Author's response to reviews

Title: Prevalence of bullying and victimization among children in early elementary school: Do family and school neighbourhood socioeconomic status matter?

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Author's response to reviews: see over
Dr. Annemieke van Straten  
Editor of *BMC Public Health*

February 28th, 2012

*Regarding*: Resubmission of MS 1856808292609322

Dear Dr. van Straten,

Please find enclosed a revised version of our manuscript “Prevalence of bullying and victimization among children in early elementary school: Do family and school neighbourhood socioeconomic status matter?” We would like to thank you and the reviewers for the very useful comments and the substantive feedback.

Our point-by-point reply to the comments of the reviewers is presented below. The enclosed version of the manuscript has been prepared taking into account the suggestions of the reviewers. For your convenience, we highlighted the changes in the text. Several changes regard textual modifications or additions to the Methods-section to provide a more detailed overview of the assessments of bullying and victimization, and the indicators of family socioeconomic status. A major addition includes supplementary analyses examining socioeconomic differences in different types of bullying and victimization; the table showing these results can be included as a regular table or as an appendix. Furthermore, we aimed to strengthen the Discussion by providing more detailed implications and an in-depth comparison of differences in prevalence rates between our and previous studies. Finally, as suggested, the manuscript was checked by a native English speaker, and we are confident this improved the English language.

We hope the revisions are satisfactory and look forward to your evaluation.

Yours Sincerely,

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Phone: 0031 – 10 – 70 37 278   E-mail: p.w.jansen@erasmusmc.nl
Author’s response to reviewer comments

Response to comments made by Reviewer 1:

Reviewer: Ken Rigby

This is well presented and in general a carefully written paper on a topic of contemporary interest drawing on data from a large scale survey of teachers and parents of young school children. In some respects, the authors appear to have done what they could with the data they accessed. However, their sophisticated statistical analyses of the data is not matched by a thoughtful and commonsensical consideration of such matters as (i) what is a reasonable definition and clarification of what constitutes bullying and (ii) justified measurement procedures. Possibly the authors did not have much input in framing questions in the survey about bullying. Further, there is only limited recognition and discussion of how the findings of the study compare with other studies of bullying prevalence and a disappointing lack of discussion of implications for further research and for practice.

1. It is well known that an understanding of what constitutes ‘bullying’ can vary widely between respondents, with some focussing solely on behaviours and others on contextual factors such as whether there is an imbalance of power between the children involved so that the target cannot defend himself/herself adequately. In this article the reader does not know what instructions were given to the respondents to elicit their judgements. This is very important.

Author’s response: We aimed to reduce subjectiveness in the teacher’s reports of bullying by providing examples of physical and verbal bullying in the questionnaires, and by giving concrete descriptions of relational and material bulling. In the manuscript, we now provide more detailed information on how bullying and victimization were assessed (see below).

METHODS, Measures, Bullying and victimization (coloured text is changed or added):

“Bullying and victimization during the past three months were studied as outcome. The teacher of each elementary school child rated the occurrence of four victimization and four bullying items [20]. The victimization items assessed 1) “whether a child was physically victimized by other children, for instance by being hit, kicked, pinched, or bitten” (further referred to as physical victimization); 2) “whether a child was verbally victimized, such as being teased, laughed at, or called names” (verbal victimization); 3) “whether a child was excluded by other children”
(relational victimization); and 4) “whether belongings of a child were hidden or broken” (material victimization). Bullying was assessed with the perpetration form of these four items, e.g. “Whether a child physically bullied other children”.

REFERENCES:


2. The reader is not given a clue as to what ‘object’ bullying is – certainly this needs explaining.

Author’s response: We apologize for our vague description of this item and now give more detail on the assessment of it. We also renamed ‘object-related bullying and victimization’ into ‘material bullying and victimization’, as this is a more common term.

METHODS, Measures, Bullying and victimization (coloured text is added or changed):

“The bullying and victimization during the past three months were studied as outcome. … The victimization items assessed … … 4) “whether belongings of a child were hidden or broken” (material victimization).”

3. The measurement of socio-economic status on the basis of five attained educational levels also requires some justification. It is intuitively far from obvious that social and economic status can be inferred from such data. Can they really be placed on an ordinal scale of social status as the authors assume? It would be more reasonable to present findings for each of these categories separately.

Author’s response: We agree with the reviewer that the use of educational level as measure of social and economic status deserves some explanation. We now also justify the ordinal interpretation of educational level by providing the corresponding number of years of education for each of the educational categories.

