Reviewer's report

Title: Substance use, risky sexual behaviors, and their associations in a Chinese sample of senior high school students

Version: 3 Date: 16 December 2012

Reviewer: Andrew Springer

Reviewer's report:

Re-review of “Substance use, risky sexual behaviors, and their associations”
This study aimed to “assess the prevalence of sexual and substance use behaviors among a Chinese sample of senior high school students. And more specifically, the associations of socio-demographic factors and substance use with risky sexual behaviors were examined in the sample.” The authors have generally addressed well my previous critiques/concerns, and the manuscript in its current form is much enhanced. My remaining concerns are relatively minor, but merit attention nonetheless:

1.) Internal consistency: The authors provided a response to my original concern about running a Cronbach alpha for the overall questionnaire. I agree with the authors’ rationale of the purpose of assessing internal consistency: (their response) “It measures whether several items that propose to measure the same general construct produce similar scores.” The authors go on to state: “In the AHRBQ, all items were used to evaluate risk behaviors concerning HIV/STI. Therefore, an overall Cronbach alpha was run.” This section is still of concern to this reviewer. As internal consistency is intended to measure the correlation of items that aim to measure an underlying construct, it is not clear why authors ran an overall Cronbach alpha for all items (as this reviewer interprets this section): p.8: “The internal consistency of [the] overall questionnaire (in addition to demographic items) and the three dimensions was good (Cronbach’s alpha coefficient was 0.86 for the overall questionnaire…).” Can the authors clarify in the methods section: a.) what the underlying construct for which they are intending to measure internal consistency? It appears, based on the response of reviewers, that the construct of interest they are measuring using Cronbach alpha is: “HIV risk behavior”- which would be comprised of both substance use items and sexual risk behavior items. If this is the case, this needs to be clarified in the methods section. b.) Can the authors clarify that the Cronbach alpha coefficient for the overall questionnaire corresponds only to the items of the three dimensions described in the second to last paragraph on p8, and does not include demographic items? From the current description, it appears that demographic factors were included in the overall questionnaire Cronbach alpha, which does not make sense as a demographic characteristic is not commonly incorporated in a scale aimed at measuring an underlying construct such as risk behavior engagement.

2.) Study objective: The study objectives presented in the abstract differs from
the study objectives presented on p.5 in the text. In the abstract, the objective states that the study aims to assess the prevalence of sexual and substance use behaviors, which is absent from the study objective presented on pp2&3. From this reviewer’s perspective, the abstract study objective is presented in a more clear and concise manner (on p.5, if the authors choose to keep that objective, further detail is needed on: “characteristics of risk y sexual behaviors and substance use.” Do the authors intended to state: “To describe the prevalence of sexual risk behavior and substance use engagement by socio-demographic factors among a sample of Chinese high school students.”?)

3.) Additional edits. This reviewer appreciates the efforts of the authors to enhance the flow and readability of the manuscript, and the manuscript in its current form is much improved. I recognize the challenge of translation, and thus greatly value the authors’ efforts to share their research with the English-speaking community. This said, there a few additional edits I recommend:

a. P.2, Background: “…and youths were [are] at risk…”
b. P.6: “…explored the risk factors of ongoing unprotect[ed] sexual intercourse…”
c. P.7: “Those students who chose not to participate in the study [can do other things.].” I suggest replacing with: “were allowed to engage in other self-directed work, such as reading and writing.” Authors may also consider cutting: “But they have to keep quiet” as this would be implied.
d. P.13, 1st paragraph: First sentence is not a complete thought/sentence. Perhaps try: “To the best of our knowledge, this study was the first to examine HIV/STI risk behaviors according to three dimensions- sexual behaviors in lifetime, sexual behaviors in last three months, and substance use behaviors in the last three months- in a large sample of urban Chinese high school students.”
e. P.13, 2nd paragraph: “…intercourse was ranged from…”
f. P.13, last paragraph: “Unprotected sexual intercourse was higher prevalent…” I suggest: “Among sexually experienced adolescents, a higher prevalence of unprotected sexual intercourse (42.4%) was found in this sample of urban Chinese students compared their peers of developed countries.”
g. P.14, first paragraph: “where it was shown that substance use, such as… [I recommend: “where it was shown that substance use, and specifically often/usually cigarette smoking and illicit drug use…”
h. P.14, first paragraph: “There were increasing evidences that illicit drug use…” Suggest: “There is increasing evidence that illicit drug use may…”
i. P.14, second to last paragraph: “…decision-making and result[ed]…”; “…tend[ed]…”
j. P.17: “…were higher prevalent…” I suggest: “…were more prevalent among those who are sexually experienced.” Also, “…could add the odds…” should be: “…could increase the odds…”

**Level of interest:** An article whose findings are important to those with closely
related research interests

**Quality of written English:** Needs some language corrections before being published

**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