

Introduction

Extensive research has been conducted on the adverse health effects of second-hand smoke (SHS). While both researchers and the public are aware of the health impacts of SHS, less is known about how tolerance is developed based on subjective experiences with SHS. Our research aims to address this gap by accomplishing the following objectives (a) document SHS exposure frequency across multiple environmental contexts (campus, social gatherings, residential settings) (b) evaluate tolerance levels for various smoke types (cigarette smoke, vaping aerosols, cannabis smoke) (c) explore the influence of early-life SHS exposure experiences on current adult tolerance.

Methods

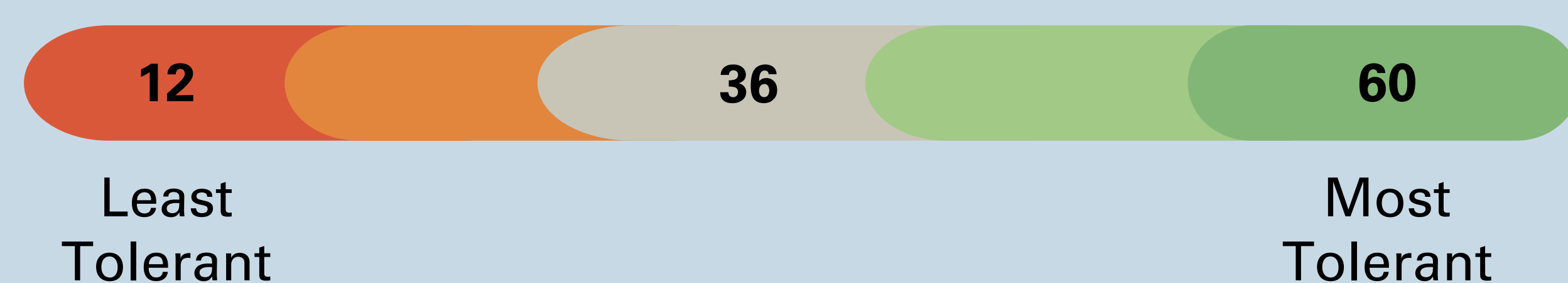
Participants & Recruitment: Our sample consisted of current undergraduate and graduate students 18 and older from CSU Stanislaus (N=180). Recruitment was done through email invitations, campus announcements, and social media outreach.

Survey Instrument Development: A comprehensive online survey was developed, consisting of:

1. Demographic variables
2. SHS exposure frequency
3. Childhood exposure history
4. SHS tolerance

Figure 1
Tolerance for Second-Hand Smoke (TSS) Scale

Tolerance for Second-Hand Smoke (TSS) Scale



1. I feel uncomfortable when I am exposed to SHS in public spaces.
2. I prefer to avoid environments where SHS exposure is likely.
3. It frustrates me when I cannot avoid exposure to SHS.
4. If someone smokes/vapes near me, I would ask them to stop.
5. I find it challenging to ask someone not to smoke/vape around me, even if it bothers me.
6. SHS does not bother me unless it is in an enclosed space.
7. I would leave an area if people were smoking/vaping nearby.
8. I feel confident in asking others to refrain from smoking/vaping around me.
9. I am hesitant to ask someone not to smoke/vape if it is a social or professional setting.
10. I find SHS tolerable if the smoker is far enough away.
11. I do not mind SHS as long as it is outside.
12. I believe smoking/vaping should be banned in public places.

Note. Scale reliability was confirmed through Cronbach's α (0.71) and split-half reliability (Spearman-Brown corrected = 0.82).