METHODS, Measures, Family socioeconomic status (coloured text is changed):

“…The educational level of both parents was considered as an indicator of family SES because
education structures income and occupation (economic status), but also reflects non-economic social characteristics, such as general knowledge, problem-solving skills, literacy, and prestige [33-34]. The highest attained educational level of mothers and fathers was divided into: “Primary education”, which typically corresponds to \( \leq 8 \) years of education; “Lower vocational training”, corresponding to 9-12 years of education; “Intermediate vocational training”, equivalent to 13-15 years of education; “Higher vocational training”, which corresponds to 16-17 years of education; and “Higher academic education”, equivalent to 18 years of education or more [35]. …”

REFERENCES:

4. **Given that four kinds of bullying were indicated, it would be of much interest to know in detail how frequently each was indicated among both boys and girls.**

*Author’s response:* We now give the details of the frequency of the different types of bullying and victimization in Table 1 and changed the text accordingly (see below, coloured text is changed or added).

**METHODS, Measures, Bullying and victimization:**
“Bullying and victimization during the past three months were studied as outcome. **The teacher of each elementary school child** rated the occurrence of four victimization and four bullying items [20]. … Each item was rated on a four-point rating scale ranging from “Never or less than once per month” to “More than twice per week”. Children with a “Never or less than once per month”-rating on all four bullying and four victimization items were classified as uninvolved children. Children were classified as victims if they experienced any of the four victimization types at least once a month. Likewise, children were classified as bullies if they perpetrated any of the forms of bullying at least once a month. Children meeting the criteria of both bullies and victims were categorized as bully-victims.”

REFERENCES:

RESULTS:

“The frequency of various bullying and victimization items is presented in Table 1. Physical bullying (16%), verbal bullying (22%), and relational bullying (27%) were highly common behaviors in early elementary school. Likewise, physical victimization (8%), verbal victimization (11%), and relational victimization (9%) were also common, although to a slightly lesser degree. Physical, verbal, and material victimization and bullying occurred more often in boys than in girls, while relational victimization and bullying was more prevalent among girls. A rather small percentage of bullying and victimization occurred on a weekly basis, e.g. physical victimization 1%.”

<table>
<thead>
<tr>
<th>Table 1. Prevalence of victimization and bullying for all children and by gender</th>
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</thead>
<tbody>
<tr>
<td>Percentage based on past 3 months</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Items</th>
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<th>Weekly¹</th>
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<td>Girls</td>
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<tr>
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<td>99.3</td>
<td>0.7</td>
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<td>13.8</td>
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<td>11.4</td>
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<td>Girls</td>
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<tr>
<td></td>
<td>Girls</td>
<td>98.3</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Notes Table 1: 

- # Never or less than once per month.
- § The categories of “One to two times per week” and “More than twice per week” were collapsed into the category “Weekly” due to very low prevalences.
- † Prevalence of never vs. monthly or ‡ vs. weekly involvement in bullying differs significantly between boys and girls, p<0.05.

5. One of the claims of the study is that ‘the findings provide insight into what forms of bullying were common at this age’ i.e at 5-6 years. But surprisingly we are only provided with an example - one relating to verbal bullying.

Author’s response: As suggested by the reviewer, we now provide the prevalence of the common forms of bullying and victimization in the Results section (coloured text is added):

“The frequency of various bullying and victimization items is presented in Table 1. Physical bullying (16%), verbal bullying (22%), and relational bullying (27%) were highly common behaviors in early elementary school. Likewise, physical victimization (8%), verbal victimization (11%), and relational victimization (9%) were also common, although to a slightly lesser degree.”

6. It would also have been of much interest to compare prevalence rates for the different kinds of bullying for the different status categories. One plausible hypothesis is that physical bullying may be higher for children from low socio-econ families; verbal and indirect bullying for high ses. The researchers missed the opportunity to examine this relevant question.

Author’s response: We agree with the reviewer that it would be informative to compare the prevalence of the different bullying and victimization items between categories socioeconomic status and added a table in which we present the bullying and victimization items stratified by educational level of the mother. We changed the text accordingly, as outlined below (coloured text is added).
METHODS, Statistical analyses:

“The distribution of separate bullying and victimization items was analyzed, stratified by child gender. Differences in prevalence of bullying and victimization items were also presented by educational level of the mother, as maternal education is considered to be one of the strongest socioeconomic markers of child health and behaviour [39]. Differences by gender and by maternal educational level were tested with the χ²-statistic.”

REFERENCES:

RESULTS:

“Supplementary Table 1 shows a clear socioeconomic gradient (as indicated by the level of education of the mother) for the types of bullying and victimization: physical, verbal, relational and material bullying, and victimization were all more prevalent among children of mothers with a low educational level as compared to children of higher educated mothers.”

