STASH, Vol 6(8) – You've got mail! The effectiveness of a personalized web-based feedback system designed to reduce marijuana use among college students

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The transition from high school to college includes a period of increased risk for marijuana use (Johnson, O'Malley, Bachmann, & Schulenberg, 2008). Web-based interventions might reduce the risk. Today's STASH reviews a study of the effectiveness of a brief, personalized, web-based feedback intervention on marijuana-use measured at baseline (enrollment) and three and six months post intervention (Lee, Neighbors, Kilmer, & Larimer, 2010).

Methods

- Approximately 4000 incoming first-year students at a large public Northwest US university completed a screening survey that measured past-90 day marijuana use, consequences of use, and the family history of use.
- Among the 370 students who used marijuana in the past 90 days, 341 (about 8.5% of all students) completed the baseline survey, administered about one month before the beginning of the academic year.
- Half of these students were randomized to receive the intervention, which included personalized feedback based on participants' responses to the baseline survey. The other half of participants received no feedback.
- Participants completed follow-up surveys at 3- and 6-months post-baseline. Retention rates for each follow-up exceeded 94%.
- The baseline and follow-up questionnaires asked students about their marijuana use and negative consequences of use in the previous 90 days.

Results

- Contrary to hypotheses, the intervention was not associated with reduced

marijuana use at either follow-up assessment. Instead, marijuana use tended to increase between baseline and the 6-month assessment, irrespective of intervention.

- Results revealed an interaction between family history and treatment condition in predicting use changes from baseline to 6-month follow-up, $F(1, 336) = 6.38$, $p<0.01$, $d=0.28$. Students with a family history of drug use who received the intervention showed a decrease in marijuana use, while all other groups saw an increase.

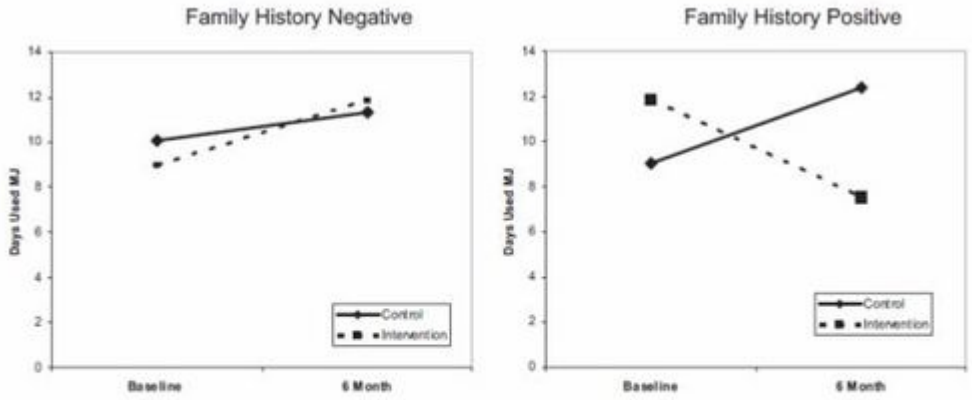

Figure 1: Amount of marijuana use at baseline and 6-month follow up, separated by family history. Those reporting positive family history of substance abuse (n = 100) showed a decrease in marijuana use with the intervention. Those with a negative family history (n = 241) showed no difference as a function of the intervention. Note the global trend of increasing marijuana use with time. Family history was considered positive if students reported one or more family members ever having a drug problem that required treatment.

Limitations:

- This study relies solely on self-report information about past marijuana use. Self report data about sensitive topics, such as illicit substance use, might not be reliable.
- The interaction of the participants and the website was not tracked. As such, we do not know if the participants read or understood the feedback. In the future, a fidelity check questionnaire or direct monitoring to assess how students viewed and interacted with the webpage may help clarify this issue.

Conclusion:

The authors present several possibilities about why the web-based feedback intervention was not effective. The authors speculate that successful in-person interviews might provide more relevant and relatable feedback compared to the online system. Furthermore, light or infrequent users may not believe they have a

problem and may not take the feedback to heart, negating the effectiveness of the intervention. Future studies could explore interventions in different media. Marijuana is often consumed within a social context; SMS messages or emails at prime socializing times (e.g., early or late evenings or weekends) might be more effective than a web page viewed once during the day. With regard to the moderating role of family history, the authors speculate that the feedback is more relevant for those with a family history of substance abuse.

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References

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