Andreas Schick & Manfred Cierpka

Risk factors and prevention of aggressive behavior in children and adolescents

Abstract

Contrary to often very simplified explanatory approaches published in the media, the ongoing research takes into account a multi-causal framework and different developmental processes with respect to the causes of aggressive behavior. Meanwhile, a bio-psycho-social model has been established which broadly describes the conditions correlating with the development of aggressive behavior. In addition to the developmental risk and the protective factors listed in this model, situative factors such as provocation, special incentives, ownership of weapons and other provoking factors are also decisive. In accordance with the broad range of developmental and triggering factors, numerous interventions and most of all preventive programs are suggested to reduce aggressive behavior. One of the most intensively evaluated and internationally known prevention programs is "Faustlos" ("without fists"). This article outlines evaluation outcomes, content and structure of the Faustlos-curriculum. The text also summarizes the risk and protective factors for aggressive behavior in children and adolescents.

Keywords

Aggressive behavior; Prevention; Risk factors; Social-emotional competences; Second Step

Risikofaktoren und Prävention aggressiven Verhaltens von Kindern und Jugendlichen

Zusammenfassung

Im Gegensatz zu den teilweise sehr vereinfachenden Erklärungsansätzen in den Medien, ist bezüglich der Ursachen für aggressives Verhalten von einem multi-

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kausalen Bedingungsgefüge und unterschiedlichen Entwicklungsverläufen aggressiven Verhaltens auszugehen. Für eine umfassende Beschreibung der Bedingungen, die mit der Entstehung aggressiven Verhaltens korrelieren, hat sich inzwischen ein bio-psycho-soziales Modell etabliert. Neben den hier aufgeführten ursächlichen Risiko- und Schutzfaktoren sind für das Auftreten aggressiver Verhaltensweisen auch situative Faktoren wie Provokationen, spezielle Anreize, Waffenbesitz und andere auslösende Momente entscheidend. Entsprechend der breiten Palette ursächlicher und auslösender Faktoren werden zur Eindämmung aggressiven Verhalten vielfältige Interventions- und v.a. Präventionsmaßnahmen vorgeschlagen. Eines der am intensivsten evaluierten und international sehr verbreiteten Präventionsprogramme ist „Faustlos". Im vorliegenden Artikel werden Evaluationsergebnisse, Inhalte und Struktur des Faustlos-Programms beschrieben, und es werden die Risiko- und Schutzfaktoren aggressiven Verhaltens von Kindern und Jugendlichen zusammenfassend dargestellt.

Schlagworte

Aggressives Verhalten; Prävention; Risikofaktoren; Sozial-emotionale Kompetenz; Faustlos

1. Prevalence of aggressive behavior

Violence and the willingness to use violence are unfortunately still very current issues among children and adolescents. Not only the victims suffer from experiencing violence: The behavior of perpetrators of violence is also associated with many risks, which can, over the long term, significantly impede their potential for development. Teachers' thresholds for withstanding the accompanying stress are also being exceeded on a more frequent basis. In addition, the consequences of severe dissocial behavioral problems also cause considerable financial costs, as evidenced by data from the US (Muñoz, Hutchings, Edwards, Hounsome, & O'Ceilleachair, 2004). Various studies at schools show that for many pupils aggression and violence are part of their everyday life. Lösel and Bliesener (2003), for instance, report that 4–12 % of the pupils surveyed declared that they use force in the school setting at least once a week. Eisner and Ribeaud (2003) state annual prevalence rates of violence among adolescents of 14–24 % for bodily injury, and 1.4–6 % for aggravated robbery. International studies on the prevalence of aggressive dissocial behavior assume that on average 7 % of children and adolescents in industrialized western countries exhibit behavioral problems in this area (Ihle & Esser, 2002). Very few pupils are not exposed to any violence during their years at school. The prevalence rates stated do, however, vary substantially, which can be attributed to various methodological problems in epidemiological studies. Thus, for instance, the data given can depend on the diagnostic criterion or instrument used, on the individual data source, on the time period taken into account (e.g., point prevalence vs.

lifetime prevalence), on the sample studied (representative vs. selective), on gender and on the age group examined.

To that effect, the findings on the course or development of aggressive behavior are not consistent. For instance, Egger and Angold (2006) report evidence of a continuous increase in social behavior disorders from early childhood into adolescence, and a peak incidence of oppositional defiant disorder at preschool age, whereas Moffitt (1993) found a peak incidence of dissocial behavioral problems in early youth with a subsequent decline. While Moffitt (1993) states a prevalence rate of dissocial behavioral disorders of 10 % for preschool age, the corresponding values in the more recent study by Lösel, Beelmann, Jaursch, Koglin, and Stemmler (2005) are significantly higher. Physically aggressive behavioral patterns seem to occur most frequently at the age of three and then fall markedly. Frick et al. (1993) report, in addition in their meta-analytical overview, age-specific concentrations of various dissocial behavioral problems. According to this, clinically relevant oppositional behaviors occur predominantly in preschool age, while aggressive disorders and vandalism become more frequent in early elementary school age, and breaches of status (e.g., skipping school) occur particularly frequently in late elementary school age and/or in mid-childhood.

