



Quit Smoking with **HIGHJACK**

Inhale Wellness, Exhale Stress

PROBLEMS ADDRESSED BY HIGHJACK



Nicotine Addiction

30.7% of college students have used tobacco or nicotine products. Among them, over the last 3 months:
24.4% used 1-2 times
7.1% used monthly
8.8% used weekly
24.2% used daily [1]

Elevated Stress

72.2% of students struggle with procrastination, leading to moderate distress in **40%** and high distress in **25%** of those that struggle. Academics (**47.6%**) and finances (**44.6%**) were identified to also be leading stressors for students [1].

Health Risks & Chronic Illness

By **Jan 7, 2020**, the CDC reported **2,558** cases of e-cigarette, or vaping, product use associated lung injury hospitalizations with a median patient age of 24, indicating prevalence of college aged nicotine users [2].

Barriers to Quitting

A **2011** study found **18- 34** year olds cited the leading barriers to smoking cessation to be lack of stress relief alternative (**64.9%** in college, **39.7%** grads) & withdrawal symptoms (**51.7%** in college, **28.4%** grads) [3].

1. Fall 2022 Reference Group Data Report. (2022). https://www.acha.org/documents/ncha/NCHA-III_FALL_2022_REFERENCE_GROUP_DATA_REPORT.pdf

2. Werner, A. K., Koumans, E. H., Chatham-Stephens, K., Salvatore, P. P., Armatas, C., Byers, P., Clark, C. R., Ghinai, I., Holzbauer, S. M., Navarette, K. A., Danielson, M. L., & Ellington, S. (2020). Hospitalizations and Deaths Associated with EVALI. *The New England Journal of Medicine*, 382, 1589–1598.

3. Villanti, A. C., Bover Manderski, M. T., Gundersen, D. A., Steinberg, M. B., & Delnevo, C. D. (2016). Reasons to quit and barriers to quitting smoking in US young adults. *Family Practice*, 33(2). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5006105/>