### Supplementary table 1. Prevalence of victimization and bullying by educational level of the mother

<table>
<thead>
<tr>
<th>Items</th>
<th>Educational level</th>
<th>Percentage based on past 3 months</th>
<th>χ²-test for overall difference</th>
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</thead>
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<tr>
<td></td>
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<td>Never</td>
<td>Monthly</td>
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<tr>
<td>Victimization</td>
<td>Higher academic</td>
<td>95.9</td>
<td>3.5</td>
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<td>Higher vocational</td>
<td>93.3</td>
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<td>Intermediate</td>
<td>92.5</td>
<td>6.5</td>
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<td>Vocational</td>
<td>89.7</td>
<td>8.8</td>
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<td>Lower vocational</td>
<td>89.6</td>
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<td>Primary education</td>
<td>89.0</td>
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<td></td>
<td>Higher academic</td>
<td>94.0</td>
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<td>Lower vocational</td>
<td>85.5</td>
<td>13.0</td>
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<tr>
<td></td>
<td>Primary education</td>
<td>85.5</td>
<td>13.0</td>
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</tbody>
</table>
Material
Higher academic 99.7 0.2 0.2 <0.001
Higher vocational 99.4 0.6 0
Intermediate vocational 99.5 0.5 0
Lower vocational 97.8 1.5 0.7
Primary education

Bullying

Physical
Higher academic 91.0 5.5 3.5 <0.001
Higher vocational 88.2 9.3 2.5
Intermediate vocational 84.9 11.1 4.0
Lower vocational 79.2 13.3 7.5
Primary education

Verbal
Higher academic 86.6 9.8 3.7 <0.001
Higher vocational 82.6 14.3 3.0
Intermediate vocational 78.9 15.8 5.3
Lower vocational 69.5 22.8 7.7
Primary education

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Higher academic 89.4 9.3 1.2 <0.001
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Intermediate vocational 84.0 13.3 2.7
Lower vocational 77.2 16.9 5.8
Primary education

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Higher academic 99.1 0.5 0.5 <0.001
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Intermediate vocational 97.0 2.5 0.5
Lower vocational 94.0 4.8 1.2
Primary education

Notes Table 1: "Never or less than once per month.
§ The categories of “One to two times per week” and “More than twice per week” were collapsed into the category “Weekly” due to very low prevalences.

DISCUSSION, Socioeconomic disparities in bullying and victimization:
“The present study showed a strong socioeconomic gradient for the types of bullying and victimization with particularly marked differences in physical, verbal and relational bullying and victimization.”

DISCUSSION, Implications:
“We also showed that children of families with a low socioeconomic background have a particularly high risk of involvement in bullying. The socioeconomic inequalities were not
restricted to a specific type of bullying behaviour but were found in all forms of bullying and victimization. These findings should be taken into account in the development of bullying prevention or intervention programs as targeted programs may be more effective when actions are directed at the most prevailing forms of bullying and at the susceptible group of children. It might be worthwhile to teach children with a low socioeconomic background certain social skills and strategies to cope with peer problems and bullying situations. Possibly, children from families with a low SES do not learn such skills from their parents. The effectiveness of such intervention strategies and of general bullying interventions among young children in early elementary school should be monitored in future research.

7. The findings are very much at odds with many other studies of bullying prevalence, which typically show that bully-victims are relatively rare compared with pure victims. In this study bully-victims are very highly represented; for pure victims very low. This suggests that the raters – teachers – probably saw bullying as conflict between students generally – not just conflict in which there was a notable imbalance of power (see above).

Author’s response: The reported prevalence rates of bully-victims are indeed higher than those reported in previous studies, particularly as compared to studies among older children. We extended the Discussion to provide some explanations for this discrepancy in findings.

DISCUSSION:
“Our findings suggest that bullying and victimization are relatively common problems in the lowest grades of elementary school with about one third of the children being involved. More specifically, we showed that 4% of the children were victims, whereas many children were involved as bullies (17%) or bully-victims (13%). These prevalence estimates, particularly of bullies and bully-victims, are somewhat higher than previously reported prevalence rates among older children and adolescents in the Netherlands and in other countries [14]. However, bullying behaviour tends to decline with age [14, 43]. Possibly, young children solve peer problems with bully behaviour while children’s experiences, increasing assertiveness, and changes in capabilities and social skills might result in more adequate problem solving skills at older ages [44]. Our finding that bully-victims are highly represented while pure victimship is much less common contrasts with previous research among older children indicating that bully-victims are
relatively rare compared with pure victims. It might be that children shift between categories such that young bully-victims become pure victims over time; however, this hypothesis and the possible explanations for such a shift can only be examined in a study with a longitudinal design. Yet, the high prevalence of children classified as bully-victims at this young age might also reflect general conflicts between children rather than bullying behaviour that is associated with an imbalance of power.”

REFERENCES:

8. Regarding the nature of the sample – of 5-6 year olds – could there be some consideration of how and why the proportions of children in the different categories of behaviour differ from the reported findings for older groups? This might throw some light on how the nature of bullying itself changes with age or is perceived among young children.

