Reviewer's report

**Title:** Student Public Commitment in a School-Based Diabetes Prevention Project: Impact on Physical Health and Health Behavior

**Version:** 1  **Date:** 10 June 2011

**Reviewer:** Ralph Maddison

**Reviewer's report:**

**Overall comments:**
This paper presents the secondary analysis of the HEALTHY randomized controlled trial and examines the role of public commitment on BMI and other health outcomes. Overall, the authors provide a sound rationale for the role of public commitment on health behaviors. However, the effect of public commitment on BMI and other health outcomes does not appear to be pre-specified outcome of the trial. With this in mind, I have concerns regarding sub-group analysis of randomized controlled trials that were not specified a priori. I have checked the protocol and study results and there was no pre-specification of public commitment as a variable for sub-group analysis.

It is acknowledged that these data are from a large well conducted pragmatic trial, and subgroup analyses are important if there are potentially large differences between groups in the risk of a poor outcome with or without treatment, if there is potential heterogeneity of treatment effect in relation to pathophysiology, if there are practical questions about when to treat, or if there are doubts about benefit in specific groups, such as elderly people, which are leading to potentially inappropriate undertreatment (Rothwell, 2005). However such subgroup analyses need to be prespecified in the study protocol, carefully justified, and limited to a few clinically important questions. These conditions do not seem to have been met with this paper; thus the post-hoc observations presented in this paper must be treated with scepticism, irrespective of their statistical significance. Furthermore, if important subgroup effects are anticipated, trials should either be powered to detect them reliably, which does not seem to be the case in this study.

**Secondary issues:**
1. This manuscript is very long for a sub-group analysis. The primary results and methods have been published; therefore the methods section could be reduced substantially. Had the subgroup analyses been prespecified and well justified then this paper should be presented as a technical report.

2. In the abstract, it is not clear what the control refers to. In the main body of the paper it is stated that data for PC and NPC were compared to control school participants; however this is not clear in the abstract.

3. The measurement of school commitment is poorly defined and appears to
have been done post-hoc. In addition, the numbers in the subgroups are quite small and there is no indication of whether there was sufficient power to detect the effects presented in this manuscript?


**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests