Treatment, prediction, and assessment of childhood aggression
Hendriks, A.M.

2019

document version
Publisher's PDF, also known as Version of record

Link to publication in VU Research Portal

citation for published version (APA)

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal?

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:
vuresearchportal.ub@vu.nl
Chapter 7

Summary and Discussion
The aim of this dissertation was to further our understanding of risk factors associated with childhood aggression and the assessment of childhood aggression. To this end, Chapter 2 comprised an overview of meta-analyses and systematic reviews on treatment effectiveness and its moderators for childhood aggression. In addition, Chapter 3 to 5 examined macro- and micro-level predictors of childhood and adolescent aggression and moderation on the contribution of genetic and environmental factors to individual differences in childhood aggression. Finally, Chapter 6 tested the agreement between different instruments commonly used to assess aggressive behavior. Table 1 briefly describes the aims and highlights of each chapter. The next paragraphs provide a more elaborate summary of each chapter.

The goal of Chapter 2 was to enhance our understanding of treatment effectiveness for childhood aggression. Therefore, Chapter 2 presented a literature synthesis of 72 meta-analyses and systematic reviews that examined effectiveness of treatments for childhood aggression. The study reviewed the characteristics of the meta-analyses and systematic reviews, effect sizes across types of treatments, and effects of various moderators (i.e., participant variables, treatment variables, and methodological variables). Treatments included psychosocial (non-pharmacological) universal prevention, selective prevention, indicated prevention, and intervention. The conclusion was that for universal and selective prevention, effects were mostly absent or small; for indicated prevention and intervention, effects were mostly small to medium. Furthermore, most moderators of treatment effectiveness had no effect in the majority of studies (i.e., child age, child gender, implementation to individuals or groups, person implementing the treatment, different treatment programs, and session related factors or treatment intensity) or mixed effects (i.e., socioeconomic status, type of treatment, informant, research quality). The only two significant moderators comprised of pre-treatment levels of aggression and parental involvement. Treatment effectiveness was higher for children with higher levels of aggression before treatment and when parents were involved in the treatment.

The discussion elaborated on two patterns that emerged within the results and on the implications of those patterns for research and clinical practice. First, the results identified similarities between universal and selective prevention compared to indicated prevention and intervention, respectively. Second, results revealed that based on existing research it is not yet possible to distinguish subgroups of children that would benefit more from treatment for aggression than others. The positive moderating effect of parental involvement on treatment effectiveness for childhood aggression suggests that an opportunity for future research may be to focus more on parental influences as possible moderators of treatment effectiveness. In addition, more systematic research attention for the association between individual factors and treatment effectiveness for childhood aggression would be promising.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Research aim</th>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Create an overview of overall treatment effectiveness and its moderators for childhood aggression.</td>
<td>Effect sizes for treatments for childhood aggression were mostly small. Promising distinction between treating aggression vs. treating associated factors. Treatment might benefit from a stronger emphasis on individual differences.</td>
</tr>
<tr>
<td>3</td>
<td>Examine the association between national-level policies for child and adolescent mental health (CAMH) and adolescent mental health.</td>
<td>The association between policies for CAMH and adolescent aggressive behaviors was negative; aggressive behaviors were higher in countries with less policies. This association held when controlling for other national-level variables. There was no association between policies for CAMH and adolescent life satisfaction or psychosomatic symptoms.</td>
</tr>
<tr>
<td>4</td>
<td>Predict childhood aggression based on a large sample with a broad set of predictor variables.</td>
<td>Negligible coefficients were in line with previous research; yet, weaker, probably due to simultaneous inclusion. Most important predictors were externalizing, non-aggressive behaviors such as arguing, being easily distracted, and hyperactivity. These behaviors may function as salient targets for early detection and prevention of childhood aggression.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate the moderating effect of socioeconomic status (SES) on the genetic architecture of childhood aggressive behavior.</td>
<td>SES moderated the contribution of genetic and environmental factors to childhood aggressive behavior. Heritability was higher; the contribution of the shared environment was lower; and the contribution of the non-shared environment was higher for children from high SES families compared to children from low or medium SES families. This pattern was similar in the Netherlands and the United Kingdom.</td>
</tr>
<tr>
<td>6</td>
<td>Assess the agreement between different measures of childhood aggressive behavior.</td>
<td>Concordance in item content was low. Concordance between diagnoses was low. Correlations between measures were moderate to high. Generic overlap was moderate to high. The extent to which different measures of childhood aggressive behavior converge depends on the type (i.e., item content, clinical concordance, correlation, genetic overlap) of agreement considered.</td>
</tr>
</tbody>
</table>

To examine the extent to which national-level variables explain variance in aggression, Chapter 3 assessed the association between national-level policies for child and adolescent mental health (CAMH) and individual-level adolescent mental health. Data were from 172,829 adolescents aged eleven to fifteen years, from 30 European countries in the 2013/14 Health Behaviour in School-aged Children (HBSC) study. Adolescent mental health indicators comprised aggressive behavior, life satisfaction, and psychosomatic symptoms. Information on national-level policies for CAMH was gathered from renowned statistical institutes and included availability of epidemiological data, the number of CAMH facilities, investment in family benefits, and investment in education. In addition, to ascertain that the association between
behavior in 5-year-old children. Data were from the Netherlands Twin Register (NTR) (24) and from the Twin Early Development Study (TEDS) in the United Kingdom. Results revealed that GES modified the contribution of genetic and environmental factors. The standardized variance components, the contribution of genetic factors was higher, the contribution of shared environmental factors was lower, and the contribution of non-shared environmental factors was higher for children from a high SES background compared to children from a low SES background. The unstandardized variance components revealed that the contribution of genetic factors was lower, the contribution of shared environmental factors was higher, and the contribution of non-shared environmental factors was higher for children from a high SES background compared to children from a low SES background. The pattern was similar for low and medium SES, indicating that the children from low and medium SES were more heterogeneous in their level of childhood aggressive behavior in other cultures. Further, work is required to examine whether these findings replicate in other cultures.

Chapter 4 focused on identifying more proximal predictors for childhood aggression. In this chapter, data were analyzed from the Child and Adolescent Mental Health (NIMH) study in Sweden (CASIS) and the Netherlands Twin Register (NTR). The large sample size of 62,277 children was used to predict childhood aggression using a novel approach that included a wide range of psychological and behavioral variables. The main finding was that a set of predictors variables explained a large part of the variance in childhood aggression. The results were consistent with previous research that has identified a set of factors, such as psychosomatic symptoms, peer problems, and conduct problems, as important predictors of childhood aggression. The findings were also consistent with the findings of previous studies that have identified a range of factors, such as peer problems, conduct problems, and psychological symptoms, as important predictors of childhood aggression. The results of this study suggest that a combination of these factors may be important in the prediction of childhood aggression.
yields higher agreement (e. moderate to strong) than clinical cut off scores. Genetic correlations differ from each other in how they influence the prevalence of aggressive behavior. The observed correlations, such as the analyses of clinical concordance and prevalence, were not influenced by measurement error Therefore, the high genetic correlations may suggest that the different measures of aggressive behavior were highly consistent.

Implications for Treatment, Prediction, and Assessment

This section discusses implications with regards to improvement of development and implementation of treatments for childhood aggression and prevention programs focused on childhood aggression. In addition, this section will review the outcome of this dissertation and applications of the findings. The findings of this study may have positive effects on children or the treatment process of childhood aggression. For example, the findings of this study have implications for the effectiveness of treatments such as the prevention programs for classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications on the effectiveness of childhood aggression prevention and academic performance. The findings may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997). The findings of this study may also have implications for the academic performance of classroom management for teachers (Durlak, Weissberg, & Gullion, 1997).
Kahn, Nast, & Kumpel, 2013; Haddadi & Kasuba, 2016; Kahn & Burt, 2014). To some extent, policies for child and adolescent mental health, such as investment in family benefits, policies for child and adolescent mental health, such as investment in family co-care through education of factors associated with low SES (Fearon et al., 2015; Fearon et al., 2013). The results from Chapter 5 suggest that such early prevention efforts at the family level of aggression, further, may help to reduce genetic factors and environmental factors from parents to children, both through genetic factors and environmental factors.

Chapter 6 revealed that the level of agreement between measures of aggressive behavior and environmental factors was higher for children from low-SES families compared to high-SES families. The findings indicate that different measures of aggressive behavior are strongly related to environmental factors such as the parents’ behavior and the child’s self-regulation skills. Continuous scores may be more robust across measures, and perhaps across development with age. The expression of aggressive behavior with age, particularly in children from high-SES families, may improve over time. Continuous scores may be more robust across measures, and perhaps across development with age.

Chapter 4 revealed that agreement between measures of aggressive behavior was stronger for continuation research than for agreement on clinical levels. The results from Chapter 6 showed that children with subthreshold levels of aggression are as likely to develop into clinical levels of aggression as children with high-SES backgrounds.
influence disappears in adolescence (Forsch et al., 2016; Wesneska et al., 2017). It would be useful to examine at what age childhood aggression can be best predicted by which risk factors to optimally detect children most likely to become aggressive early enough to prevent worse outcomes from later diagnosis and treatment (e.g., Campbell, Lundstrom, Larson, & Lichtenstein, 2018).

**GENERAL CONCLUSION**

Within ACTION, the goal was to inform the development of prevention and treatment strategies. The funding from the epidemiological research highlighted examination of the broad range of factors, both per-country level policies such as the environment and individual-level characteristics such as behavior and genetics, which may help to identify children who are excluded from treatment from which they would benefit more. More specifically, the study found to be associated with broad-range factors, and country-level policies such as the environment and individual-level characteristics such as behavior and genetics, which may help to identify children who are excluded from treatment from which they would benefit more.

Although the influence of the environment is high in the majority of factors discussed in this dissertation on childhood aggression, additional more policies for child treatment effectiveness, which suggest the employment of policies as early prevention efforts. Moreover, in children with higher levels of aggression, more policies are likely to benefit from treatment. The research in this dissertation contributes to previous work to advance our understanding and provides directions for future research towards a more personalized approach to childhood aggression.

---

Note: The text is a partial extract and does not reflect the complete content of the document. The full context is required to provide a comprehensive reading experience.