When stability coefficients of aggressive behavior are reported, these range from $r = .76$ (Olweus, 1979) or $r = .63$ (Zumkley, 1994) to $r = .20$ (Derzon, 2001). Studies such as the one by Frick and Loney (1999) that take into account not only the stability of problems arising early in the course of development, but also examine the stability of various dissocial problems over the entire development span, come to stability coefficients between $r = .42$ and $r = .64$ (in the context of a follow-up between 8 months and 4 years) and $r = .20$ to $r = .40$ (follow-up between 7 and 22 years). In the synthesis conducted by Lipsey and Derzon (1998) comprising 34 longitudinal studies, the longitudinal correlation between delinquent behavior in childhood on the one hand, and violent and delinquent offenses at the age of 15 to 25 years on the other, was $r = .38$. If one considers the development of dissocial problem behavior from early childhood to adulthood, this appears to remain stable among about 5 to 7 % of all children over the entire time period (see e.g. Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998).

2. Risk and protective factors of aggressive behavior

By now, a bio-psycho-social model has become established to explain and describe the causes of aggressive behavior. The biological correlates of dissocial behavior include genetic, neurobiological and physiological factors. Twin and adoption studies in particular furnish evidence of genetic components in the development of dissocial problem behavior (see e.g. Rhee & Waldman, 2002). One particularly well-confirmed risk marker seems to be the male sex. Dissocial and especially aggres-

sive behaviors are exhibited significantly more frequently by boys than girls, which can chiefly be ascribed to neurophysiological factors such as a higher level of testosterone in the male sex (see e.g. Campbell, 2006). Early adverse neurophysiological effects due to complications during pregnancy or birth and maternal risk-taking behavior (e.g., smoking during pregnancy) were also found to be risks for dissocial development (see e.g. Raine, 2002). Other biological risk markers of dissocial behavior are a low heart rate, low excitability and lowered skin resistance. Furthermore, various studies provide evidence in dissocial children and adolescents of a disturbance in the testosterone, serotonin, noradrenaline and cortisol balance, and deficits in frontal lobe activity and in parts of the temporal lobe (for an overview see Lück, Strüber, & Roth, 2005). So far it has only been rarely possible to find purely protective effects of biological factors.

The second group of influencing factors cited in the framework of bio-psycho-social models on the development of dissocial behaviors comprises psychological factors on the cognitive, emotional and behavioral levels. Thus, e.g., a below-average intelligence correlates with increased dissocial behavior (see e.g. Vance, Bowen, Fernandez, & Thompson, 2002), while above-average intelligence is accompanied by less problem behavior and represents a protective factor against antisocial behavior (Kandel et al., 1988). The connections between intelligence and dissocial behavior can be explained, for instance, by the fact that children with spatial cognitive deficits have difficulties identifying emotions on the basis of facial expressions (Raine et al., 2005), and thus, frequently cannot behave in accordance with the situation and/or the emotional circumstances. Children's intellectual capabilities, however, also correlate with their academic performance, which in turn correlates with dissocial behavior (see e.g. Mandel, 1997). Thus, for instance, poor school performance has a negative impact on self-esteem, which increases the probability of criminal behavior (Trzesniewski et al., 2006), and poor school performance correlates with stronger involvement in deviant peer groups and fosters dissocial behavior in this way, too (Dishion, Nelson, & Yasui, 2005). Attention and hyperactivity problems in childhood and adolescence also seem to be a risk factor of dissocial behavior (see e.g. Thapar, van den Bree, Fowler, Langley, & Whittinger, 2006). The risk of developing dissocial disorders also seems to be increased in children with a "difficult temperament". Many of the behaviors emerging in these children, such as highly developed emotional reactions, impulsiveness, emotional instability, general anxiety, disturbed sleep-wake rhythm, short attention spans and a low tolerance of unpleasant situations correlate at all events positively with dissocial and delinquent behavior (Loney, Frick, & Clements, 2003). It has been hypothesized that due to their abnormal emotional reactivity it is more difficult for these children to learn emotional competence, develop cognitive control of impulses and expand empathetic competence (Frick & Morris, 2004). A highly developed emotional reactivity is thus considered a vulnerability factor for dissocial behavior, while a low emotional reactivity seems to be a protective factor against dissocial behavior.