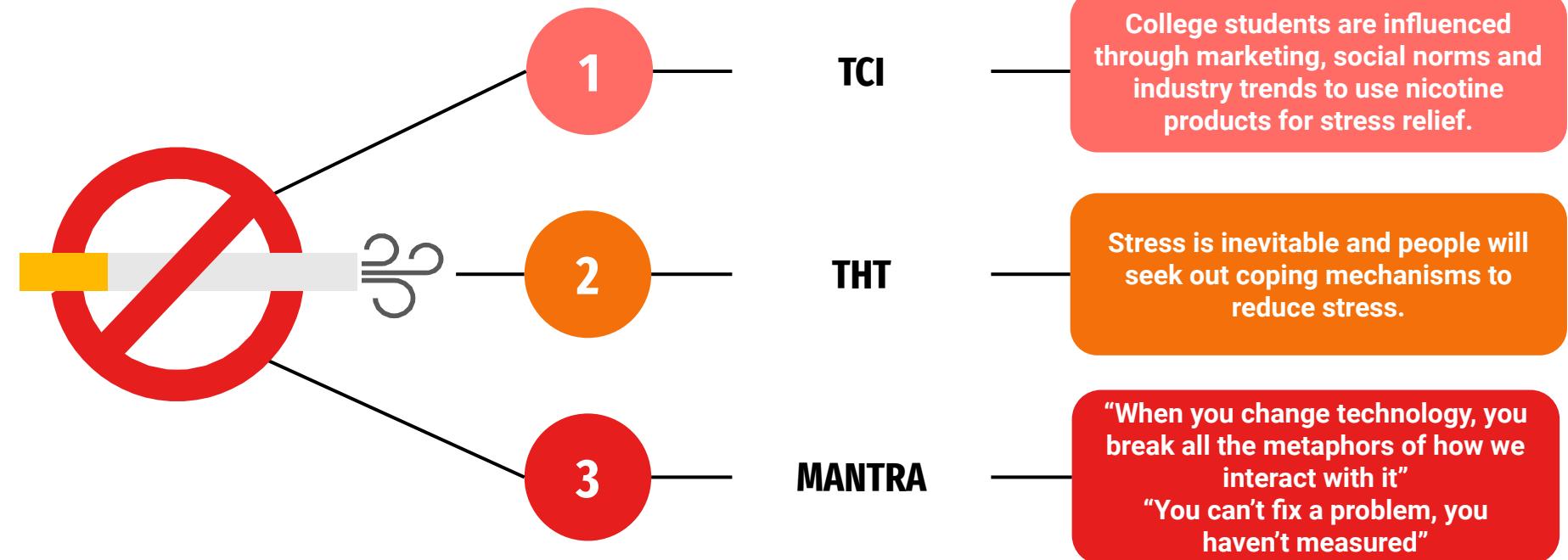
FEATURES AND COMPONENTS OF HIGHJACK

1	2	3	4	5	6
Herbal Extract Vape	Fema	Stress Relief Activities	External Support	Proactive Cues	Vape Mods and Lighters
User inhales herbal substance to improve appetite and sleep quality, while simulating "smoking" without nicotine	Voice-activated AI assistant who guides users through stress relief activities based on interactive conversations	User is prompted to complete a stress relieving activity: Movement Laughter, Socializing Mindfulness	Achievement badges, progress tracking, goal setting, and a virtual community provide users extra motivation and accountability	Algorithms leverage user's smoking patterns to predict relapse and initiate Fema and Highjack app before inhalation	Additional hardware to signal the mobile app; meant to support users who are hesitant to quit nicotine
Hardware	Software	Software	Software	Software	Hardware



MOBILE APP FEATURES

WHAT IDEOLOGY INSPIRED HIGHJACK



HIGHJACK APPLICATION SCENARIO

Fema

"Hey Mary, seems like something's got you tense. Wanna try shaving it off with some dancing?"

Use Hardware

Inhale herbal vape; inhale from vape mod; use lighter

Stress Stimuli

Mary just got into a stressful argument and wants to smoke

Stress Relief

Fema plays Mary's favorite artist and she dances for 10 minutes (movement).

Social Support

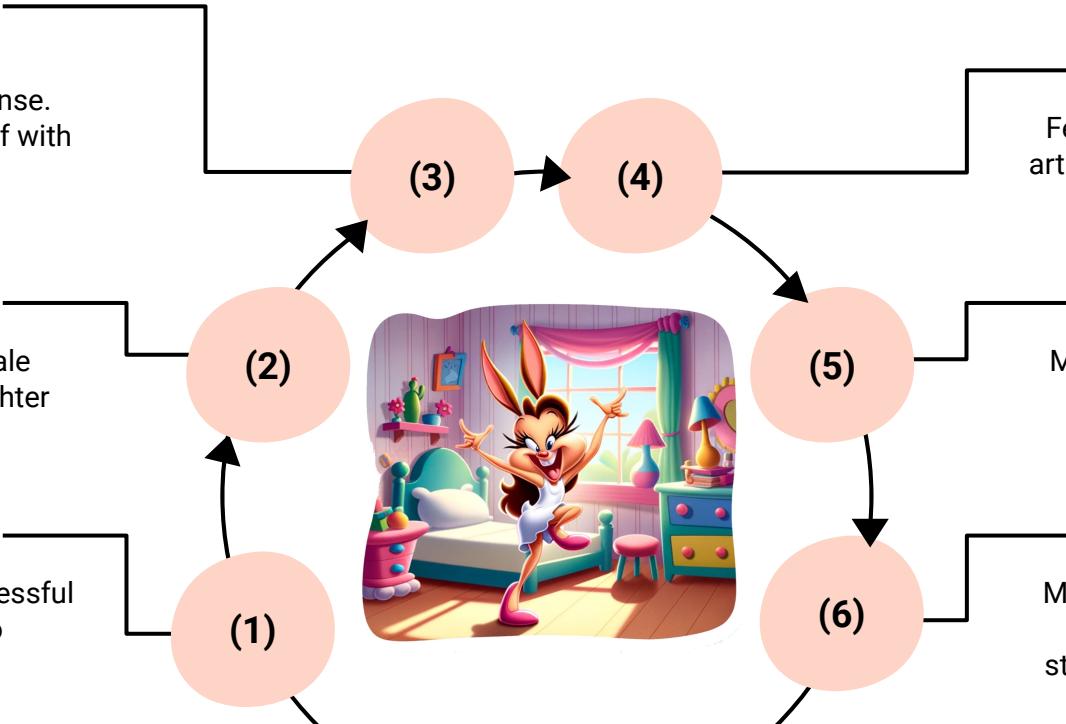
Mary earns a new badge & shares with her Highjack accountability partner.