Results

Figure 2
SHS Exposure Frequency by Setting

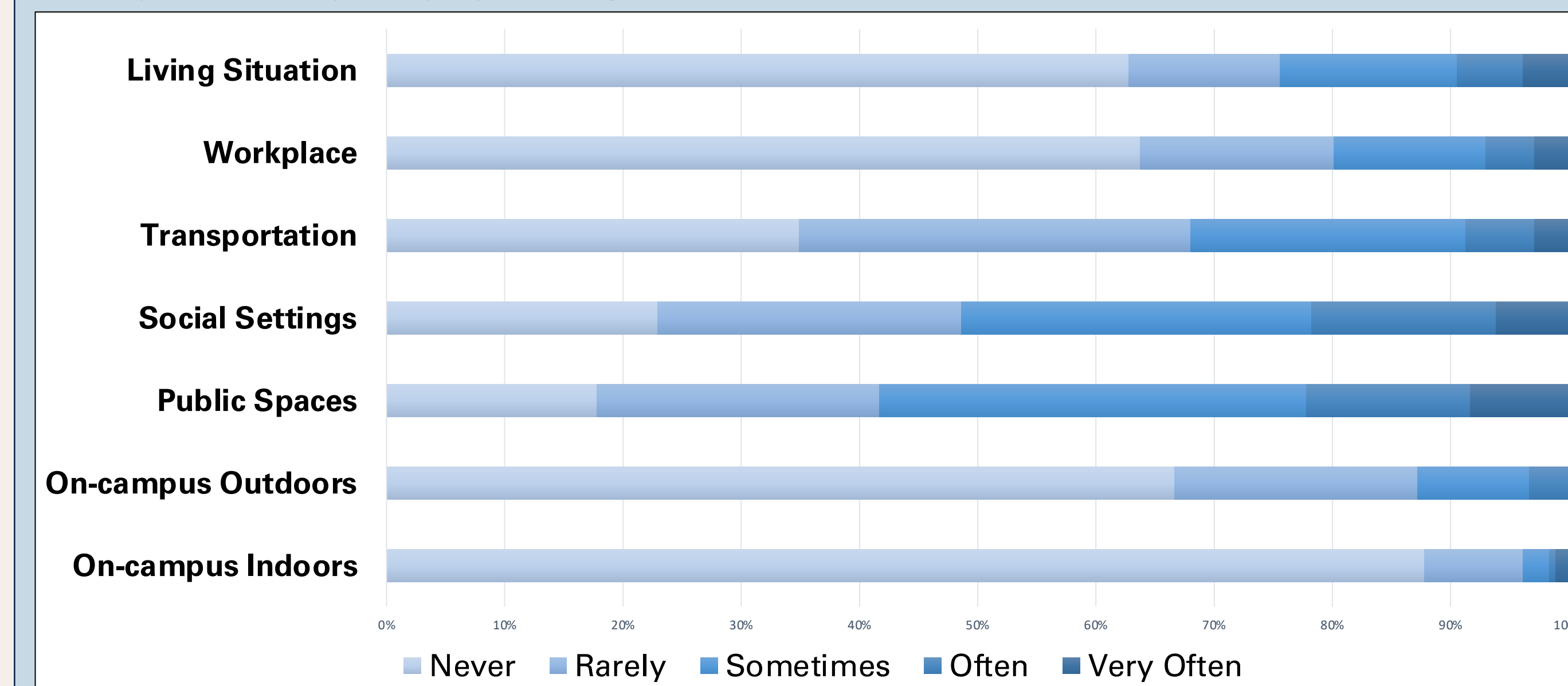
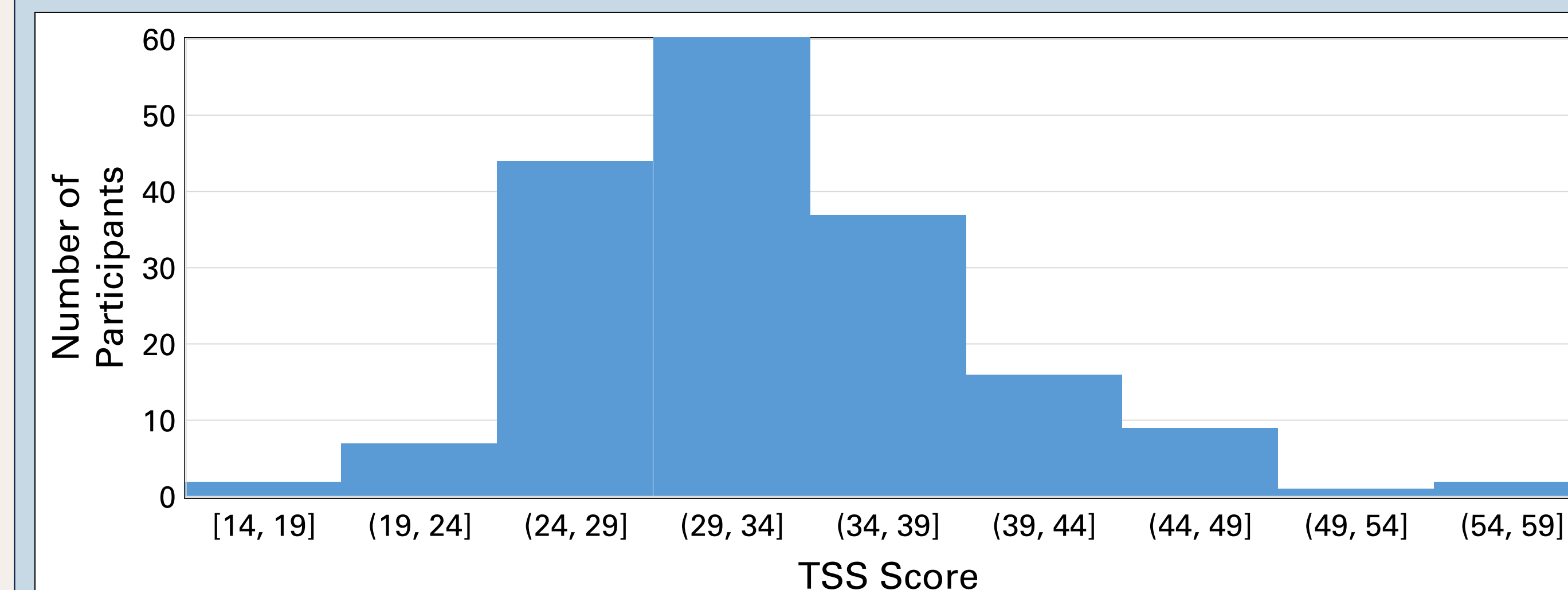