Particularly for aggressive children, one can demonstrate deficits not only in emotional (self-)regulation, but also in the expression of emotions and the capacity for empathy and understanding emotions, thus providing evidence of a general deficit of emotional competence (Petermann & Wiedebusch, 2003). Various studies show, e.g., that an extensive knowledge of emotions is accompanied by less aggressive behavior towards children of the same age (Denham et al., 2002), that a lack of competence in recognizing fear and sadness on the basis of facial expressions is associated with an increased risk of aggressive behavior, and that a small emotional vocabulary correlates with an increased risk of externalizing disorders (Speltz, DeKlyen, Calderon, Greenberg, & Fisher, 1999). Conversely, emotional competences appear to be protective factors against dissocial behaviors, whereby parents here constitute particularly important models (see e.g. Peterson & Flanders, 2005).

Other deficits (and thus, at the same time indicators of a specific activation of resources) of dissocial children and adolescents can be found in the area of social emotional competences such as impulse control and communicative competencies (Humphreys, 1993). Due to deficits in these areas, in interactions with peers and adults dissocial children and adolescents revert more frequently to socially incompetent action strategies, which in turn provoke aggressive reactions in their interaction partners and can in the long term lead to rejection and social exclusion. Moreover, dissocial children have certain specific deficits in processing information, as the research group led by Dodge (Crick & Dodge, 1994; Dodge & Pettit, 2003) in particular has been able to show. Their social information processing model comprises six steps and was extended by Lemerise and Arsenio (2000) to include emotional aspects (see Figure 1).

Figure 1:   Integrated model of emotion processes and cognition in social information processing according to Lemerise und Arsenio (2000)
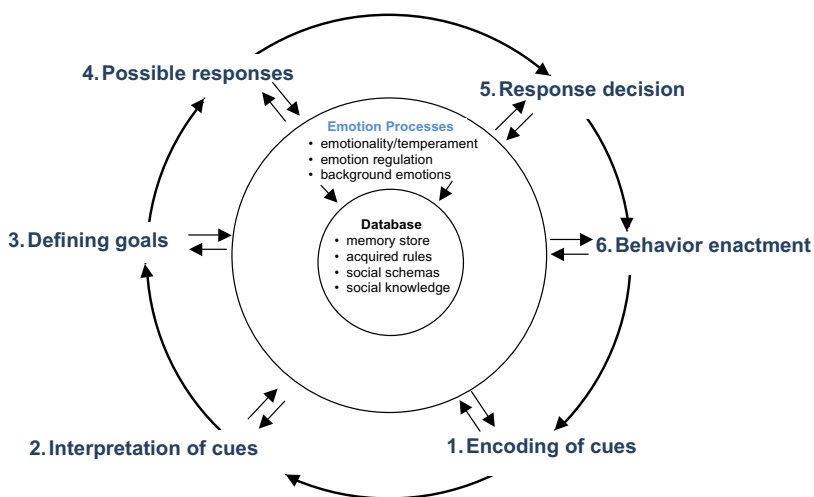
Dissocial children exhibit consistent deficits at all six processing steps (see Beelmann & Lösel, 2005). For example, they perceive aggressive cues in the encoding phase more sensitively and recall them better, and they gauge interaction partners as more aggressive. In the second step, interpreting the cues, their "bias" becomes apparent to the effect that aggressive children frequently one-sidedly ascribe hostile intentions to their interaction partners, particularly in ambivalent situations. Objectives are clarified and defined in a very egocentric and dissocial way. Thereupon, primarily aggressive and impulsive schemes for action are generated. In the decision-making phase, the children proceed without reflecting and hardly take the long-term consequences of possible alternatives for action into account. In these cases, they seem to overestimate the positive consequences of aggressive actions and underestimate the negative consequences. Executing the reaction selected is ultimately based on patterns of action, which are socially not very competent. As explained in the model by Crick and Dodge (1994; see also Lemerise & Arsenio, 2000), past experience and rules, patterns and attitudes acquired in the socialization process play a role in the entire information processing process.

The parenting style, an aspect of the third group of influencing factors listed in the bio-psycho-social model, is of key significance for the development of these attitudes and social patterns. According to Baumrind (1989), one can distinguish four parenting styles using the two basic dimensions "attention/warmth/acceptance" and "rules/supervision":

- authoritative (a lot of warmth/acceptance + clear rules/supervision),
- authoritarian (little warmth/acceptance + rigid supervision),
- permissive (a lot of warmth/acceptance + few rules),
- negligent (little warmth/acceptance + few rules).

