Tailored Smoking Cessation Intervention Strategies based on the Stages of Change for the Vulnerable Population

Jisoo Chae[1], Jiyoung Lee[1], Mijeong Kwon[1], Subin Kim[1], Subin Kwon[1], Jiwoo Choi[1], Aerin Min[2], Yuseon Lim[2], and Hyekyeong Kim[2]

[1] Department of Health Convergence, Graduate School of Ewha Womans University, Seoul 03760, Korea
[2] Department of Health Convergence, Ewha Womans University, Seoul 03760, Korea

Background / Objectives

- Health inequality is accelerating due to the gap between regions in non-face-to-face smoking cessation counseling services in Korea.
- This study aims to establish the basis for tailored smoking cessation services in public health centers and proposes counseling strategies based on the stages of change for smoking cessation.

Methods

- **Subjects and Methods:** A self-reported online survey was conducted with 546 smokers to assess the demand for non-face-to-face smoking cessation clinics.
- **Study Design:** A cross-sectional study
- **Survey Content:** Demographic factors, health status, individual and environmental factors related to smoking and cessation, demand and characteristics of non-face-to-face healthcare services. Factors related to smoking behavior based on the PRECEDE-PROCEED Model.
- **Analysis:** One-way ANOVA was performed using SPSS 27.0, followed by Scheffe and Dunnett T3 post hoc analyses.

Results

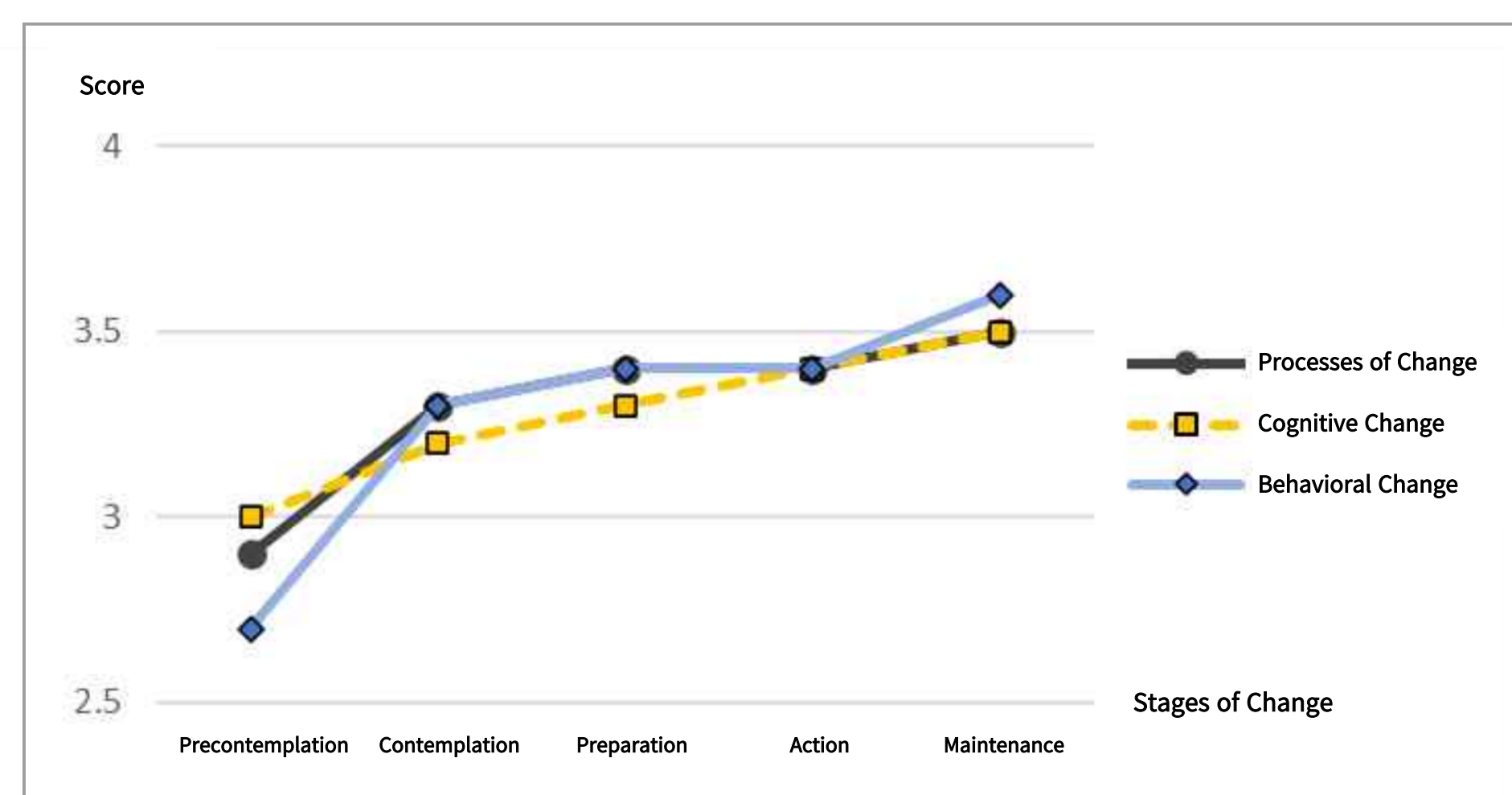### 1. Differences in Smoking Cessation Factors by Age Group

