Reviewer's report

Title: Asian-White Differences in Short Sleep Duration by Industry of Employment and Occupation in the US: A Cross-sectional Study

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Reviewer: Sara E Luckhaupt

Reviewer's report:

General Comments

This is an interesting paper that describes apparent differences in relationships between industry and occupation of employment and short sleep duration for Asian-Americans compared with White Americans using data from the 2004-2011 National Health Interview Survey. The results and discussion appear appropriate, but I would like some clarification of the analysis methods to help determine whether the complex sample design of the NHIS was treated appropriately. I also have some minor suggestions for improvement.

On a personal note, I'm excited to see that you have made use of the industry and occupation variables now available through IHIS because I worked with folks from the University of Minnesota to get these variables added to their system a few years ago. #

Major Compulsory Revisions (or Clarifications)

1. Methods, Study Participants, p.5: It is stated that Non-Hispanic White and Non-Hispanic Asian adult NHIS respondents were included in the sample, and that data were extracted/compiled using the Integrated Health Interview Series. Were only Non-Hispanic White and Non-Hispanic Asian adult NHIS respondents included in the analytic dataset? I ask because it’s my understanding that in order to generate accurate variance estimates with NHIS data, that incorporate the complex sample design, users need to do domain/subpopulation analyses using the whole NHIS sample adult dataset rather than creating analytic datasets that only include the subgroups of interest (e.g., Whites, Asians). Perhaps this is what you did and you just didn’t explain it in the manuscript, but I wanted to clarify before deciding whether the methods were appropriate. Variance estimates should also account for the sample design variables “PSU” and “Strata”, which I presume you did.

2. Methods: It is unclear to me whether the analyses included all (White and Asian) adults, all adults who ever worked, or just currently employed adults. On p.5, it states that participants were excluded if they were “unemployed”; but, on p. 7 it says “Adults who were either working at a paying or non-paying job during the week prior to the survey, who had a job or business but were not at work during the prior week, or who ever worked were asked about their occupation…”, which implies that former workers were included in the study. Also, if “unemployed” respondents were excluded, what about respondents whose
employment status was “not in the labor force” (see p. 8)? I would suggest that analyses should focus on those who are currently employed since the study is looking at cross-sectional associations between sleep and work.

3. Results, Table 1: I would like to see a measure of the precision for the prevalence estimates in Table 1 (either standard error or 95% confidence intervals). Also, on p. 11 only the difference between the overall prevalence among Whites and Asians is noted as statistically significant. Are the other differences mentioned (e.g., by education) statistically significant?

Minor Essential Revisions (or Clarifications)

4. Introduction, p.3: Insufficient sleep should be defined in the first paragraph.

5. Introduction, pp.3-4: The transition/connection between race and occupation is unclear in this sentence: “However, there has been limited investigation by race although one’s occupation likely plays an important role in producing psychosocial stress and job strain that negatively impacts health through…”

6. Methods, Variable Measurements, Sleep Duration, p.6: It says that “adequate sleep was categorized as 7 hours”. Do you mean #7 hours, or were respondents who reported >7 hours of sleep excluded?

7. Methods, Variable Measurements, Race/ethnicity, p.7: Is 24% Filipino (among Asians) representative of the U.S. population? It seems high. Also, although the Asian subgroups are too small to stratify all of the analyses by Asian subgroup, I think it would be informative to show whether the overall prevalence of short sleep duration varied by Asian subgroup (in Table 1).

8. Methods, Variable Measurements, Covariates, p.8: Please provide a reference for the different BMI cut-offs used for Asians.

9. Results, Asian-White Differences…, p. 12: In the 3rd sentence of the first paragraph, the words “the” and “in” are transposed.

10. Discussion, p.14: I think a citation is missing from the first (partial) sentence. Ref 18?

11. Discussion, p.15: In the first full sentence there is an extra “have”.

12. Discussion, P.17: The statement “For instance, Japanese Americans have the highest SES…” needs a reference.

Discretionary Revisions

13. Abstract, Background: I suggest changing “morbidity/mortality” to “morbidity and mortality”.

14. Methods, Variable Measurements, Industry of Employment, p.7: I’m not sure I would call these “meaningful” industry categories. I don’t think I’ve seen industries grouped quite this way before.

15. Results, Table 1 and Table 3: Since it is not obvious how the occupation categories used were formed, it would be helpful to provide a footnote indicating which NHIS occupation recode values were included in each category.

16. Results, Trends… section on p.13 and Figure 1: Since none of the trends
were statistically significant, I’m not sure these results are worth including in the

text and figure. Estimates are imprecise due to small subsamples of Asians in
each industry category in each year.

17. Discussion, pp. 14-15: There is a suggestion that the prevalence of long work

hours and shift work vary between Asian and White workers. A variable for work

hours is available in the NHIS for 2004-2011, and a variable for shift work was

included in 2010, so actual differences per NHIS could be reported. In fact, the

prevalence of long work hours and alternative shifts among

“Non-HispanicAsian/Native Hawaiian or Other Pacific Islander” workers in 2010

has been published (See Table 2):

Alterman T, Luckhaupt SE, Dahlhamer JM, Ward BW, Calvert GM. Prevalence

rates of work organization characteristics among workers in the U.S: Data from


18. Discussion, Limitations, p.16: I believe that number of children in the

household is available from the NHIS (in the person, family, or household file), so

you could adjust for this if you so desire.

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

**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.