Particularly the authoritarian and the negligent parenting styles seem to be associated with the development of dissocial behavior problems (Baldry & Farrington, 2000), whereas the authoritative parenting style has more protective and compensatory effects (see e.g. Steinberg, 2001). Parental violence has turned out to be a particularly decisive risk factor for dissocial and delinquent behavior (see e.g. Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffee, 2003). It is not to be assumed in the process that there is a unidirectional transfer of effects from the parents to the child, but rather various interactions among parental and childlike mindsets, attributions and behaviors, which Patterson, Reid, and Dishion (1992) in particular have elaborated very clearly in their theory of "coercive interaction" using everyday interaction sequences between parents and children. In accordance with this model, dissocial behavior is reinforced in very early development stages, and the frequent and escalating repetitions of negative parent-child interactions thus prepare the ground for long-term dissocial development processes (Granic & Patterson, 2006).

The development of dissocial and particularly aggressive behavior is described very comprehensively in Cierpka's (1999) family risk model. This model focus-

es on a vicious cycle that builds up and escalates between inadequate parenting skills, such as insufficient parental monitoring and disturbed interpersonal relationships, and also takes into account factors such as conflicts in partnerships, parents' behavioral problems and burdensome conditions of family structure, such as, for instance, single parenthood. Parental conflicts seem to be a particular risk factor for children's dissocial behaviors if they are acted out in an aggressive manner (Pinquart, 2001), and if they lead to intrapersonal and interpersonal inconsistencies in parenting behavior, which immensely increases the risk of dissocial behavioral problems, particularly in boys (O'Leary & Vidair, 2005). The connections between mental health problems of the parents, and dissocial behavior of the children, seem to be transmitted by means of the associated, disturbed interaction and/or negatively influenced educational style (see e.g. Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005).

For the dimensions of parenting practices explicated by Farrington and Welsh (2007) it is also possible to determine connections to dissocial behavior on the part of children. In numerous studies, for instance, a lack of supervision turned out to be a robust correlate of dissocial behavior. The research review by Haapasalo and Pokela (1999) shows that experiencing physical punishment in childhood closely correlates with delinquency and violence in adults, and also that the bonding between parents and children is decisive for developing dissocial behavioral problems. For example, instable and disorganised attachment patterns increase the risk of developing dissocial behavioral problems (Stormshak, Bierman, McMahon, & Langua, 2000). In contrast, securely bonded children encounter other people with greater trust and less hostility and can thus forge significantly better and more stable interpersonal relationships (see e.g. Benson, McWey, & Ross, 2006). While the family environment and particularly parent-child relationships in early years are decisive for children's behavioral development, peers play an ever-increasing role as they grow older. Many dissocial adolescents have dissocial friends and look for contact with deviant peers, which fosters escalating dissocial "careers" (see e.g. Gifford-Smith, Dodge, Dishion, & McCord, 2005). This is also particularly encouraged by growing up in socially disadvantaged neighborhoods, where the probability of experiencing deviant role models and coming into contact with other dissocial peers is enhanced (Chung & Steinberg, 2006).

One risk factor for aggressive behavior which has been discussed increasingly in the past years is consuming violent films and/or playing computer games which glorify violence. Various studies show that aggressive media content leads to a short-term increase in aggressive behaviors in children and adolescents (see e.g. Anderson et al., 2003), and also show long-term correlations – though only weak ones – between the quantity of television violence consumed in childhood and aggressive behavior as adults (Huesmann, Moise-Titus, Podolski, & Eron, 2003).

