Reviewer’s report

Title: Internet and game behaviour at a secondary school and a newly developed health promotion programme: a prospective study

Version: 1 Date: 19 February 2010

Reviewer: Artemis Tsitsika

Reviewer’s report:

Manuscript Title:
Internet and game behavior at a secondary school and a newly developed health promotion programme: a prospective study.

Critical Review:
The aims of the present study were to investigate the prevalence of compulsive internet and game use among secondary school children in the Netherlands, their association with other lifestyle factors (i.e. alcohol use, physical activity, BMI, and psychosocial well-being), and to evaluate the effect of an internet/game prevention programme. The present study is both interesting and of public health interest. However, several points identified below should be noted prior to publication.

Major Revisions:
1. In the methods, the authors describe an initial source population of 1057 secondary school children. However, it is not specified if the source population was recruited from a single school, or from a random selection of schools, stratified either by population density and/or locality. Also, whether the school(s) was public or private is also not specified. Moreover, approximately one third of participants are reported to have completed both baseline and follow-up questionnaires prior and after the health intervention programme. It is highly recommended that the authors report at least the descriptive statistics and reasons for loss to follow-up regarding missing values. Also, only 4% of the population was aged 15-16 years. How is this justified in the analyses regarding the age groups examined? Could a population bias have been introduced in the study?

2. The CIUS was to assess compulsive internet use. However, compulsive internet users were defined as those children within the top 20% of scores. How is this justified? Also, an adapted CGUS scale was applied for assessing gaming behavior; however the authors do not specify whether this tool has been validated. Finally, due to potential confounding effects with compulsive internet use, the authors should specify if the gaming behavior assessed included games with monetary awards and/or gambling.

3. Was BMI and alcohol consumption based on self-report? If so, the authors should refer in the study limitations the potential reporting biases which may have
been introduced regarding these variables.

4. Physical activity was computed based on two questions regarding regular and intensive physical exercise. Are the inferences made regarding the association between internet use and physical exercise thus upheld (discussion section, paragraph 5)? Perhaps METs could be computed in order to more accurately account for changes in physical activity. Moreover, BMI as a potential confounding factor is not accounted for.

5. The SDQ was applied to assess psychosocial well-being. It would aid readers if the either the component scores and/or borderline/abnormal scores were analytically presented, as opposed to mean SDQ score in Table 2.

6. It would aid readers if the authors described more analytically the intervention implemented (i.e. “…lesson content was adapted to the class and educational level…”). Also, as the follow-up questionnaire for assessing the intervention was internet based, does this not potentially introduce a measurement bias in the study?

7. For the statistical analyses, perhaps it would aid journal readers if non-internet users (i.e. those who did not utilize the internet for purposes other than school-related activities) were excluded from all analyses. Moreover, it would also aid the analyses if internet access and own pc was accounted for. Also, perhaps mantel-haenszel method would perhaps be more appropriate for comparisons of categorical variables.

8. It would be highly recommended that the authors account for the overlap of population groups regarding concurrent compulsive internet use and compulsive game use in the statistical analyses.

Minor Essential Revisions:

9. In the results, perhaps it would be more appropriate to refer to the component SDQ abnormal scores, rather than the mean SDQ score (i.e. “…compulsive internet users had more behavioral problems (a higher SDQ score)….”).

10. As part of the defining points of compulsive internet use is the adoption of increasing hours of internet use, perhaps analyses regarding the hours/day or week of internet use is unnecessary.

11. Tables should specify the number of children in each comparison group and statistical methods applied.

Discretionary Revisions:

12. In the discussion paragraph 6, the authors state that, “…Despite the increased time spent on internet, CIUS scores did not change, which suggests that spending more time on the internet does not lead to more compulsive behavior…”. Perhaps the authors should consider the possibility that the CIUS may not be sensitive enough to detect such changes and/or that perhaps the hours of internet use is not linearly associated with compulsive internet use?

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.