



Concept Paper Form

Provisional Paper Title: Is alcohol use a barrier for quitting among young NZ tobacco smokers?
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Objective of the study:

Among participants in the DMHDS, about one-third (N = 339) were daily tobacco smokers at age 21 years, the peak age for smoking tobacco. By age 38, we have estimated about 45% of these smokers had quit smoking. The question of why about half of these smokers are able to quit and the others do not is an important one for public health in NZ. Both cross-sectional and longitudinal research suggests that concomitant alcohol use may act as a barrier for smoking cessation. At age 21 years, 52% of the DMHDS daily smokers also reported binge drinking alcohol at least weekly. The proposed paper will examine the extent to which concurrent alcohol use (and particularly bingeing and dependence) at age 21 years acts as a barrier to subsequent smoking cessation.

Data analysis methods:

We will examine tobacco smoking and alcohol bingeing at age 21 years, and alcohol dependence at that age, and their predictive relationship with subsequent quit attempts and tobacco smoking cessation to age 38 years. There is already good evidence that other non-alcohol related variables act as barriers to quitting. These include variables such as socioeconomic disadvantage, unpreparedness to quit, stronger nicotine dependence and presence of smokers in the individual's social environment. Consequently, these factors also have to be modeled concomitantly with alcohol.

We will use Structural equation modeling (SEM) to model smoking cessation from age 21 to 38 years. SEM is a statistical modelling approach that allows for the combination of a range of different indicator measures into single constructs or latent variables, and then estimates the strength of the hypothesised associative paths between these latent variables. The four latent variables we wish to examine are:

1) childhood socio-economic disadvantage from birth to age 9 years: indicated by three separate indices measuring socioeconomic status, family climate of mental health, and parent-child interaction practices. These indices and the measures used to derive them are described by McGee, Williams, and Nanda-Raja (2001).

2) alcohol use and dependence at age 21 years: this will include frequency of drinking alcohol at least once a month for 6 months; number of days per month drinking and frequency of having 5+ drinks per occasion. And problematic drinking based on dependence measures. We also wish to access consumption data at age 38 including frequency of having 5+ drinks per occasion and total number of drinks per week

3) preparedness to quit tobacco smoking at age 21 years: Following Lindsay et al. (2014 & 15), this composite measure will include: a 5-point "stages of change" rating from 1 = no thought of quitting; 2 = think I need to consider quitting someday; 3 = think I should quit but not quite ready; 4 = thinking about how to change my smoking patterns; and 5 = taking action to quit (stopped or cut down, doing a programme). Perceived ease of quitting assessed using 5-point Likert scales from 1 = very easy to 5 = very difficult; and confidence in knowing how to quit rated from 1 = very low to 5 = very high. Study members were asked: "Have you tried to quit since your 18th birthday?" If respondents had made a quit attempt, they were asked "what is the longest time you quit smoking for?" and "how long since that attempt?"

4) Significant others' smoking: based on exposure to others smoking in the social environment assessed with four ratings. Participants were asked about the smoking status of spouse or steady partner, and closest friend or person you have the most contact with. They were also asked about extent of exposure to someone else smoking tobacco "today" (on the day of the age 21 yr assessment) and yesterday. We could also look to include main reason for smoking (5 = friends/social); and extent of social support received during last quit attempt.

Variables needed at which ages:

Smoking variables

These include measures of smoking status from ages 21 to 38 to allow for identification of daily smoking at age 21 years, and subsequent number of quit attempts and achievement of smokefree status by age 38 years. Additional smoking variables at age 21 years include preparedness to quit, perceived ease of quitting, and confidence in quitting, and previous quit attempts. Exposure to others smoking will include partner, friends, recent exposures, and support for quitting. The exact measures used will depend to some extent on SEM modeling.

Alcohol use

Measures include at age 21 frequency of use and selected alcohol dependence (tolerance, drinking more than intended, wanting to cut down, neglected responsibilities, rules for drinking, effects of alcohol, reduced activities and problematic use). Again, the exact measures used in the final model will depend to some extent on initial SEM measurement modeling.

Childhood socioeconomic disadvantage

This is based upon a derived index we have published (see McGee et al., 2001).

Significance of the Study (for theory, research methods or clinical practice):

The NZ Government has set a national goal of achieving a smokefree New Zealand by 2025, which means reducing the prevalence of smoking to less than 5% across all population groups. Although the prevalence of smoking in NZ is declining, estimates strongly suggest that the current cessation rate must double if the 2025 goal is to be realised.

In this context it is important to examine potential barriers to smoking cessation, and identify the strength of the relationship between these barriers and actual smoking cessation. Significant barriers will require more significant investment of resources to achieve smokefree status for individuals and their families.

Previous research has been somewhat equivocal concerning the relationship between alcohol use and smoking cessation. There have been few community based longitudinal studies addressing this research question. The DMHDS provides an excellent opportunity to examine this question. It has good longitudinal data on smoking and alcohol use, and a rich depth of data to examine other sets of variables which might operate in conjunction with alcohol to provide barriers to cessation.

References:

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