Figure 2:   Bio-psycho-social risk and protective factors model of aggressive behavior
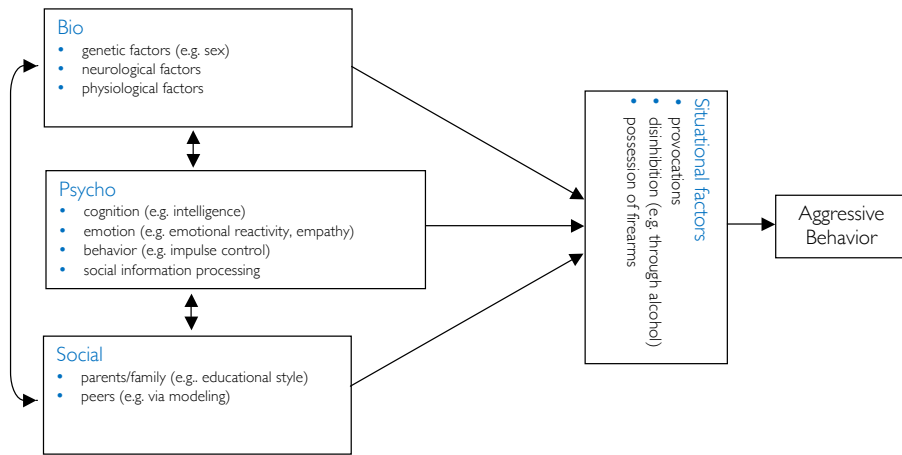
Besides the risk and protection factors depicted in Figure 2, last but not least, situational factors such as provocation, specific incentives (e.g., the wish to own something), possession of a firearm and other triggering moments (e.g., alcohol consumption) are decisive for the occurrence of aggressive behaviors. When interpreting the study results summarized in Figure 2, it must also be taken into account, that the explanatory value of the risk and protective factors identified thus far is limited due to the typically correlative design of the studies, which does not imply causality. What is also decisive is the complex interaction of various risk and protective factors. For example, a certain problem behavior can be the result of vastly differing constellations, and a certain risk factor can cause different types of behavioral problems. Some studies also indicate that it is less the type of risk factors than their accumulation that is decisive for the development of problem behavior (see e.g. Deater-Deckard, Dodge, Bates, & Pettit, 1998). In addition, not every risk or constellation of risk factors leads to problem behavior. Factors conducive to risk, however, all have a greater impact if protective factors are lacking (Rutter, 1987). Thus, what is decisive is the number of risk and protective factors, their concentration, and their interaction.

3.   Prevention of aggressive behavior

Ultimately, the objective of the various psychological pedagogical approaches for preventing aggressive behavior is to minimize or neutralize risk factors, and to grow or encourage protective factors. It seems to be particularly beneficial to start preventive efforts as early as possible in children's development. This is true, because on the one hand, it was possible to show a relative biographical stability of dissocial behavior (see e.g. Moffitt, Caspi, Rutter, & Silva, 2001), and on the oth-

er because developmental psychology studies show that personality and behavioral tendencies are more malleable in the early years of life than in later phases of life (Roberts & DelVecchio, 2000). The demand that prevention should start as early as possible is also supported by neurobiological research results, which show the great malleability of a child's brain. Besides the point in time, the place of implementation is also considered crucial for the effectiveness of individual prevention efforts. It is recommended from various quarters that prevention programs be conducted at and in schools and nursery schools. In this way, you can reach very many children – particularly children from high risk families that would otherwise be difficult to reach – stigmatization processes can be avoided, and children with a higher level of social competences can function as role models for their classmates. In addition, schools and nursery schools are excellently suited to conducting curricula designed for the long term and enable a direct and ongoing transfer of what has been learned.

Corresponding to the complexity of the set of conditions, the theoretical orientation and the profession of the academics and existing financial and structural possibilities, prevention programs for dissocial behavior tackle highly diverse levels and also differ in terms of content. In German-speaking countries, specific violence prevention programs are deployed on the one hand, and so-called life-skill programs on the other, such as *Eigenständig werden* [becoming independent] (Wiborg & Hanewinkel, 2004), Lions Quest *Erwachsen werden* [becoming grown up] (Wilms, 2004) or *Klasse2000* (Duprée & Storck, 2006) to prevent aggressive behavior at nursery and elementary schools. The former are especially tailored for preventing violent and aggressive behavior. The latter in their original version usually target preventing drug consumption, but are also being recommended and deployed ever more frequently as violence prevention approaches. Besides the *Petermann group's behavioral trainings* (Koglin & Petermann, 2006; Petermann, Koglin, Natzke, & von Marées, 2007; Petermann, Natzke, Gerken, & Walter, 2006) and the fairplayer.manual (Scheithauer & Bull, 2008), the *Faustlos* [without fists] curriculum has become established in particular at nursery and elementary schools in German-speaking countries.

3.1 Content and structure of the Faustlos programs

The *Faustlos* curricula (Schick & Cierpka, 2008) were developed especially for schools and nursery schools, and are adaptations of the US program *Second Step* (Fitzgerald & Edstrom, 2006; Frey, Hirschstein, & Guzzo, 2000). In the meantime, three versions of the program have been developed: for nursery school (Cierpka, 2004b), elementary school (Cierpka, 2004c) and middle school (Cierpka & Schick, 2011). The first adaptation steps were undertaken in the late 1990's. From 1998 to 2001 the *Faustlos* materials were further developed for elementary school at the University of Heidelberg, and the program was evaluated in a three-year study (Schick & Cierpka, 2005). Immediately after developing the elementary school pro-

gram, the program was adapted in 2001 for nursery schools and evaluated (Schick & Cierpka, 2006). The *Faustlos* circle closes with the *Faustlos* curriculum for middle school (Schick & Cierpka, 2009), by means of which social emotional violence prevention skills of children and adolescents can be supported in a targeted manner comprehensively, over the long term and in a structured way, from nursery school all the way to middle school.

