that predictions are difficult from observations and assessments of very young children, below 2-3 years of age (Moffitt, 2003; Rutter et al., 2006) and the predictions become increasingly reliable with age (Leschied et al., 2008; Rothbaum & Weisz, 1994). For example, behavior problems assessed before the child’s age of 3 are less enduring than when assessments are made between ages 3 to 6 (Cai, 2004). Thus, this indicates that one should be careful in using these kinds of risk factors for risk assessment purposes before age 3.

Generalizability of the Risk and Protective Factors?

Most of the research included in the reviews summarized in Table 1 has been conducted in the United States. There are, however, few reasons to believe that the underlying processes connecting risk and protective factors to outcomes are substantially different between children in different western countries. This is probably particularly true for risk and protective factors on the individual- and family levels. Contextual factors, partly dependent on differences in conditions applicable to for example availability of health care and social security systems, may be more of subject to differences between countries.

Single Factors are Generally Weak but Some Risk And Protective Factors Seem Stronger and More Important Than Others
The single risk and protective factors in preschool children, identified in research and shown in Table 1 are significantly (i.e., are not due to chance), but generally quite weakly associated with a higher (risk factors) or lower (protective factors) risk for externalizing or internalizing problems in adolescence and/or adulthood. It was not possible to calculate the actual effect sizes for the protective factors. However, for risk factors, it is clear that the effect sizes (when presented in the reviews or meta-analyses) are small for the majority of the single factors (i.e., that most children exhibiting only one of these individual risk factors will have a very good chance of not developing externalizing or internalizing problems in the future).

Very few studies have investigated the differential and unique effects of risk and protective factors in preschool children. However, a British large-scale longitudinal study – The 1970 British Cohort Study – did just this and followed about 16,000 preschool children (assessment of risk factors at age 5) into early adolescence (age 10) and adulthood (age 30-34) (Murray et al., 2010). Among the factors identified as risks (see Table 1) and assessed at age 5, conduct problems/externalizing problems was clearly the single most important risk factor for conduct problems at age 10. Conduct problems at age 5 increased the risk about four times for conduct problems at age 10. The other risk factors at age 5 increased the risk about 1.5-2.0 times for conduct problems at age 10. This was true among both boys and girls. In terms of the risk for adult criminality, conduct problems did not stand out as much and all risk factors including conduct problems increased the risk for adult criminality about equally much (1.5-2.0 times each) (Murray et al., 2010). Thus, in preschool age, conduct problems of the child may be the single most important risk factor for adolescent problem behavior. Other risk factors tend to be quite similar in their unique predictive power of long-lasting behavior problems.
The More Risk Factors the Higher the Risk and the More Protective Factors the Better the Protection – The Cumulative/Additive Effects of Risk and Protective Factors

Both risk and protective factors tend to have cumulative effects according to research, i.e., the more risk factors the higher the risk and the more protective factors the stronger the protection (Appleyard et al., 2005; Eriksson et al., 2010; for a review of cumulative effects). For example, in the 1970 British Cohort Study, with an increasing number of risk factors at age 5, the more the children developed conduct problems in adolescence. Prevalences increased from 2% and 5% (with 0 risk factors) to 38% and 54% (with 5 or more risk factors) for girls and boys, respectively. In terms of predicting adult criminality, the tendency was the same with the number of children developing adult criminality increasing from 3% and 17% (with 0 risk factors) to 11% and 44% (with 3 or more risk factors) for girls and boys, respectively (Murray et al., 2010). Similarly, average scores on the Child Behavior Checklist (CBCL) externalizing and internalizing indices at ages 7 and 16 were found to increase with accumulation of risk factors assessed at 4.5 years among the participants in a longitudinal study of at-risk urban children (Appleyard et al., 2005).

Protective Factors Not Always the Opposite Sides of Risk Factors

A protective factor is, according to the definition used here, something that decreases the probability for a certain outcome in the presence of risk. Thus, the presence of one or several protective factors can make the child more resilient against risk factors, i.e., can make it possible for the individual to develop well despite the presence of risks. When we define protective factors in this way it is clear that the opposite sides of risk factors not always are protective. This is clearly shown in the list of factors identified in the present review – see Table 1. This is in fact an important conclusion because to our experience, a common opinion
among professionals working with children is that the opposite side of risk always is protective.