Author’s response: As suggested, we now compare the prevalence rates of bullying and victimization between our sample and previous studies conducted among older children, and consider some explanations for the age differences in the Discussion (see also answer to comment #7).

DISCUSSION (coloured text is added):
“Our findings suggest that bullying and victimization are relatively common problems in the lowest grades of elementary school with about one third of the children being involved. More specifically, we showed that 4% of the children were victims, whereas many children were involved as bullies (17%) or bully-victims (13%). These prevalence estimates, particularly of bullies and bully-victims, are somewhat higher than previously reported prevalence rates among
older children and adolescents in the Netherlands and in other countries [14]. However, bullying behaviour tends to decline with age [14, 43]. Possibly, young children solve peer problems with bully behaviour while children’s experiences, increasing assertiveness, and changes in capabilities and social skills might result in more adequate problem solving skills at older ages [44]. Our finding that bully-victims are highly represented while pure victimship is much less common contrasts with previous research among older children indicating that bully-victims are relatively rare compared with pure victims. It might be that children shift between categories such that young bully-victims become pure victims over time; however, this hypothesis and the possible explanations for such a shift can only be examined in a study with a longitudinal design. Yet, the high prevalence of children classified as bully-victims at this young age might also reflect general conflicts between children rather than bullying behaviour that is associated with an imbalance of power.

Previous studies among children in kindergarten in Switzerland and the U.K. observed fairly similar patterns of teacher reported bullying and victimization as we did (e.g. bully-victims: 11% and 13%) [18, 20]. …”

REFERENCES:

9. Implications from the study could profitably have indicated what more it would be useful to know and what the practical implications of the study could be – beyond merely paying more attention to the more at risk low ses children. What specifically could be done? Is there a case for social workers helping some families who were thus at risk to learn how to handle conflict and especially bullying better? Is there a
case for the teaching of certain social skills eg., assertiveness, especially to children from families where they are perhaps not taught? Such issues could briefly explored.

Author’s response: As shown below, we extended the implication section of the Discussion by adding more practical implications.

DISCUSSION, Implications (coloured text is added):
“Our population-based study assessed prevalence of bullying and victimization among children in the first grades of elementary schools. This provides scholars and public health practitioners information on the prevalence of an important social behaviour that is a risk factor for later behavioural and emotional problems [2-8]. Considering the incessant nature of bullying and reports showing that by middle school both bully and victim roles are rather stable [56], the high prevalence of bullying and victimization shown in this study suggests the need of prevention and intervention programs at the start of elementary school. Our findings provide insight into which forms of bullying are common at this age, which is essential for tailored-made interventions targeting the most prevailing forms of bullying behaviour. Physical and verbal bullying was widespread; these overt behaviours can easily be recognized and are a possible target of intervention by school teachers. However, relational bullying was also a common behaviour that can be missed more easily. Therefore, it is important that teachers in early elementary school are made aware that relational bullying is a common behaviour in their classroom, especially among girls. We also showed that children of families with a low socioeconomic background have a particularly high risk of involvement in bullying. The socioeconomic inequalities were not restricted to a specific type of bullying behaviour but were found in all forms of bullying and victimization. These findings should be taken into account in the development of bullying prevention or intervention programs as targeted programs may be more effective when actions are directed at the most prevailing forms of bullying and at the susceptible group of children. It might be worthwhile to teach children with a low socioeconomic background certain social skills and strategies to cope with peer problems and bullying situations. Possibly, children from families with a low SES do not learn such skills from their parents. The effectiveness of such intervention strategies and of general bullying interventions among young children in early elementary school should be monitored in future research.”

REFERENCES:


10. Finally the statement in the abstract that ‘children from families with a low socio-economic background are at risk for this [bullying] behaviour’ is actually not informative. All children are at risk. What presumably is meant is that such children are more at risk than others, a more justified conclusion.

*Author’s response:* We thank the reviewer for pointing us at this subtle difference. We changed the sentence as follows:

“Bullying and victimization are already common problems in early elementary school. and especially Children from socioeconomically disadvantaged families, rather than children visiting schools in disadvantaged neighbourhoods, are at have a particularly high risk of involvement in bullying.”

I think the study has significant flaws. Some improvements could be made in attending more to definition and measurement issues. Some re-analyses, as suggested above, could be done and more results of interest to the reader who wants to know about what 5-6 year olds actually do could be provided. Assumptions relating to measurement of ses
should be discussed and the limitations of the study addressed further. The findings need to be related more to other studies of prevalence and the possible uniqueness or difference in the nature of bullying between age groups recognised. Here are response to specific questions - see above for qualifications.