Table 1
Most Frequent SHS Exposure Source by Setting

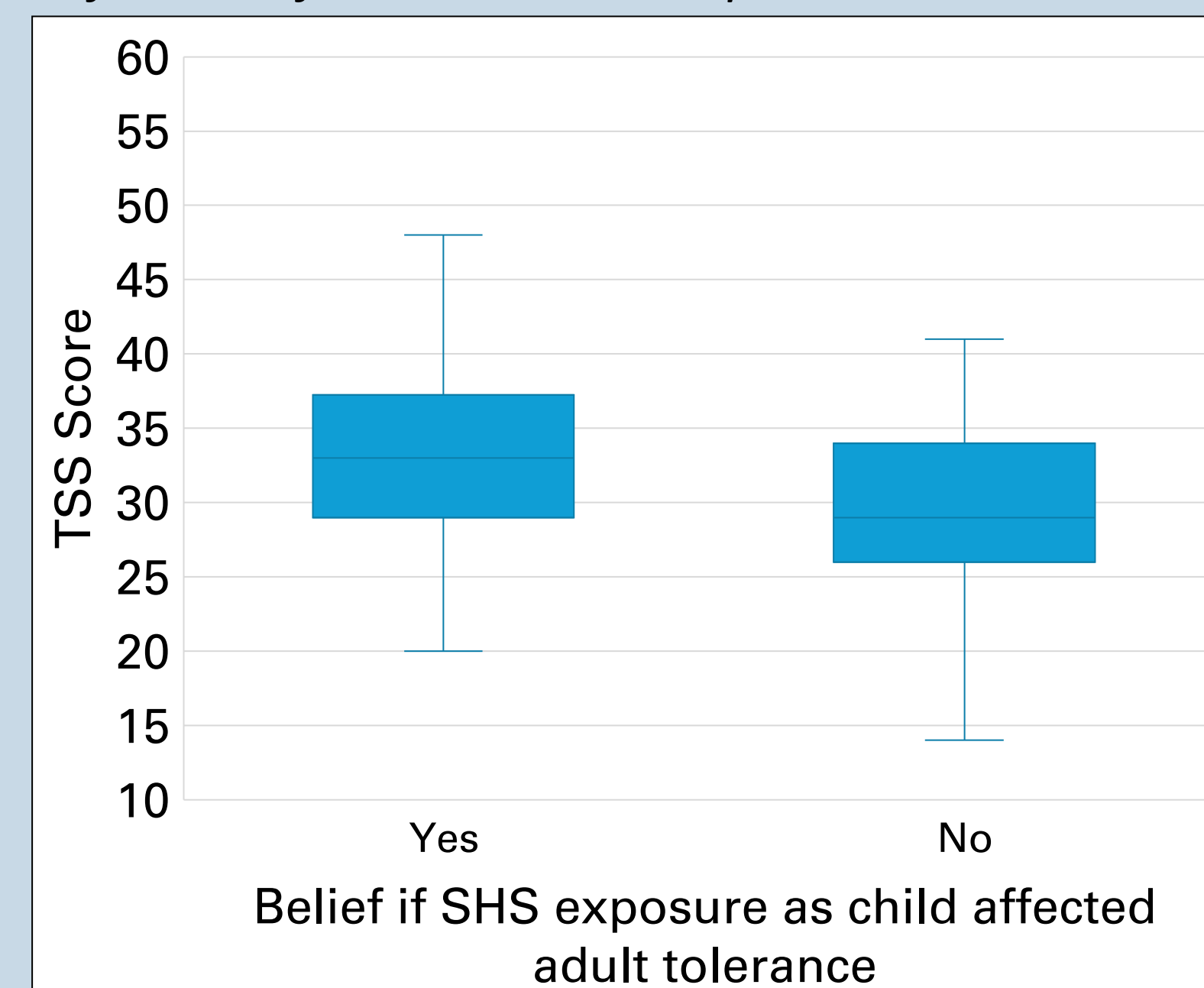
Column1	On Campus	Off Campus	Living Situation
None	79%	59%	58%
Cigarettes	1%	4%	10%
E-cigarettes or vapes	16%	29%	13%
Cigar or pipes	1%	1%	1%
Hookah	0%	0%	1%
Cannabis	3%	7%	18%

Figure 3
TSS Scale Scores



(\bar{x} =32.51, SD=6.36)

Figure 4
Relationship Between TSS Score and Perceived Influence of Childhood SHS Exposure



(β =2.62, p <.001)

Influence of Childhood SHS Exposure:

An inverse relationship was observed between perceived increases in SHS exposure from childhood to adulthood and current tolerance (β =-1.09, p =0.042)

Discussion/Conclusion

Findings

- Adult tolerance of SHS is complex and shaped by environmental exposure and individual developmental history.
- Frequent exposure in off-campus spaces was linked to increase tolerance
- Intense SHS in residential settings was negatively associated with tolerance
- Perception of childhood exposure and internalized meaning of experiences is a strong determinant of SHS tolerance

TSS Scale

- The TSS Scale provides researchers with a robust psychometric tool to further evaluate SHS tolerance dynamics
- Underscores importance of subjective appraisal when moderating health-related attitudes

Policy Development

- Cultural shifts, public health initiatives and the current pre-existing institutional controls ensure SHS exposure remains low on campus
- Targeted interventions focused on off-campus public spaces and residential environments can yield substantial public health benefits
- Educational programs on campus should explore and address the role of historical and subjective dimensions of SHS exposure

Future Research

- Consider longitudinal study designs to map the developmental trajectory from childhood exposure to adult tolerance more precisely
- Incorporation of broader psychosocial variables, such as coping strategies and health beliefs can offer deeper insight into the influence of SHS exposure on adult attitudes and behaviors
- Future studies can focus on specifically on SHS tolerance to THC in response to the rise of marijuana use among young adults

References

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