The contents of all three versions of the program build, on the one hand, on research findings and developmental psychology theories on the deficits of aggressive children and adolescents, and are derived, on the other, from models of social information processing (Lemerise & Arsenio, 2000; see Figure 1). According to these, aggressive children and adolescents have consistent deficits in processing social information and lack competence in the areas of empathy, impulse control and coping with frustration and anger. *Faustlos* covers just these key skills in order to preventively counteract dissocial behaviors. The *Faustlos* program for nursery schools comprises 28 lessons. The material required for implementation consists of a manual, an instruction booklet, large-format photo cards and two glove puppets *"Wilder Willi"* and *"Ruhiger Schneck"* [Wild Willy and Quiet Snail]. The curriculum for elementary school classes comprises 51 lessons, which are taught over a three-year time period. The teaching material consists of a manual, an instruction booklet, and photos or overhead transparencies. In each lesson a social situation is worked through using the photo material; the skills learned are then practiced via role plays. The next step is working in a targeted way towards transferring what has been learned to the children's everyday life. By means of the *Faustlos* lessons, the children practice, for instance, perceiving themselves and various social situations in a differentiated way, interpreting social cues from a multitude of perspectives, and clarifying their behavioral goals. Collecting a wide range of possible solutions by brainstorming and finally selecting a solution in connection with appropriate evaluations is practiced using practical examples in a number of *Faustlos* lessons. Once a solution is selected, it is subdivided into small individual steps and then executed. This general psychological problem solving structure is applied to a range of interpersonal conflict situations.

While the nursery school and elementary school programs are each divided into the three units *Empathy*, *Impulse control,* and *Dealing with frustration and anger*, the lessons in the middle school program are divided into the five thematic areas *Creating an awareness of the problem*, *Empathy*, *Dealing with frustration and anger*, *Problem solving,* and *Applying the skills*. In the first thematic area, pupils are taught the multifaceted causal and/or risk factors for aggressive behavior and relevant preventive factors, because frequently only the superficial triggers of violent behavior are perceived, but not the causal pattern, which is usually very complex. In intense discussions and by conveying factual knowledge, the basis is created in the first thematic area to reflect on one's own behavior in a more differentiated and solution-oriented way, and pupils' awareness is sharpened for more subtle forms of interpersonal violence. The second section *Empathy*, as in the other two versions of the program, basically targets fostering emotional intelligence.

Here pupils learn to appropriately assess other people's emotional state, to assume other people's perspectives and to react to them in an emotionally appropriate manner. Without this basic emotional and cognitive competence, problem solving strategies can be learned, but the search for solutions will tend to be driven by selfish motives. Constructive problem solving processes are also frequently blocked by strong emotions of anger and frustration. For this reason, in the section *Dealing with frustration and anger*, a series of possibilities are introduced and practiced to constructively "manage" frustration and anger. The object is not suppressing or "training away" elementary impulses that are appropriate to situations and superficially negative emotions like anger and frustration. Instead, it is communicated that anger and frustration are not the problem, but rather the destructive aggressive behavior that may emerge from them. This unsocial and damaging behavior is to be corrected and steered in a socially acceptable direction. In order to achieve that, the pupils thus come to grips with the triggers of frustration and anger, learn various relaxation and calming techniques, and develop possibilities to deal constructively with frustration and anger.

Besides competent emotion management and a distinctive capacity for empathy, a series of problem solving skills are crucial for preventing aggressive behavior. The control of impulsive behavior and the structured solving of interpersonal problems are thus the subject of the fourth thematic area *Problem solving*. Frequently it is precisely impulsive actions that provoke conflicts or result in aggressive behavior. Besides deficits in social information processing, this process can be ascribed to a lack of behavioral skills. The lessons of the *Problem solving* section therefore introduce a problem solving strategy associated with practicing individual socially competent behaviors in small steps. The problem solving skills learned are explored in more depth working individually, in small groups and in role plays, which are cornerstones of all lessons. In this way, the pupils are gradually acquainted with various social situations from their everyday life. While the problem solving steps provide the "how" to solving problems, the individual social skills flesh out the "what". For constructive problem solving, children and adolescents must know what to do in a problem situation and how they should proceed. In the fifth thematic area the social skills which were introduced in the preceding sections are applied to specific problem situations such as *Resisting group pressure*, *Dealing with bullies,* and *Dealing with disparagement*.