In implementing smoking cessation interventions, **younger age groups require motivational strategies** to plan for quitting, while **older age groups need reinforcing strategies** to maintain smoking cessation.

- Adolescents showed higher rates in the preparation(25.8%) and action stages(9.7%) compared to other age groups.
- Individuals in their 20s had higher rates in the precontemplation(43.1%) and contemplation stages(30.9%).
- Individuals in their 30s exhibited a higher proportion in the contemplation stage(30.8%).
- Adults in their 60s and 70s were more frequently in the maintenance stage(55.4%; 56.3%).
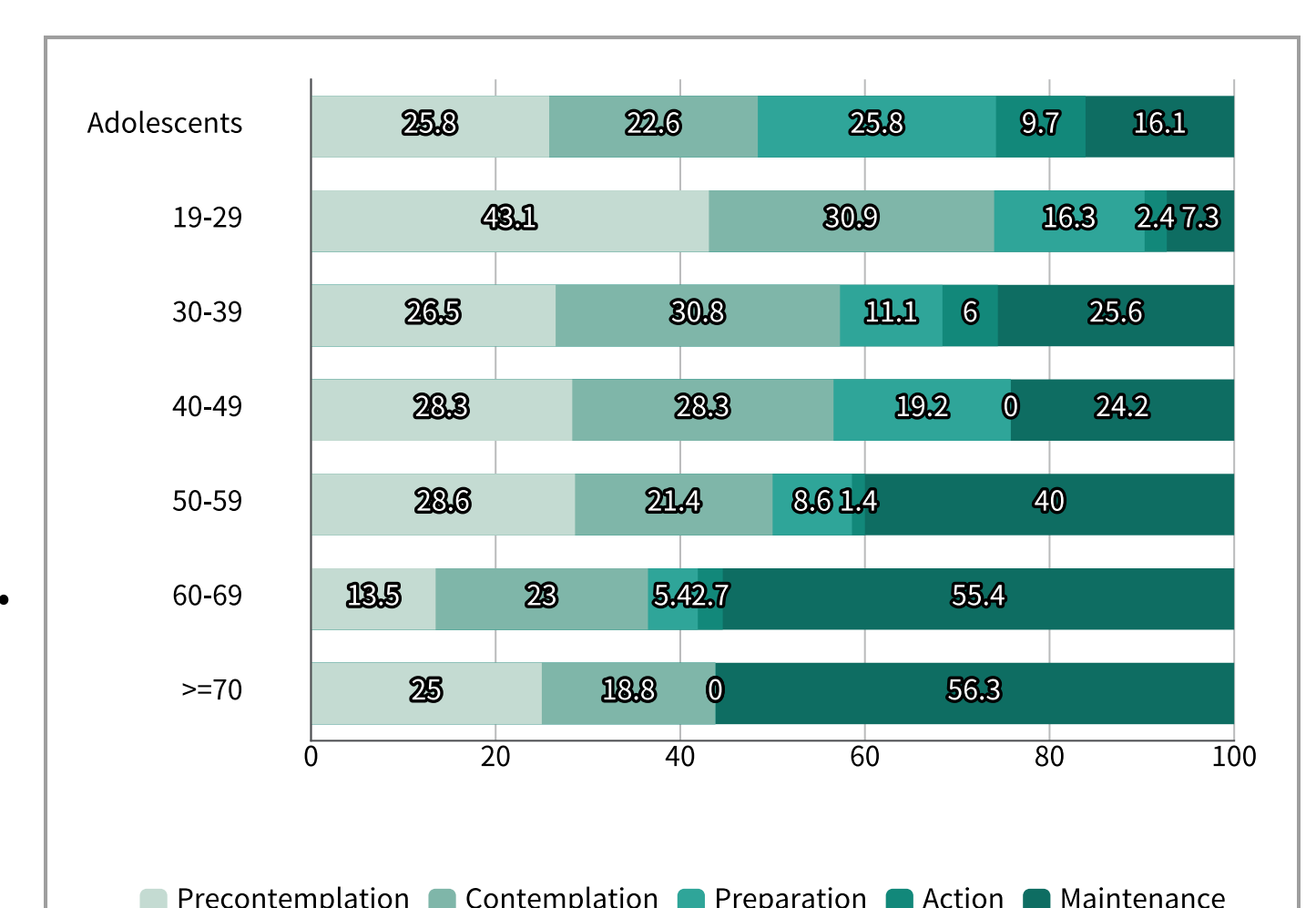
2. Differences in Cognitive and Behavioral Processes by Stages of Smoking Cessation

