Author's response to reviews

Title: Predictors of hazardous drinking, tobacco smoking and physical inactivity in vocational school students

Authors:

Severin Haug (severin.haug@isgf.uzh.ch)
Michael Schaub (michael.schaub@isgf.uzh.ch)
Corina Salis Gross (corina.salisgross@isgf.uzh.ch)
Ulrich John (ujohn@uni-greifswald.de)
Christian Meyer (chmeyer@uni-greifswald.de)

Version: 2 Date: 16 April 2013

Author's response to reviews: see over
Revised Manuscript for BMC Public Health

Dear Editor, dear Reviewers,

Thank you very much for the helpful comments and recommendations we received with regards to our manuscript “Predictors of hazardous drinking, tobacco smoking and physical inactivity in vocational school students”.

We have addressed all of your comments and revised our manuscript considering your suggestions.

We look forward to hearing from you.

Yours sincerely,

Severin Haug
General modification
We replaced the term “apprentices at vocational schools” by the more appropriate term “vocational school students” (whole manuscript).

Reviewer 1
To predict the prevalence of the 4 different risk factor combinations, we conducted a multinomial logistic regression. We used persons with no or exactly one risk factor as the reference group of the dependent variable; the risk factor combinations (1) drinking and smoking, (2) drinking and inactivity, (3) smoking and inactivity and (4) drinking and smoking and inactivity constituted further categories of the dependent variable.

See also page 6 (data analysis), pages 8/9 (results section including predictors of risk factor combinations), page 11 (discussion) and Table 6 of the supplementary tables.

Reviewer 2
Abstract
Page 2: The first sentence of the abstract was replaced by the following: “Tobacco smoking, hazardous drinking as well as physical inactivity during adolescence are risk factors that are associated with poorer health in adulthood”.

Introduction
Major revisions

1.
The statement on increasing prevalence of hazardous drinking, tobacco smoking and physical inactivity between the ages of 12 to 17 years was replaced by a paragraph showing the associations of the investigated risk factors in adolescence and health in adulthood (page 3, paragraph 1).
2. Unfortunately, we could not find any literature addressing health risk behaviours among adolescents and young adults not attending any school between the age of 16 and 20.

3. This sentence on page 3, last paragraph was specified: “In a recent study [11], tobacco smoking and alcohol consumption were examined among 1124 vocational school students in a defined area of Northern Germany. Compared to general population survey data for this region, this study revealed higher levels of tobacco use and hazardous drinking with a smoking prevalence of 61% and binge drinking reported in 79% of vocational school students.”

4. and 5.
We deleted that looking at 2 risk factors was a limitation of the study [11]. Furthermore we included more information on the importance of addressing 3 health risk behaviours (page 3: last paragraph; page 4 first paragraph): “To date, few studies have been able to consider the co-occurrence and association of different health risk behaviours in adolescents....” “The results concerning the co-occurrence of different health risk behaviours might help to inform future interventions, such as coordinated school health programs.”

More information on physical activity was included in paragraph 1 of page 3: “A low level of physical activity during adolescence and young adulthood is associated with a higher risk of cardio-vascular disease [3]”. ...”Furthermore, a low level of vigorous physical activity is associated with overweight [4]. “

Minor Revisions

1. and 2.
The term hazardous drinking was defined on page 4 (2nd paragraph) and the age of the sample was added: “The aim of this study was to investigate hazardous drinking (also called “alcohol misuse”, which includes the spectrum from drinking above recommended limits to
severe alcohol dependence [15]), tobacco smoking and physical inactivity, as well as their associations and demographic predictors in a sample of vocational students mainly aged 16 to 20 years.”

Methods

Major Revisions

1. The term migration background was replaced by “immigrant background”. The definition of the term immigrant of the Swiss Federal Office of Statistics also includes children of immigrants who were born in Switzerland: 
http://www.bfs.admin.ch/bfs/portal/de/index/themen/01/07/blank/key/04.html.

2. Page 6, first paragraph: “As only whole numbers without decimal places could be entered by the participants and education in vocational schools typically includes physical education for at least 45 minutes per week, we used a cut-off point of less than two hours of extracurricular VPA per week.”