_Author’s response:_ The specific comments of the reviewer have certainly helped us to improve the manuscript.
Response to comments made by Reviewer 2:
Reviewer: Michal Molcho

The paper seeks to address two different issues, measuring the prevalence of bullying among children in younger grades, and to examine the socio-economic effect of the school-neighbourhood on bullying. While the latter question has been previously addressed, there is a paucity in research on bullying among young children. While the paper addresses some important issues, there are some flaws in the method used and some literature that could be used to addressing the results is missing. The writing of the paper could also benefit from editing. More specific comments are below.

1. The title represents the paper well.
2. Overall the abstract gives a succinct description of the paper, with good account of the findings.

Author’s response: Thank you!

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
3. Under ‘methods’: The word ‘embedded’ should be changed to ‘was part of...’

Author’s response: We changed the wording as suggested.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
4. I don’t like the use of the term ‘family level SES’ since within the context of multilevel analysis, family level suggests that data were analysed at the family level, as well as at the individual and school level, which was not done in this paper. I suggest simply using the term ‘family SES’.

Author’s response: We replaced the term ‘family level SES’ by ‘family SES’.
Introduction

Minor Essential Revisions

5. The introduction addresses the main literature in the areas. However, the first paragraph is not well written English wise and needs to be re-written. The following paragraphs are better written.

Author’s response: We had the manuscript checked by a native English-speaker and re-wrote the first paragraph of the Introduction as follows (coloured text is changed):

“Bullying and victimization are widespread phenomena in childhood and can take several forms, such as name calling, gossiping, exclusion, and hitting or pushing [1]. Children’s involvement in bullying, either as a bully or victim, has a serious impact on their well-being [2-8]. Victims are at increased risk of future poor physical health, low self-esteem, and psychiatric problems, such as anxiety disorders, depression, and psychotic symptoms. Bullies have more behavioural problems and a poorer emotional adjustment later in life. Moreover, victims and bullies tend to perform less well at school than children who are not involved in bullying [3, 6]. Children can also be involved in bullying behaviour both as bully and as victim, and these so-called bully-victims have a particularly high risk of later psychosocial problems [9-10]. These adverse consequences are independent of pre-existing behavioural and emotional problems at the time the bullying and victimization takes place [2-8].”

REFERENCES:


**6. Page 3, paragraph 1:** I suggested changing the term ‘uninvolved bystanders’ to ‘children that are not involved in bullying’. There is some evidence to suggest that bystanders of bullying (even uninvolved ones) could be effected by witnessing bullying.

*Author’s response:* We changed the wording as suggested.

**7. Page 3, paragraph 2:** The authors could refer to more current statistics about school bullying rather than relying on Nansel et al 2004. One such example is the 2005/6 HBSC international report and other papers using data collected in 2005/6.

*Author’s response:* We thank the reviewer for this suggestion and replaced the Nansel references by a more recent publication using the Health Behavior in School-Aged Children (HBSC) survey 2005-2006.

**INTRODUCTION** (coloured text is changed):

“Large cross-national research, for instance, showed that on average 27% of children in secondary schools were involved in bullying: approximately 13% of the children reported being a victim of bullying, 11% a bully, and 4% a bully-victim [14].”

**REFERENCES:**

8. Page 4 first paragraph 4th sentence from end: I assume the authors mean School neighbourhood SES and not neighbourhood SES of schools.

Author’s response: We changed the wording to ‘school neighbourhood SES’ throughout the manuscript.

Research questions
Minor Essential Revisions
9. The aims of the study are clear and well articulated although the concept of bully-victim should be better explained earlier in the introduction rather than just being mentioned once.

Author’s response: As suggested, we now explain the concept of bully-victims in the first paragraph of the Background.

Background (coloured text is changed or added):
“Children can also be involved in bullying behaviour both as bully and as victim, and these so-called bully-victims have a particularly high risk of later psychosocial problems [9-10].”

REFERENCES:

Methods
Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)
10. Bullying is subjected to many different perceptions and definitions, hence it is normally recommended to include a definition of bullying in the questionnaire. The authors do not indicate whether such practice was used. It is also not clear if inter-rater reliability was tested. Inter-rater differences could strongly bias the results of the study.
Author’s response: In the assessment of bullying and victimization, we provided the teachers examples of physical and verbal bullying, and gave concrete descriptions of relational and material bulling in order to reduce teacher’s subjective opinions. In a pilot study, it appeared that teachers thought these examples and concrete descriptions were more helpful for answering the bullying and victimization items than a formal definition of bullying. We now provide more information on how bullying and victimization were assessed in the questionnaire in the manuscript (see below).

The inter-rater reliability was not tested, as each child in the study population was rated by one teacher only. In general, in Dutch primary schools children have only one teacher. We rephrased part of the Methods to make this clearer.

