Author's response to reviews

Title: Personal characteristics related to the risk of adolescent internet addiction: a survey in Shanghai, China

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Dear editors,

Ms. No.: 1202730682715095. Title: Personal characteristics related to the risk of adolescent Internet addiction: A survey in Shanghai, China.

Thank you very much for your email of the 13th November 2012 and the attached referees’ comments on our paper. Please find enclosed a copy of our revised manuscript with the following changes, according to referees’ comments and suggestions.

Thank you very much for giving us the opportunity to resubmit our work.

Yours sincerely,

Reviewer's report

Again, overall this manuscript addresses an important emerging issue. The responses to the comments have and justifications have mostly been included in the response letter, although some of the comments have not been reflected in the manuscript text. More specifically:

1. **Introduction**: The introduction section has been significantly improved. The authors have addressed and incorporated my comments in both the response letter and manuscript.

2. **Methodology**: Thank you for addressing the comments in the response letter. However, it would be very helpful to readers if the authors incorporated a brief explanation for each of these comments in the actual manuscript text. These changes may already have been included in the text, but I may have not seen the revisions since no location in the manuscript was indicated in the response letter.

**Response:** Thank you very much for your good suggestions. We have responded each of your original comments below (underlined). The location of our revision in the manuscript were provided in each answer and marked in red.

(1) Data were collected from 5,122 adolescents through self-report questionnaire on Internet use, psychological characteristics, and demographic variables. Multiple regression and logistic regression were use to develop predictor models. A few questions:
The age range was 11.3-20.4. 20 years old seems to be quite rare for a high school student. Wonder how many of them or percentage are at this age? Is “20 years old” related to their academic failure (for example, they stayed another year for the same grade) because of AIA? Further analysis or explanation is needed.

Response: In our study, two students (0.04%) were 20-21 years old. They were both from the same vocational senior high school and were the third-year students. One student reported her academic learning as “general level”, and the other student reported his academic learning as “relatively bad”. In Shanghai, the fresh student recruitment of vocational senior high schools is different from ordinary and key senior high schools. In ordinary and key senior high schools, only new junior-high-school graduates were recruited. However, in vocational senior high schools, fresh students were recruited in three ways: (1) Shanghai new junior-high-school graduates; (2) the children of migrant workers; (3) other technical high school graduates. Therefore, it is possible that vocational high school students were 1 or 2 years older than ordinary or key senior high school students even within the same grade. In Shanghai high schools, repeaters are very rare, and almost all the students normally receive their diploma in time even when their academic learning levels were very poor. Therefore, in our paper, the age of “20 years old” were not necessarily associated with students’ academic failure.

The related revision is highlighted on page 10 (the 2nd line of the last paragraph on page 10).
In our study, the details of distribution of age groups were as follows:

11~12 years: n=7 (0.1%)

12~13 years: n=631 (12.3%)

13~14 years: n=571 (11.1%)

14~15 years: n=690 (13.5%)

15~16 years: n=900 (17.6%)

16~17 years: n=1381 (27.0%)

17~18 years: n=811 (15.8%)

18~19 years: n=120 (2.3%)

19~20 years: n=9 (0.2%)

20 years: n=2 (0.04%)

(2). The authors need to justify the reliability of self-reported academic achievement which is an important variable. The authors also need to indicate in the manuscript that data on academic achievement was self-reported (although it can be seen in in the appendix).
Response: In this study, we used anonymous self-reported questionnaires in order that respondents could report their internet use and their symptoms of internet addiction as honestly as possible. However, on the other hand, it became difficult to confirm the reliability of adolescents’ self-reports. We’ve acknowledged the limitation of self-reported academic achievement on reliability because no teachers’ or parents’ reports confirmed it.

The related revision was highlighted on page 8 (In “Data collection and measures of AIA” of Method Section) and page 18 (Limitation Section).

We were also concerned about this issue. Before we started this survey, we actually performed a pilot study to evaluate the reliability of self-reported academic achievement. In the pilot study, we investigated two classes (one class included 45 2nd grade junior high school students and the other included 45 2nd grade senior high school students). At that time, we used same anonymous self-reported questionnaires, and asked their teachers to collect their questionnaires one by one after they finished. Their teachers reviewed the students’ answers, and we found a high coincidence between adolescents’ self-reports and their teachers’ reports on adolescents’ academic learning levels (almost 100%).

(3). The questionnaires cover many social demographic variables, please justify why only those indicated in the tables were selected.
Response: A total of 30 variables were included in our questionnaire. We only listed 12 variables in the tables because this paper mainly discussed the impacts of adolescent personal characteristics including gender, age/grade, school type, adolescent monthly money spending levels, academic achievement levels and adolescent online behaviors (main purposes and places of going online and total online time) on the development of adolescent internet addiction. Further analyses to detail risk factors in the adolescent’s family environment that are as yet uncharted will be done later.

The related revision was highlighted on page 19 (the last sentence of Conclusion Section).

3. **Results and Discussion:** Some of the comments were fully addressed and incorporated in the text, but some of the comments were again only addressed in the response letter (not included in the text). I would recommend that the authors incorporate these comments in the manuscript for readers.

Response: Also thanks a lot for your good suggestions. We have responded each of your original comments below (underlined). The location of our revision in the manuscript were provided in each answer and marked in red.

(4). The authors state that the prevalence from the current study (8.8%) is “relatively high”, but this does not seem to be the case in comparison to the data they provide.
Other studies in China report prevalence rates of 8.1%, 12.2%, and 2.4%. Hong Kong rates are reported at 6.7%, while in Italy and Greece, the authors report rates of 1.5-10%; 5.4%; and 1.5%. Based on this, it seems more accurate to describe the current findings of 8.8% as expected, given the ranges from other studies in China. It may be that Internet addiction is more prevalent in China than in other countries, but the results from this study do not seem inconsistent with other Chinese studies of AIA.

Please explain.

Response: Maybe it is more appropriate to state that the prevalence level of adolescent Internet addiction in Shanghai is 8.8%, that makes us aware that adolescent internet addiction in Shanghai can not be ignored, and specific attention needs to be paid to prevention and treatment for adolescent internet addiction in Shanghai.

The related revision was highlighted on Page 14 (Discussion Section, the 2nd paragraph on page 14).

(5). The authors’ suggestion that the link between AIA and greater economic spending may be due to peer influence also seems weak. Furthermore, while factors such as time spent online, academic achievement, and self-esteem have obvious value and importance, it is unclear why the amount of monthly spending was studied as a risk factor. In fact, the authors note that few studies of AIA have studied this as a risk factor, and it may be because its value and importance in understanding outcomes is overall weak. This paper would be strengthened by a heavier focus on factors related to risk identification and the development of prevention strategies (e.g., academic
achievement; personality characteristics; family/home life characteristics; number of hours spent online and types of activities conducted online [chatting vs. gaming vs. education]). This discussion could then dovetail into further discussion of prevention strategies and how schools and families can work together to reduce risk and decrease excessive Internet use.

Response: Although the amount of adolescent monthly spending was not studied as a risk factor in previous studies, we found adolescent high monthly spending was closely associated with adolescent internet addiction after controlling adolescent grade, gender, school types, district, family social economic status, other online behaviors and academic achievement levels. We suggest, therefore, that adolescent high monthly spending levels might be a clue to AIA risk. Prospective studies on the relationship between adolescent monthly spending and AIA needs to be performed later to confirm our results.

The related revision was highlighted on page 17 (Discussion Section, the 1st paragraph on page 17).

(6). It seems important that the authors better acknowledge the fact that Internet addiction is a somewhat controversial condition, given that it is not considered a diagnosable psychiatric disorder as per the current edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The limitation of self–reported academic achievement on reliability should be acknowledged.
Response: Until now, there is currently no standardized definition or diagnosis criteria for internet addiction. Internet addiction is a proposed but unproven disorder, and the upcoming inclusion of Internet addiction in the DSM-V as a disorder in need of further study compels further investigation.

In our study, self-reported and anonymous questionnaires were completed by 5122 students. We used anonymous questionnaires in order that respondents could report their internet use and their symptoms of internet addiction as honestly as possible (we even asked teachers to leave the classrooms where internet use information was being collected). However, the anonymous questionnaires made it impossible for teachers to confirm the reliability of students’ self-reported academic achievement. Before we started the survey, we did a pilot study to evaluate the reliability of self-reported academic achievements (Question 3 has the detailed information). We also weighed the advantages and disadvantages of using anonymous questionnaires before this study. The advantages and disadvantages of anonymous questionnaires were respectively more honest answers and self-reported data (teachers cannot confirm students’ answers because of anonymity), however, we finally thought anonymous questionnaires were necessary because honest answers were the most important thing when we collected internet use data.

Finally, we’d like to acknowledge the limitation of self-reported academic achievement on reliability because no teachers’ or parents’ reports confirmed it.

The related revision was highlighted on page 18 (Limitation Section).
Finally, it is suggested that the manuscript undergo thorough editing for grammatical and typographical errors, as they are present throughout the paper and are somewhat distracting.

Response: Thank you for your suggestion. I have revised the paper as you suggested.

4. Overall: For future revisions, it would be helpful if the authors noted the location (e.g.: section, page and line number) of their revisions because it is difficult to locate their responses to the reviewer comments in their manuscript at present.

Response: We’ve done it as suggested throughout this manuscript. Thank you very much for suggestions.