Proactive Cues

Mary has a pattern of relief after dancing and stress stimuli when home passed 6pm. At 5:50pm, if she's home, Highjack will play another favorite song.



The "habit hijacking" is successful, and Mary experiences the endorphin boost of movement instead of a nicotine rush.



HOW HIGHJACK LEVERAGES THE HEALTH BELIEF MODEL

Perceived Susceptibility

Highjack uses **subtle messaging** (**Fema**) to relay that smoking isn't the best way to relieve stress because chronic nicotine use is harmful, without making the user feel guilty.

Perceived Barriers

Highjack addresses the most common barriers to quitting smoking: lack of relief alternatives (**Fema as a stress relief guide**) and withdrawal symptoms (**herbal extract**).

Perceived Severity

Visualizing users' smoking habits and health data to them can subtly demonstrate the frequency of their smoking habits and risk for disease.

Cue to Action

Activation of the Highjack app when Highjack hardware is used serves as cues to action, redirecting users to healthier behaviors when they are most likely to smoke

Perceived Benefits

Movement, mindfulness, socializing & laughter activities affirm for the user that other methods can relieve stress as well as nicotine products.

Self Efficacy

Highjack improves users' confidence to manage stress without nicotine through achievement badges, virtual community, rewards and progress tracking.

HIGHJACK STAKEHOLDERS



College Students

Benefit from reducing smoking for health and addiction



Healthcare Services

Want to improve student health, but have few resources



Parents/Families

Support the health and well-being of their children



Tobacco Companies

Are affected financially by consumption patterns



Friends/Peers

Influence each other's choices in social settings



Government Agencies

Implement policies for better public health & crime outcomes



University Admin

Want to ensure a healthier academic environment



Drug Dealers

Are impacted economically, particularly in urban areas,

HIGHJACK RESEARCH STUDY PROPOSAL

💡❓ What is the success rate of Highjack in helping users quit smoking compared to traditional cessation methods? ❓💡

Participants

Recruitment of college students who are
Current smokers
Can communicate in English

Data Collection Baseline /Follow-up Assessments

Demographic Information
Smoking Habits / Smoking status
Stress levels



Intervention

Highjack Group
Control Group

Outcome Measures

Smoking Cessation
Assessment (SCA)
Stress Level (PSQ)
Satisfaction
intervention(SUS)

HIGHJACK'S STRENGTHS AND LIMITATIONS

New Cessation Tool

If successful, Highjack will be a new personalized, safe smoking cessation tool.

AI Innovation

AI's success in addiction and habit management may extend to similar addiction treatment technologies

Herbal Insight

Studying the best herb blend will advance plant-based therapies for nicotine withdrawal.

Habit Research

Gain better understanding of "habit hijacking" as a method of imposing lasting behavior change.

Respiratory Risks

Any vape product, with or without nicotine, expose users to harmful chemicals like carbon dioxide.

Addiction Transfer

Highjack may shift addictions from nicotine to other stress relief methods

College Parties

Parties aren't a conducive atmospheres to use Highjack for stress relief, since the motivation to smoke is socially driven

Limited Research

Research on college students may not be applicable to other groups