- The frequency of **experiencing processes of change** was higher in the **contemplation and preparation stages** compared to the precontemplation stage ($p<.05$).
- The **action stage** showed a significantly higher frequency of experienced processes compared to the precontemplation, contemplation, and preparation stages ($p<.05$).
- In the **precontemplation and contemplation stages,** the overall experience of processes of change was relatively low, indicating the need for **motivational strategies to advance to the next stage.**

- Except for consciousness-raising, **all cognitive processes of change** showed significant differences by stage (social liberation $p<.05$, others $p<.01$).
  - The **precontemplation and action stages** frequently experienced the cognitive process of **social liberation.**
  - The **contemplation, preparation, and action stages** frequently experienced **environmental reevaluation** as a cognitive process.
- **Consciousness-raising, dramatic relief, self-reevaluation, helping relationships, and reinforcement management** increased from the precontemplation to preparation stages, decreased during the action stage, and rose again during the maintenance stage.
- **Environmental reevaluation and stimulus control** increased from the precontemplation to the maintenance stage.
- **Social liberation, self-liberation, and counterconditioning** increased from the precontemplation to the action stage, followed by a slight decrease during the maintenance stage.
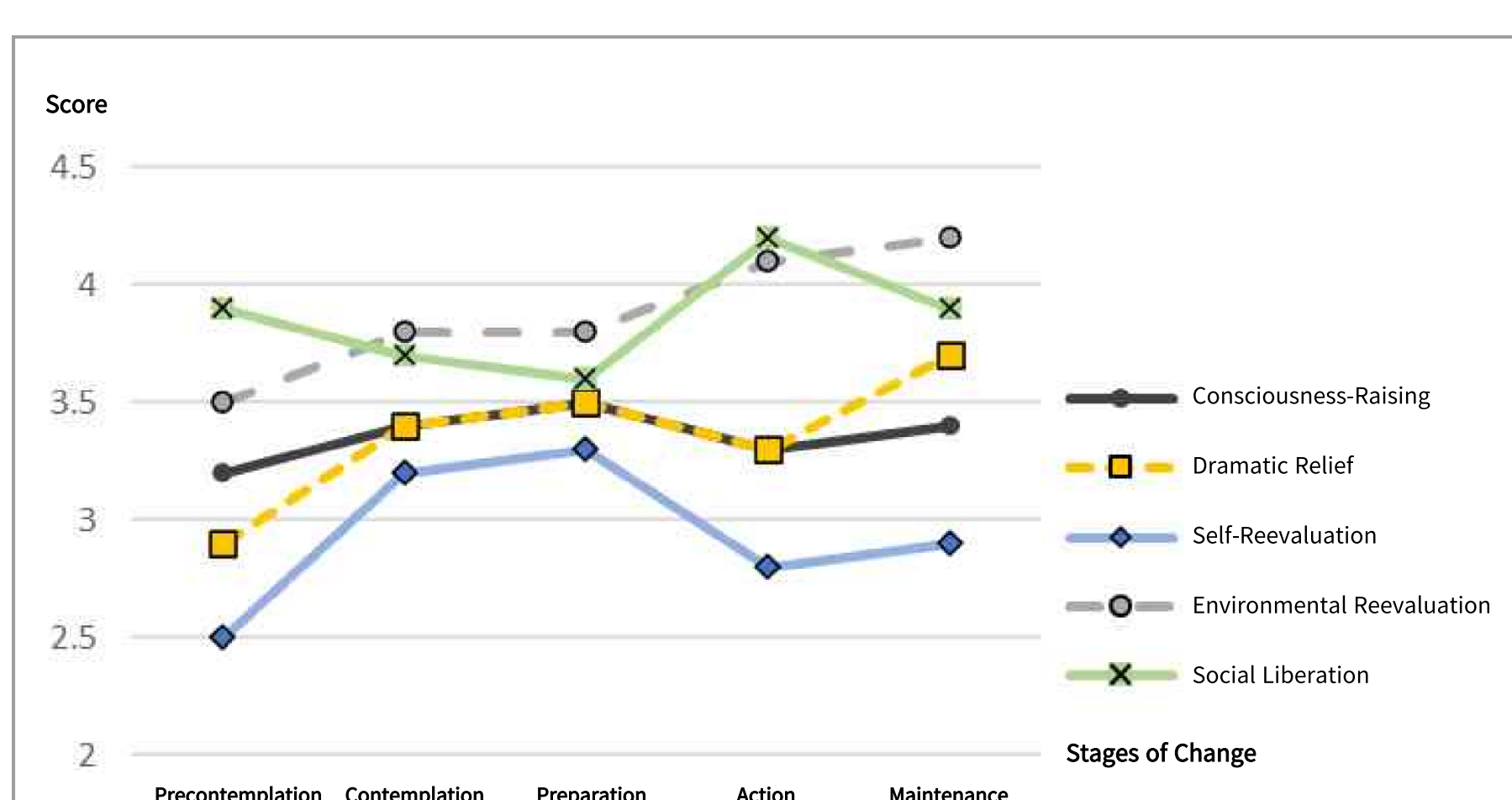

< Cognitive Processes of Change by Stages of Smoking Cessation >

< Behavioral Processes of Change by Stages of Smoking Cessation >

Keywords: smoking cessation counseling, smoking vulnerable groups, stages of change, transtheoretical models