**The Complexity and Heterogeneity of Risk and Protective factors**

Research provides us with a rather extensive list of risk and protective factors as shown in Table 1. A complexity and limitation of this research is that we based on research, as of yet, do not know which of these factors that have causal relations to externalizing or internalizing problems. We know that the identified risk and protective factors co-vary with higher and lower risk respectively for future externalizing or internalizing problems. Co-variation between a potential cause and the effect is necessary but not sufficient to conclude causality. Furthermore, different risk and protective factors will apply in different ways to different children, and the same factor can vary in importance between individual children. Two processes, equifinality and multifinality, are of special importance to mention in this context. Equifinality (Cicchetti & Rogosch, 1996) refers to the fact that a certain outcome can develop through several different developmental pathways and have different causal backgrounds for different children. Behaviors can have many different roots, and the patterns of the most salient and important risk factors will vary between individuals. Thus, individuals developing externalizing or internalizing problems will often do so with different risk factors. Multifinality (Cicchetti & Rogosch, 1996) refers to the process through which the same risk factors are associated with different outcomes. Hence, the same kinds of risk factors can lead to different things.

**More Similarities Than Differences Between Boys and Girls Concerning Risk and Protective Factors**

Even though boys are clearly overrepresented when it comes to externalizing problems, and girls are overrepresented with internalizing problems, the same risk factors seem relevant
RISK AND PROTECTIVE FACTORS IN PRESCHOOL AGE

regardless of gender (see Moffitt et al., 2001. Neither are there any clear or strong indications of that protective factors would be crucially different between boys and girls (Eriksson et al., 2010). There are, however, indications that boys are often exposed to a higher number and greater level of risk for externalizing problems than girls, even though the risks in and of themselves are basically the same (see Moffitt et al., 2001). The practical implication of this is that an assessment of risk and protective factors does not need to be different for boys and girls.

Heritability and Upbringing and Risk and Protective factors

Several studies show that genetic as well as environmental factors are important for the development of externalizing and internalizing problems (see e.g., Arseneault et al., 2003; Eley et al., 2003; Kendler et al., 2006). One way of understanding this is that the genetic makeup of the individual affects the early development of the nervous system of that individual which makes up the disposition, vulnerability or sensitivity of the individual for developing various genetically underbuilt risk factors. Several of the risk factors listed in present article such as for example; hyperactivity, attention problems, restlessness, are at least partly genetically underbuilt (e.g., Larsson et al., 2004). Important to note here is that these partially genetically underbuilt risk factors can of course be intervened with effectively although they are in part genetically underbuilt.

Discussion

The first purpose of this paper was to identify risk and protective factors in preschool age for externalizing and internalizing problems. Our review of previous reviews and meta-analyses of preschool risk and protective factors showed that quite many potentially changeable and thus practically useful risk and protective factors have been identified via empirical research. Because most reviews identified in the present review have focused on risk factors for
externalizing problems in adolescence or adulthood it is important reiterate that several, perhaps many, of the identified risk factors also are risk factors for other problems as well, such as substance use problems and other mental health problems (see e.g., Moffitt et al., 2001; Wångby et al., 1999). A purpose of the present paper was also to discuss how this knowledge of risk and protective factors can be used in social work practice with children and their families. Therefore, we now move on to discuss some of the complexities and nuances of risk and protective factors and then move on to discuss how this knowledge can be used in practice.

Using Knowledge about Risk and Protective Factors in Practice – A Concrete Way of Working Evidence Based

