

ASHES, Vol. 7(1) - Non-smokers, heavy smokers, and everything in between: Do adolescent boys and girls perceive smoking behaviors differently?

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Research suggests that the desirability of certain “smoker” images increases smoking intentions among youth (Burton, Sussman, Hansen, Johnson & Flay, 1989). Consequently, the relationship between adolescents’ smoking identities and their actual smoking behaviors deserves further empirical attention. This week, ASHES reviews an article exploring gender differences among adolescents’ self-cognitions regarding their tobacco use, endorsed smoking identities (e.g., non-smoker, regular smoker, heavy smoker, and other sub-types), and their mental and physical tobacco dependence (Okoli, Torchalla, Ratner, & Johnson, 2011).

Method

- Researchers recruited adolescents (n = 7,185, Median age = 15 years, 51.6 % female, grades 7 to 12) from 86 eligible schools that are part of 14 school districts, all of which consented to the study, in British Columbia (B.C.), Canada. Of these, forty-nine schools agreed to participate, and the researchers then provided these schools’ students with information about the study to give to their guardians. They obtained passive parental consent from 8,225 students. Researchers excluded approximately 12 % of students who left questions blank, gave incongruent responses, or indicated that they only smoked other non-cigarette products (e.g. cigars or marijuana).
- Participants completed the following self-report measures:
 - **Average number of cigarettes per day (CPD)** - Participants reported the number of cigarettes they smoked in the 7 days preceding the survey.

- **Current tobacco use-** Participants reported past 30 day smoking.
- Participants who indicated that they had smoked within the past 30 days responded to the following **tobacco dependence measures**:
 - *Perceived mental and physical dependence-* Participants used a 10-point scale (1= “not at all addicted” and 10= “very addicted) to answer the following questions: (1) “How physically addicted to tobacco do you feel right now?” (2) “How mentally addicted to tobacco do you feel right now?”
 - *The modified Fagerstrom Tolerance Questionnaire for adolescents (M-FTQ)-* modifications explained in Richardson, Johnson, Ratner, Zumbo, Buttorff, & Shoveller (2007).
 - *Dimensions of Tobacco Dependence Scale (DTDS)-* assesses four dimensions of tobacco dependence: *social, emotional, nicotine dependence, and sensory.*
- **Smoking identities-** Participants read a list of nine descriptive smoking identities (*non-smoker, occasional smoker, irregular smoker, regular smoker, heavy smoker, social smoker, ex-smoker, pot smokerⁱ, and others, specify- 1*) and answered “How do you define yourself?” by checking all identities that applied.

Results

- Chi-square tests of gender differences by smoking identity group indicated that there were no statistically significant differences between girls and boys regarding smoking identities (e.g., irregular, ex-, and social smoker) ($X^2(11, N=268) = 18.2, p=.077$).
- Using Mann-Whitney U tests and the Bonferroni correction for multiple comparisons, researchers examined potential tobacco dependence differences (i.e., M-FTQ, DTDS, and physical and mental addiction, etc.) within single-selected smoking identity groups by gender. There were significant differences between the boys and girls in tobacco dependence measures among two of the seven smoking identity categories (see Table 1):

- Girls who identified themselves as “regular smokers” scored significantly higher on the emotional dependence scale of the DTDS, and lower scores on the social dependence dimension than boys who self-identified as “regular smokers”.
- Girls who self-reported “heavy smoker” identities had significantly lower M-FTQ and CPD scores than boys who chose this identity.

| Smoker Identity | DTDS | | | | | | Modified FTQ | | CPD | |
|---|---|--|--------------------------------------|--|--------------------------------------|--|--------------|----------------|---------------|-----------------|
| | Social | | Emotional | | Sensation | | | | | |
| | <u>Girls</u> Med ^a (R) | <u>Boys</u> Med ^a (R) | <u>Girls</u> Med ^a (R) | <u>Boys</u> Med ^a (R) | <u>Girls</u> Med ^a (R) | <u>Boys</u> Med ^a (R) | | | | |
| Regular (n= 307-316) ^b | 11.0 (19.0) | 12.0 (18.0) | 15.0 (16.0) | 13.0 (16.0)** | 13.0 (16.0) | 13.5 (16.0) | 3.3 (6.4) | 3.3 (7.2) | 4.4 (31.0) | 5.1 (32.9) |
| Heavy (n=101-105) ^b | 12.0 (17.0) | 11 (19.0) | 13.5 (16.0) | 15.0 (16.0) | 13.0 (15.0) | 14.0 (16.0) | 2.7 (5.9) | 3.8 (6.7)** | 1.4 (30.3) | 8.4 (49.3)** |

Figure. Differences in tobacco dependence measures by single-selected smoking status and sex among current smokers (adapted from Okoli et al., 2011). Click image to enlarge.

^a Median and ranges (in brackets) of nicotine dependence measures scores. The range is the highest value below the range subtracted from the largest value in the range.

^b Indicates the minimum and maximum sample responding to the DTDS, Modified FTQ and CPD within each smoking identity category.

** Indicates significance at $p \leq 0.007$.

Limitations

- The study was cross-sectional and did not control for individual and environmental factors such as tobacco-related media exposure, ethnicity, and concurrent use of other substances. These variables might confound the causal relationships among gender, tobacco use, smoking identity, and tobacco dependence.
- The study relied exclusively on adolescents’ self-reports of their smoking behavior. Future research might benefit from incorporating a more objective index of tobacco use.

Discussion

The finding that there were no significant gender differences in tobacco dependence among the majority of the smoking identity sub-types suggests that boys and girls endorse smoking identities in similar ways. However, as smoking habits become more regular (i.e., among “regular smokers” and “heavy smokers”, specifically) gender differences begin to emerge, which indicate that, although girls and boys might use similar categories to describe their smoking behaviors, the ways in which they think about these behaviors might differ. More specifically, “emotional” aspects of smoking seem to be more salient than actual number of cigarettes smoked among girls’ self-identifications as “regular” and “heavy” smokers in comparison to boys, who place more emphasis on the “social” aspects of smoking. This finding has implications for targeted smoking prevention and interventions among adolescents, because different approaches might be efficacious for boys and girls of various smoking identity sub-types.

-Brittany Bannon

References

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[\[i\]](#) Researchers excluded these options from analyses since these were not tobacco-related self-identities