The core didactic element of the lessons of the fifth thematic area is short film sequences in which peers show the social skills developed in an ideal-typical fashion. The film scenes are shown in the lessons only when the teacher has given an account of the problem situation and actively integrated the pupils into the problem solving process. They are invited to describe the problem in their own words and develop their own problem solving strategies. Subsequent to watching the relevant video vignette, there is a discussion on the implementation steps shown, and the pupils can then possibly change their problem solving steps. Finally they apply these practically in role plays.

In total the *Faustlos* program for middle schools consists of 31 lessons. The material needed to implement the program consists of a manual and a file of material with lesson instructions, numerous worksheets, homework sheets, overhead transparencies, role playing cards and a DVD with the video sequences. The manual describes the program's theoretical background and provides information on applying the curriculum. The lesson instructions describe in detail all the lessons in the order in which they are to be conducted.

The *Standard-Faustlos-Curriculum* primarily tackles the psychological correlates of aggressive behavior and, in many lessons, focuses on a series of situational factors (e.g. dealing with insults, dealing with distractions, etc.). The social factors (and here especially the family and educational factors) that are included in the bio-psycho-social model are highlighted and fostered in the *Faustlos*-training for parents. When developing *Faustlos*, special emphasis was placed on the gender factor to ensure that girls and boys are equally shown as "victims" and "perpetrators" on photographs and in films, in order to counteract the widespread prejudice that aggression is predominantly a men's or boys' problem, and in order to broaden the view to psychological, verbal and nonverbal aggressive behavior (e.g. group pressure, bullying, etc.) and not only focusing on physically aggressive behavior. The following evaluation outcomes described all refer to the standard program. The effect of *Faustlos* within the framework of a multi-level approach, where the training for parents is also conducted, has not been investigated yet.

3.2 Evaluation outcomes

The *Faustlos* curricula fulfil all essential requirements posed to effective violence prevention programs (see Eisner, Jünger, & Greenberg, 2006): the program contents were derived from a comprehensively documented theoretical basis (see e.g. Cierpka, 2003, 2004a; Cierpka, Lück, Strüber, & Roth, 2007; Malti, Häcker, & Nakamura, 2009; Schick & Cierpka, 2008). The *Faustlos* curricula aim at sustainability and are not restricted to one-off or short-term actions such as project days. All the lessons are described in the instruction booklets in a differentiated manner and in the order to be complied with, and in nursery school and in elementary school follow a ritualized flow within a broad spectrum of interactive methods to be used that are tailored to the individual age-appropriate developmental stage (photo cards, picture analyzes, games, glove puppets, group discussions, model role plays, role plays, tips on transfer; film sequences in addition in the middle school program). The implementation is linked with a prior advanced training session[1] and accompanying support offers, and the effectiveness of the *Faustlos* curricula was and is reviewed thoroughly using scientific evaluation studies (see Schick, 2006; Schick & Cierpka, 2013).

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1   conducted by the Prevention Center Heidelberg, www.h-p-z.de

In the meanwhile, the violence prevention effects of the curriculum found in the program developers' first studies have been replicated by an independent research-er group (Bowi, Ott, & Tress, 2008), so that the effectiveness of the *Faustlos* curriculum for elementary schools can be considered valid. *Faustlos* reduces children's fearfulness, leads to transfer effects (Schick & Cierpka, 2005), reduces children's aggressiveness and fosters their capacity for empathy (Bowi, Ott, & Tress, 2008). In the latest *Faustlos* study (Bowi, Ott, & Tress, 2008), for above-average aggressive pupils in particular, a clear decline in aggression indicators and a clear increase in empathy could be seen. In nursery school the *Faustlos* lessons led to the children being able to describe and better identify other people's feelings, to develop more possible solutions for interpersonal problems, declaring that they reacted more frequently in various conflict situations in a socially competent manner, to anticipate more negative consequences of aggressive behaviors and having a larger repertoire of relaxation techniques. The educators also indicated that the children – through *Faustlos* – would more frequently negotiate with other children, would make more constructive suggestions and would take turns with others more frequently when playing. Objective behavioral observations showed in addition that the *Faustlos* children were less likely to react in a verbally aggressive manner (Schick & Cierpka, 2006). As studies on the Norwegian program version demonstrate, the positive effects of the original program also remain effective in this adaptation. The evaluation resulted in significant increases in social competence for both boys and girls (Holsen, Smith, & Frey, 2008), and a second set of findings showed that low-socio-economic-status students reported greater improvement in social competence, school performance and satisfaction with life compared to their middle- and upper socio-economic status peers (Holsen, Iversen, & Smith, 2009). These findings indicate, that the mechanisms of aggression and aggression prevention seem to be consistent across cultures.