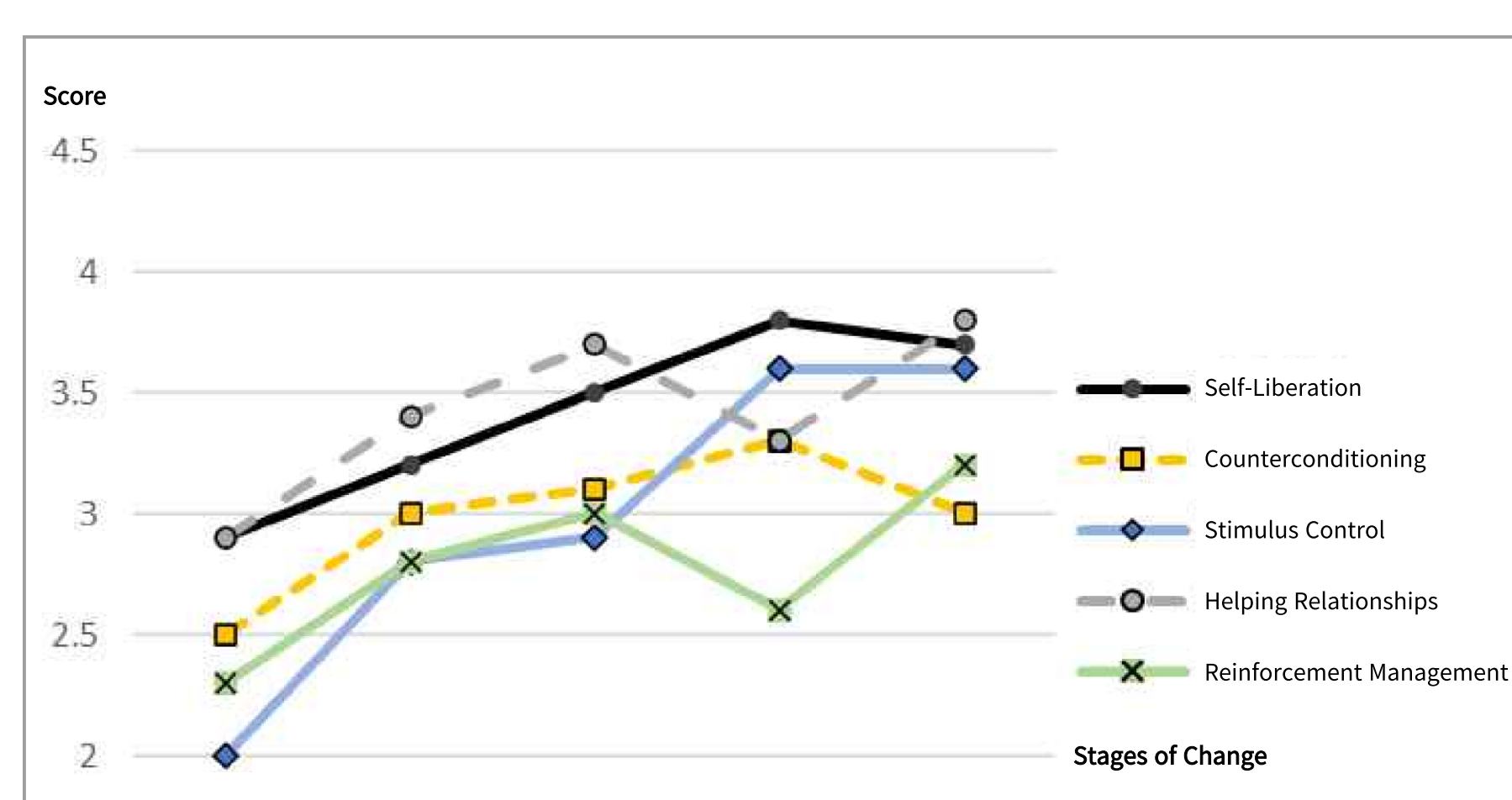### 3. Counseling Strategies and Development Directions for Smoking Cessation Clinics

1. **Application of the TTM** to provide tailored content
- Facilitate appropriate cognitive and behavioral processes of change according to the stages of smoking cessation.
- Provide coaching that supports proper decisional balance and enhances self-efficacy.

2. **Offer comprehensive assessments of smoking behavior** (e.g., roadmap profiling)
- Allow individuals to gain a clear understanding of their current smoking and cessation status.
- Encourage them to recognize the necessity of quitting and develop a willingness to change.

3. **Establish standard guidelines** for non-face-to-face smoking cessation support services
- Reduce service disparities and enhance service quality for vulnerable populations.

Conclusions

- Tailored smoking cessation counseling based on the TTM can help individuals experience cognitive and behavioral changes, achieve decisional balance, and enhance self-efficacy.
- Roadmap profiling and thorough smoking behavior assessments are recommended to address the service gap for vulnerable populations.
- This study contributes to health equity by suggesting the strategies of smoking cessation couseling for the smoking vulnerable groups.