Evidence based practice concerns from which sources professionals gather information to handle their roles as professional decision makers and important people in interventions. In order to work in an evidence based manner, the professional must use the best available evidence gathered from research when making decisions about how to approach and intervene with the problems of children and their families. The professional must also integrate his or her professional expertise and the perspective of the individual child and the family into their decision making process (see Sackett et al., 1996). This integration of sources of knowledge can be illustrated by the Evidence Based Practice triad presented in Figure 1.
This review can be seen as a source of available evidence concerning risk and protective factors in preschool age for externalizing and internalizing problems. This evidence, gained through longitudinal empirical research concerning risk and protective factors, is however based on groups of children. A risk factor is thus a factor that generally means a bit higher risk for externalizing or internalizing problems. This means that many children exhibiting this risk factor will never develop externalizing or internalizing problems. Here is where the professional and his or her expertise and capability to analyze the risk and protective factors in adequate ways comes in and becomes essential for the plan for interventions. The essential analyses that the professional need to learn to master to carry out adequately are the ones that deals with the extent a particular risk factor present in a specific case really is a crucial and causal risk factors for that specific individual and whether the weak protective factor observed has the potential to make the individual more resilient to risks.
Risk-Focused Prevention and Treatment

A very concrete way of integrating the best available evidence into practice is to make use of existing research on risk and protective factors in tailoring interventions. This can be done within the framework of risk-focused prevention and treatment. A risk-focused approach in prevention and treatment is based on the idea that modification of key risk factors for a certain problem will decrease the problem. Similarly, strengthening key protective factors for a certain problem will buffer against or modify the effects of risk for the problem (Farrington & Welsh, 2007). The risk focused approach then basically builds on two steps: 1) Identify children with risk factors and perhaps also with weak protective factors. Assess risk and protective factors of the child and family in detail if possible. 2) Aim interventions to reduce the risk factors and to strengthen the protective factors. Adhering to this approach is a very hands-on way to link research, practice and policy making (Farrington et al., in press) that has been considered by several governments as both plausible and practical (Farrington & Welsh, 2007).

Three Useful Guiding Principles in Risk Focused Prevention and Treatment – The Risk, Need, and Responsivity Principles

When applying risk-focused prevention or treatment in practice, there are three guiding principles that are very useful: the principles of Risk, Need, and Responsivity (e.g., Andrews et al., 1990; Andrews & Bonta, 2006; Dowden & Andrews, 1999, 2002, 2003). Actually, several meta-analyses have shown that the use of these principles will increase the possibility for implementing effective interventions among children as well as adults (Andrews et al., 1990; Dowden & Andrews, 1999, 2002, 2003; Lipsey, 2009).

The Risk principle implies that an intervention will be more effective if the most intensive efforts are focused on children at high risk. Hence, the most ambitious and intensive
RISK AND PROTECTIVE FACTORS IN PRESCHOOL AGE

interventions should be directed to children at high risk for future problems. As described above, children with several risk factors are generally at higher risk than children with fewer risk factors. The Need principle implies that interventions are more effective if they are tailored to focus on the specific child’s most relevant needs, that is, the factors that explain or cause the problems of the particular child at hand. The Responsivity principle says that interventions need to be tailored, in terms of both content and delivery, to suit the abilities, inclination, and motivations of the specific child and family. This principle says that the professional must think about how the interventions should be planned and implemented so that the child and the family respond to the intervention. Clearly, a reliable and valid assessment of risk and protective factors is essential for professionals to conduct to be able to work in accordance with these three important principles because one needs to know things about risk and protective factors to be able to do a risk assessment (the Risk principle) and to identify the needs of the child and the family (and follow the Need principle).

**Structure is Important in Assessments**

Thus, when working practically and concretely according to risk-focused prevention and treatment and according to the Risk, Need, and Responsivity principles, it is essential to assess risk and protective factors of the child and in his/her surroundings. This can be done in at least two main ways: With or without structure/instrument. Structure is here referred to as clear definitions of the risk and protective factors to be assessed, as well as clear and well-defined rating scales of the risk and protective factors – which are typical characteristics of structured assessment instruments. Examples of structured instruments that involve risk and protective factors identified in this review are the Early Assessment Risk List for Boys under age 12 (EARL-20B; Augimeri, Webster, Koegl, & Levene, 1998), the Early Assessment Risk List for Girls under age 12 (EARL-21G; Levene et al., 2001), and the Evidence-based
STructured assEssment instrument of Risk and protective factors (ESTER-assessment; Andershed & Andershed, 2010). A structured method or instrument will provide clear definitions and a set way of conducting the assessment and the assessment will also be documented in a systematic, structured and standardized manner. Achieving high so called inter-rater agreement is a basic feature of legal security in assessments. This means that two independent raters agree to a high extent in the assessment of for example a child and his or her family. This is easier to achieve when using a structured assessment instrument (see e.g., Andershed et al., 2010; Enebrink, Långström, Hultén, & Gumpert, 2006). In terms identifying risk and protective factors, the use of a structured instrument is also a good thing. A recent study showed that professionals trained in and using a structured instrument (ESTER-assessment) identified significantly more risk and protective factors in a case, as compared to professionals not trained in nor using a structured instrument (Andershed & Andershed, in prep.). Thus, if correctly used, there are many advantages of using structured instruments to assess risk and protective factors. Thus, we would argue based on research that professionals should use structured instruments when assessing risk and protective factors in children and their families.