The "side effects" that accompany social-emotional skills programs are particularly interesting for the school context. For instance, numerous studies confirm a close connection between school learning outcomes and children's social-emotional skills (see e.g. Zins, Weissberg, Wang, & Walberg, 2004). For *Faustlos* it was possible to demonstrate that besides reducing aggressive behaviors and promoting empathy, the program also has positive effects on children's verbal skills (Bowi, Ott, & Tress, 2008). Teachers also reported that it was possible to gain more classroom time through the program that is otherwise lost in mediating disputes, which recur frequently, and which always proceed with the same children according to the same pattern. The targeted cultivation of social-emotional skills thus not only prevents dissocial behavioral problems, but also has a beneficial effect on school performance and supports, to a large extent, schools' and teachers' pedagogic mission.

3.3 Violence prevention in German schools

When comparing the quality profiles of the violence prevention programs fairplayer.manual (Scheithauer & Bull, 2008), *Faustlos* (Schick & Cierpka, 2008), program for the promotion of alternative thinking strategies (PFAD; Eisner, Jünger, & Greenberg, 2006), prevention in team (PiT; Becker, 2004) and *Verhaltenstraining in der Grundschule* (Petermann, Koglin, Natzke, & von Marées, 2007) (see Table 1), which are mainly implemented (and evaluated) in German schools (and unlike the not listed life skill programs especially tailored for violence prevention), it can be summarized that these programs are very similar regarding their theory-practice-connection ("-": no explication of the (violence preventive) theoretical background; "+++": (violence preventive) theoretical background is explicitly described and the program design is strictly derived from this), the intensity ("+": program comprises less than 15 lessons/lasts only a few weeks; "+++": program comprises more than 30 lessons/lasts at least one year), the structure ("+": program is an unstructured "fund of ideas"; "+++": program is highly structured and the sequence of the lessons is predefined), and the methodology ("+": few methodological variations; "+++": a broad range of interactive methods is used), and on the whole all of them can be rated as above average. Significant differences however can be found regarding an initial training ("-": no mandatory training; "+++": training is mandatory for users of the program) and support ("-": no escorting support is offered; "+++": high quality support is offered during implementation). Only *Faustlos* and PFAD demand a mandatory training together with the practical implementation, and only the providers of fairplayer.manual and *Faustlos* offer assistance and support during the implementation phase. Especially, as far as the evidence of the effectiveness is concerned ("-": no effectiveness studies conducted; "+++": at least two methodologically sound studies from independent research groups published in peer reviewed journals), there is still a great need for research in most German-speaking violence prevention programs for schools, whereas not only investigations by the program developers themselves are pending, but particularly studies on effectiveness by independent researchers or institutions.

Table 1: Assessment of German speaking violence prevention programs for schools

category program	fairplayer. manual	Faustlos	PFAD	PiT	Verhaltenstraining in der Grundschule
Theory-practice-connection	++	++	+++	++	+++
Intensity	++	+++	+++	+++	++
Structure	+++	+++	+++	++	+++
Methodology	++	++	++	++	+++
Training	+	+++	+++	-	-
Support	+++	+++	+	+	-
Evaluated effectiveness	++	+++	+	+	-

Note. - program does not meet the minimum standards. + program meets the minimum standards. ++ program fully meets the standards. +++ program meets above average standards.

In sum, all programs have different strengths and weaknesses, their own "nature" and specific room for improvement and development. The present evaluation results should now be extended in future studies for their ability to generalize and remain stable. In order to accomplish this, it is necessary to develop and utilize specific measurement instruments for the outcome and process evaluation. Future research requires that "contextual factors", for example the motivation of individuals implementing the program or supporting transfer are to be investigated. Additionally, detailed investigation of the reported side effects such as the promotion of verbal competence and the positive effects on the work of the professionals would be worthwhile. As *Second Step* has been adapted for numerous cultures and countries, this is a unique chance to collaborate across different countries, to compare outcomes of the different adaptations, especially between western and non-western countries, to run parallel studies or even to conduct a comprehensive international study on the effectiveness of the program or especially interesting topics. One of them could be the correlation between school achievement and social-emotional knowledge. Here we see an extremely promising research field, not least due to discussions of educational reforms, as North American studies have demonstrated a close relationship between school success and social-emotional competences (Zins, Weissberg, Wang, & Walberg, 2004). Future studies on Second Step should also explore gender-specific effects of the program, as they have not been considered intensively enough in past studies. Moreover, there is a striking research deficit in the area of effectiveness of violence prevention programs on the question of how the gender of the instructors moderates the (gender-specific) effects of the programs (interaction effects). Relevant research results would illuminate the gender-specific impacts of the program (and should) allow for the development of gender-specific program modules and/or a "gender-aware" conceptualization of the trainings.

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