METHODS, Measures, Bullying and victimization (coloured text is changed or added):
“Bullying and victimization during the past three months were studied as outcome. The teacher of each elementary school child rated the occurrence of four victimization and four bullying items [20]. The victimization items assessed 1) “whether a child was physically victimized by other children, for instance by being hit, kicked, pinched, or bitten” (further referred to as physical victimization); 2) “whether a child was verbally victimized, such as being teased, laughed at, or called names” (verbal victimization); 3) “whether a child was excluded by other children” (relational victimization); and 4) “whether belongings of a child were hidden or broken” (material victimization). Bullying was assessed with the perpetration form of these four items, e.g. “Whether a child physically bullied other children”.

REFERENCES:

11. As mentioned in point 4, the term ‘family level SES’ as probably not accurate. It suggest that the study tested units (children) with the family (higher level of data) and then within schools. Based on the information provided, it doesn’t seem to be the case. It seems more likely that family SES was linked to teachers’ report on the behaviour of each child hence what it really stands for is the child SES, measured through parental SES.

Author’s response: This understanding is correct and we agree with the reviewer that the use of
the term ‘family level SES’ is confusing given that we conducted multilevel analyses. As suggested, we replaced the term ‘family level SES’ by ‘family SES’.

12. It is not clear why parent occupation (as opposed to parental employment) was not used. Occupation is considered one of the better SES measures.

Author’s response: In general, socioeconomic inequalities in child health and behaviour are most strongly patterned by maternal educational level, and less by parental occupational status and family income (Desai S, Alva S: Maternal education and child health: is there a strong causal relationship? Demography, 1998; 35(1):71-81). We have observed this as well in one of our previous studies (Jansen PW, Raat H, Mackenbach JP, Jaddoe VWV, Hofman A, Verhulst FC, Tiemeier H: Socioeconomic inequalities in infant temperament. The Generation R Study. Social Psychiatry & Psychiatric Epidemiology. 2009; 44(2):87-95). Moreover, in the Netherlands, occupational status is mostly defined by the level of education that is required for a specific profession, resulting in a high correlation between occupational and educational level. Thus, as occupational status would have limited added value to educational level, we choose to assess the latter. In addition to education, we assessed employment status (employed vs. unemployed) as well, because we expected the correlation between educational level and employment status to be only moderate, especially in parents of young children. We extended the Methods to explain why employment status was considered as an indicator or SES.

METHODS, Measures, Family socioeconomic status (coloured text is added):
“Information on indicators of family socioeconomic status was assessed by a parental questionnaire … The educational level of both parents was considered as an indicator of family SES because education structures income and occupation (economic status), but also reflects non-economic social characteristics, such as general knowledge, problem-solving skills, literacy, and prestige [33-34]. The highest attained educational level of mothers and fathers was divided into: …… Given that the highest obtained schooling significantly structures occupational levels [33], we included (un)employment status – instead of occupational level – as an indicator of family SES. Unemployment is generally seen as a strong indicator of low socioeconomic status [34]. Employment status was categorized in the following ways: ……”

METHODS, Statistical analyses (coloured text is added):
“The distribution of separate bullying and victimization items was analyzed, stratified by child gender. Differences in prevalence of bullying and victimization items were also presented by educational level of the mother, as maternal education is considered to be one of the strongest socioeconomic markers of child health and behaviour [39].”

REFERENCES:

Results

Minor Essential Revisions
13. Some linguistics errors throughout – need to be checked for English. For example, page 9, 2nd paragraph last sentence: ‘Boys were more often a bully (p<0.001) or a bully-victim (p<0.001) than girls’ – the sentence is grammatically wrong.

Author’s response: As suggested, we had the manuscript checked by a native speaker and are confident that there are few, if any, linguistic errors left.

Major Compulsory Revisions
14. page 9, last paragraph: It is not clear why one parent in employment was used as the reference category. Conceptually it is not clear what unemployment and full employment are measuring. Are they proxy for SES? Are both proxies for low SES? These results are not clear.

Author’s response: We apologize for not being clear and added some information to the Methods and Discussion to clarify the use of the parental employment variable.

METHODS, Measures, Family socioeconomic status (coloured text is added):
*Given that the highest obtained schooling significantly structures occupational levels [33], we included (un)employment status – instead of occupational level – as an indicator of family SES.*
Unemployment is generally seen as a strong indicator of low socioeconomic status [34]. Employment status was categorized in the following ways: “Both parents fulltime employed”; “At least one of the parents employed, but maximal one fulltime employment per family”; and “Both parents not employed”. The middle category was the most common category and, therefore, considered as the reference. The latter category indicated that none of the parents had paid employment and were comprised of parents who were in the categories of housewife/husband, student, job-seeker, or social security or disability benefit recipient. The category of “Both parents fulltime employed” might also reflect low socioeconomic status with both parents having to work to have both ends meet. However, it has also been shown that particularly highly educated parents both tend to work fulltime [36]."