Risk Focused Prevention Needs to be Carried Out With Care by Well Trained Professionals

Professionals working the approach and principles described here need appropriate training/education to do so. Such training need to include basic schooling in risk and protective factors, the research underlying these factors and its strengths and limitations. It also need to include training in how to communicate this information to the family and, not the least, how to use the information about risk and protective factors in making effective plans of interventions.
Using research, based on groups of children, such as the research presented here, as a means for identifying individual children at risk will always be a difficult act of balance. For example, some high risk children and families will not develop long lasting problems, while others will. Unfortunately, they will not necessarily appear to be very different at the time of assessment. Hence, there is no definite way for a professional to determine who the children and families are that will fare well in spite of risk. Professional will likely identify and intervene with a larger number of children than what is necessary. In the same fashion however, we will also fail to detect some children and families who need professional help. These limitations of risk-focused prevention and treatment need to be known by the involved professionals. A very important aspect of applying general risk and protective factors on individual children and families has to do with the professional’s communication with the care givers. Professionals have to be able to communicate risk – why certain factors are being assessed, what high risk means, etc – in a very nuanced way, to avoid potential negative effects in terms labeling of the child or in terms of poor relations between the family and the professional.

**What Professions Should Work with Risk Focused Prevention and Treatment?**

All professionals working with preschool children, given the adequate training and supervision can apply the concrete thinking of risk focused prevention and treatment. It is a very concrete way of working in an evidence based way. It is however likely that the concrete assessments and interventions will be carried out in different ways depending on where we are (e.g., primary child and family health care, psychiatry, preschool, social work, etc) because of differences in amount of time for assessments and interventions and because of differences in the purpose of work of the specific profession, but with the same focus and on the same risk and protective factors.
A Process of Assessment, Intervention, and Follow-Up Involving Risk and Protective Factors

In Figure 3 below we propose a process of assessment, intervention, and follow-up which involves the practical use of risk and protective factors. First, a structured assessment is carried out, preferably using a structured checklist, instrument, or questionnaire. This is done by a trained professional or professionals. This results in a list of risk factors that are present and that needs to be reduced or ultimately eliminated and protective factors that are weak and that needs to be strengthened in the specific child and his/her family. Now, the professional or professionals carries out an analysis of these risk and protective factors using the Risk, Need, and Responsivity principles. The Risk principle: How high is the risk for future problems and of high priority is this child and family for the most intensive interventions? The Need principle: Which are the needs of the child and the family, e.g: which of the risk factors present are the most important to intervene with for this particular child and family? Which of the risk factors are causing the problem behavior/s of the child? The Responsivity Principle: Which interventions can be effective to reduce the most important risk factors and strengthen the most important protective factors and how should they be delivered to the child and the family to be effective? Then, interventions are carried out and after some time, as follow-up assessment is conducted and a new analysis starts, that can result in that the interventions can stop because they have been very successful or that the same interventions that have been carried out need to continue, or that some or all interventions need to be changed in order to gain positive changes in the child. We would argue that this kind of circular process should be structurally undertaken in practice until the final goals of the interventions have been reached.
Figure 3. A Process of Assessment, Intervention, and Follow-Up Involving Risk and Protective Factors.

Final Comments and Conclusions

There is an extensive amount of research on risk and protective factors in preschool age for future problems. This knowledge is not complete or perfect. There are many things we need to know more about concerning risk and protective factors. However, this extensive amount of research make up the best available evidence for the time being and it should be used by well trained professionals so that they can work in an evidence based way to help more children to a better life.
References