Minor Revisions

1. Thanks (page 5, 2nd paragraph).

Discretionary Revisions

1. Thanks. Germany was deleted (page 4, sample recruitment, 1st paragraph).

2. Thanks. Page, 5, 2nd paragraph of the instruments section was corrected.
**Results**

*Major Revisions*

1. There was no difference in prevalence between age groups for hazardous drinking (see Supplementary Table 3).

2. There was no gender difference in prevalence for tobacco smoking (see Supplementary Table 4).

**Discussion**

*Major Revisions*

1. In the revised version, all three main findings summarized are accounted for in the results section (pages 7-9).

2. Limitations were outlined and revised (page 11 last paragraph, page 12 first paragraph):
   “One limitation of this study is that the data were not collected from a representative survey of all vocational school students in Switzerland. Therefore, the results could not be generalized for all Swiss vocational school students. However, the distributions concerning age groups and gender are quite similar to the national statistics of vocational school students in Switzerland. Another limitation of the study is that the survey did not include students from all possible vocational fields. Additionally, the number of students in certain vocational fields was quite small and did not allow us to detect small to medium effects.”

3. The sentence that the prevalence of single risk factors should be interpreted with caution was deleted.
Minor Revisions

On page 12 last paragraph and page 13 first paragraph we outlined why effective interventions among vocational school students might differ from those applied for university students or persons of this age group with higher educational level.

Reviewer 3

Introduction

The statement on increasing prevalence of hazardous drinking, tobacco smoking and physical inactivity between the ages of 12 to 17 years was replaced by a paragraph showing the associations of the investigated risk factors in adolescence and health in adulthood (page 3, paragraph 1).

Sample

Within the study limitations (pages 11/12), we addressed that the results are not based on a representative sample: “One limitation of this study is that the data were not collected from a representative survey of all vocational school students in Switzerland. Therefore, the results could not be generalized for Swiss vocational school students. However, the distributions concerning age groups and gender are quite similar to the national statistics of vocational school students in Switzerland.”

Thanks. The statement that 99.5% of students that agreed to participate in the survey represent the completion ratio and not the response rate was corrected throughout the manuscript. See also abstract: “Out of 57 contacted vocational schools in Switzerland, a total of 24 schools participated in a survey assessing gender, age, immigrant background, educational attainment and vocational field as well as the above-mentioned health risk factors. Out of the 2659 students present in 177 included vocational school classes, 2647 (99.5%) completed the survey.”
Alcohol consumption was assessed by the AUDIT-C, an instrument that was validated for adults and adolescents in several studies. The instrument assesses drinking quantity, drinking frequency and binge drinking and considers drinking behaviour of the previous year:

1. How often did you have a drink containing alcohol in the past year?
2. How many drinks did you have on a typical day when you were drinking in the past year?
3. How often did you have 6 or more drinks on one occasion in the past year?

We added that drinking behavior of the previous year was considered within the instruments section on page 5.

Discussion

Page 10, first paragraph: We modified the sentence discussing the higher proportions of hazardous drinking and smoking in vocational school students:

“Considering only vocational school students aged 16 years, we found slightly higher proportions of daily smokers in this sample of vocational school students than in the sample of 16-year-old pupils at secondary schools from the ESPAD-survey [21] (22.4% vs. 19.7%) and much higher proportions of hazardous drinking (57.4% vs. 25.6%). These results indicate that type of school (secondary school vs. vocational school) and formal education, with vocational schools having a higher proportion of students with no or low educational attainment, may contribute to an increased prevalence of health risk factors in vocational school students.”
Editorial request

Consent procedure
Page 4 last paragraph, page 5 first paragraph.
We added that the data collected and used for this manuscript were collected within an anonymous online health survey and that participation was on a voluntary basis: “All students of the participating vocational school classes were invited by externally trained staff to participate in an anonymous online health survey during a regular school lesson reserved for health education. Participation was on a voluntary basis.”

The data for this survey were collected within the screening procedure for the study “Efficacy of a text messaging (SMS)-based smoking cessation intervention for adolescents and young adults” (ISRCTN19739792), which was approved by the Local Ethics Committee of the Canton of Zurich, Switzerland and the Cantonal Office for Secondary Education in Zurich. Informed consent for study participation was not retrieved until the screening was finished and students were invited to participate in the study testing the efficacy of an SMS-based smoking cessation intervention.