DISCUSSION, Socioeconomic disparities in bullying and victimization (coloured text is added or changed):
“Low socioeconomic background of families might have influenced children’s involvement in bullying and victimization in several ways. …… Regarding employment status, we showed that children of parents without employment were more likely to be a bully or bully-victim. This effect was explained by other SES indicators suggesting that parental unemployment most likely affects children’s bullying behaviour through low educational level, single parenthood, and disadvantaged school neighbourhoods. In contrast, fulltime employment of both parents was a significant risk factor for children’s bullying behaviour, independently of other measured SES indicators. Fulltime employment of both parents might reflect a low SES with both parents having to work because of financial strain, but it could also reflect a high SES [36] with parents in demanding jobs without the opportunity of working part-time [51]. Both situations are most likely associated with relatively high levels of stress within families, and stress and parental well-being are known to have adverse influences on children’s behaviours in multiple ways [52]. However, the effect of fulltime employment of both parents on children’s bullying behaviour could also be independent of SES and reflect limited time available for parent-children interaction. This could result in reduced parental control of children’s behaviour and limited time for parents to talk about the problems a child encounters in daily life, such as difficulties in peer relations.”

REFERENCES:
15. The differences between table 2 and table 3 are not well demonstrated. Based on the explanation in the text it seems that table 2 is independent effects and table 3 is combined effects but this is not clear from the table titles and the tables themselves.

Author’s response: We changed the titles of the tables in order to make clearer what is presented in each table (coloured text is changed):

**Table 2. Effects of socioeconomic determinants on involvement in bullying**

<table>
<thead>
<tr>
<th>Indicators of socioeconomic status</th>
<th>N</th>
<th>Uninvolved (n=4214)</th>
<th>Victim (n=252)</th>
<th>Bully (n=1075)</th>
<th>Bully-victim (n=835)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age mother (per 5 year decrease)</td>
<td>6161</td>
<td>Reference</td>
<td>1.09 (0.96-1.23)</td>
<td>1.07 (1.00-1.15)</td>
<td>1.13 (1.04-1.23)</td>
</tr>
<tr>
<td>Age father (per 5 year decrease)</td>
<td>6161</td>
<td>Reference</td>
<td>1.06 (0.95-1.18)</td>
<td>1.06 (1.00-1.13)</td>
<td>1.15 (1.07-1.24)</td>
</tr>
</tbody>
</table>

**Table 3. Effects of socioeconomic determinants on involvement in bullying with mutual adjustment for other socioeconomic determinants**

<table>
<thead>
<tr>
<th>Indicators of socioeconomic status</th>
<th>N</th>
<th>Uninvolved (n=4214)</th>
<th>Victim (n=252)</th>
<th>Bully (n=1075)</th>
<th>Bully-victim (n=835)</th>
</tr>
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<td>1.06 (1.00-1.13)</td>
<td>1.15 (1.07-1.24)</td>
</tr>
</tbody>
</table>
Discussion

Major Compulsory Revisions

16. The discussion is weak and does not address some of the findings around family SES, especially the findings around unemployment and full employment.

Author’s response: We now discuss the findings of unemployment and fulltime employment in more detail (see below and also answer to comment #14). We also aimed to strengthen the Discussion by adding more practical implications and by extending the paragraph on differences in prevalence rates of bullying and victimization between our and previous studies. For these latter adjustments, we kindly refer the reviewer to the Discussion of the manuscript in which changes and additions are indicated by coloured text.

DISCUSSION, Socioeconomic disparities in bullying and victimization (coloured text is added):

“Low socioeconomic background of families might have influenced children’s involvement in bullying and victimization in several ways. …… Regarding employment status, we showed that children of parents without employment were more likely to be a bully or bully-victim. This effect was explained by other SES indicators suggesting that parental unemployment most likely affects children’s bullying behaviour through low educational level, single parenthood, and disadvantaged school neighbourhoods. In contrast, fulltime employment of both parents was a significant risk factor for children’s bullying behaviour, independently of other measured SES indicators. Fulltime employment of both parents might reflect a low SES with both parents having to work because of financial strain, but it could also reflect a high SES [36] with parents in demanding jobs without the opportunity of working part-time [51]. Both situations are most likely associated with relatively high levels of stress within families, and stress and parental well-being are known to have adverse influences on children’s behaviours in multiple ways [52]. However, the effect of fulltime employment of both parents on children’s bullying behaviour could also be independent of SES and reflect limited time available for parent-children interaction. This could result in reduced parental control of children’s behaviour and limited time for parents to talk about the problems a child encounters in daily life, such as difficulties in peer relations.”

REFERENCES:

17. The authors compare their findings to other studies in other countries including studies on older children. However, it would be better to put the results in the Dutch context referring to HBSC data in which differences in bullying perpetration and victimization occur only among girls and suggest higher prevalence of victimisation compared to perpetration.

Author's response: We now place our findings in the context of the large Health Behavior in School-Aged Children (HBSC) survey 2005-2006 in which the Netherlands was also included. Differences in bullying and victimization prevalences between this and our study are most likely due to age differences of the studies, particularly as the prevalence of bullying perpetration seems to decline with age, while the decrease in prevalence of victimization with age is smaller. We discuss these differences and provide some explanations for the discrepancy in findings.

DISCUSSION (coloured text changed):
“Our findings suggest that bullying and victimization are relatively common problems in the lowest grades of elementary school with about one third of the children being involved. More specifically, we showed that 4% of the children were victims, whereas many children were involved as bullies (17%) or bully-victims (13%). These prevalence estimates, particularly of bullies and bully-victims, are somewhat higher than previously reported prevalence rates among older children and adolescents in the Netherlands and in other countries [14]. However, bullying behaviour tends to decline with age [14, 43]. Possibly, young children solve peer problems with bully behaviour while children’s experiences, increasing assertiveness, and changes in capabilities and social skills might result in more adequate problem solving skills at older ages [44]. Our finding that bully-victims are highly represented while pure victimship is much less common contrasts with previous research among older children indicating that bully-victims are relatively rare compared with pure victims. It might be that children shift between categories such that young bully-victims become pure victims over time; however, this hypothesis and the possible explanations for such a shift can only be examined in a study with a longitudinal design. Yet, the high prevalence of children classified as bully-victims at this young age might also...
reflect general conflicts between children rather than bullying behaviour that is associated with an imbalance of power.”

REFERENCES:


18. Page 12 2nd paragraph: the sentence “Possibly, exposure to violent television programs might stimulate bullying and peer aggression” should be backed by references. The associations between TV viewing and aggressive behaviour have been reported widely, hence it would be sensible to include such literature in that regard.

*Author’s response:* We added the following reference to strengthen our hypothesis about TV viewing and aggressive behaviour.

DISCUSSION:

“Possibly, exposure to violent television programs might stimulate bullying and peer aggression [50].”

REFERENCES:


19. Generally, bullying behaviour tend to decline with age, and the literature provides few potential explanations to that decline. Hence, it may not come as a surprise that bullying is evident in the younger years of elementary school. The authors can use data from others studies in the Netherlands to show that the trends of declining bullying persist and
that it is therefore not surprising to see relatively higher prevalence in younger age groups.

Author’s response: We thank the reviewer for these interesting thoughts and added this suggestion to the Discussion section (see below and also answer to comment #17).

DISCUSSION:
“Our findings suggest that bullying and victimization are relatively common problems in the lowest grades of elementary school with about one third of the children being involved. More specifically, we showed that 4% of the children were victims, whereas many children were involved as bullies (17%) or bully-victims (13%). These prevalence estimates, particularly of bullies and bully-victims, are somewhat higher than previously reported prevalence rates among older children and adolescents in the Netherlands and in other countries [14]. However, bullying behaviour tends to decline with age [14, 43]. Possibly, young children solve peer problems with bully behaviour while children’s experiences, increasing assertiveness, and changes in capabilities and social skills might result in more adequate problem solving skills at older ages [44]. Our finding that bully-victims are highly represented while pure victimship is much less common contrasts with previous research among older children indicating that bully-victims are relatively rare compared with pure victims. It might be that children shift between categories such that young bully-victims become pure victims over time; however, this hypothesis and the possible explanations for such a shift can only be examined in a study with a longitudinal design. Yet, the high prevalence of children classified as bully-victims at this young age might also reflect general conflicts between children rather than bullying behaviour that is associated with an imbalance of power.

Previous studies among children in kindergarten in Switzerland and the U.K. observed fairly similar patterns of teacher reported bullying and victimization as we did (e.g. bully-victims: 11% and 13%) [18, 20]. However, research among young children in the U.S.A. indicated parent reported victimization rates of 23-27% [16-17]. These percentages are substantially higher than we observed, even when keeping in mind that victimized children in our study were found in two categories, i.e. the victims and the bully-victims. Differences in prevalence could be due to dissimilarities in the definition of victimization, but they might also be explained by the use of other informants, since teachers rate in a different context and with different references than parents [17-18]. On the other hand, a recent study indicated that the prevalence of victimization as reported by teachers or parents was fairly similar [45]. Another explanation comes from
cross-national studies in older children and adolescents indicating that bullying and victimization rates are slightly higher in the USA than in the Netherlands [16-17, 26, 29]."

REFERENCES:


