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# Reasons for quitting smoking in young adult cigarette smokers

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## HIGHLIGHTS

- 311 current smokers (age 22–28) ranked the importance of 15 reasons to quit
- > 70% of smokers were concerned about getting sick or continued smoking when older
- Short-term consequences and social disapproval were rated as less or not important
- 14.5% of smokers (discounters) rated long-term health concerns as unimportant
- Discounters smoked less than non-discounters, but 11% were ICD-10 tobacco dependent

## ARTICLE INFO

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## ABSTRACT

*Background:* Although most young adult smokers want to quit smoking, few can do so successfully. Increased understanding of reasons to quit in this age group could help tailor interventions, but few studies document reasons to quit in young adults or examine reasons to quit by smoker characteristics.
*Methods:* In 2011–12, 311 current smokers (age 22–28, $M$ = 24.1; 48.9% male, 51.1% female; 50.4% daily smokers) from the Nicotine Dependence in Teens Study completed the Adolescent Reasons for Quitting scale. We assessed differences in the importance of 15 reasons to quit by sex, education, smoking frequency, quit attempt in the past year, perceived difficulty in quitting, and motivation to quit. We also examined differences between participants who discounted the importance of long-term health risks and those who acknowledged such risks.
*Results:* Concerns about getting sick or still smoking when older were considered very important by > 70% of participants. Median scores were higher among daily smokers, those who had tried to quit or who expressed difficulty quitting, and those with strong motivation to quit. Discounters (14.5% of participants) were primarily nondaily, low-consumption smokers. Their Fagerström Test for Nicotine Dependence scores did not differ from non-discounters', and 11% (vs. 35.7% of non-discounters) were ICD-10 tobacco dependent.
*Conclusions:* Novel smoking cessation interventions are needed to help young adult smokers quit by capitalizing on their health concerns. Discounters may need educational intervention to better understand the impact of even "light" smoking on their health before or in conjunction with quit interventions.

## 1. Introduction

Despite declines in prevalence overall, smoking remains highest among young adults age 20–34 years. In 2015 in Canada, 18.5% and 14.4% of young adults age 20–24 and 25–34, respectively, were current smokers (Reid, Hammond, Rynard, Madill, & Burkhalter, 2017). In the province of Québec, where the prevalence of smoking tends to be relatively high, the corresponding prevalence rates in 2014–15 were 21% and 24%, respectively (Institut de la statistique du Québec, 2016). Most current smokers want to quit (Babb, Malarcher, Schauer, Asman, & Jamal, 2017; Reid et al., 2017). In the U.S., 68% of adult smokers, but only 62% between ages 18 and 24, expressed a desire to quit (Babb et al., 2017). Still, almost half of smokers age 18–44 reported that they had stopped smoking for at least one day in the preceding year because they were trying to quit (U.S. Department of Health and Human Services, 2014). In Canada, although more than 62% of smokers

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age 20–24 attempted to quit in the preceding year, only 13% remained abstinent (Reid et al., 2017).

Young adults experience difficulty quitting in part because they do not use cessation programs, nicotine replacement therapy or other proven aids to the same extent as older adults, instead preferring to quit without assistance (e.g., 'cold turkey', by cutting down in certain situations, or by distracting themselves from cravings: Curry, Sporer, Pugach, Campbell, & Emery, 2007; Dugas, Wellman, Kermack, Tremblay, & O'Loughlin, 2016; Solberg, Boyle, McCarty, Asche, & Thoele, 2007). Further, many young adults who smoke cigarettes occasionally do not consider themselves to be smokers (Choi, Choi, & Rifon, 2010; Levinson et al., 2007) or they self-identify as "social smokers" (Kingsbury, Parks, Amato, & Boyle, 2016). Typically such 'phantom smokers' associate themselves more with nonsmokers than smokers, see their smoking as not harmful, do not believe that they are addicted, and see little reason to quit (Levinson et al., 2007). Therefore reaching and encouraging young adults to quit smoking, using assistance methods known to be effective, as well as novel approaches yet to be developed, is a public health priority. Understanding the reasons young adult smokers want to quit may guide such efforts.

In a review of 35 studies on reasons to quit, 60–80% of ex- and current smokers cited concerns about health as the primary reason for quitting. Social concerns (e.g., pressure to quit or disapproval from others, responsibility to others) were the second most frequently mentioned class of reasons. Finally, cost was cited by some as an important reason to quit (McCaul et al., 2006). Only two of the studies reviewed by McCaul et al. (2006) reported results stratified by age. In a community sample ($n$ = 2353), younger smokers (age 18–29 and age 30–49) were more concerned about the health effects of smoking than were smokers age ≥ 50 (Kviz, Clark, Crittenden, Freels, & Warnecke, 1994). In follow-up interviews three months later with 1644 respondents who "planned to stop smoking someday" and who were in the contemplation or preparation stage (Prochaska, DiClemente, & Norcross, 1992) with regard to cessation, quit attempts did not differ by age. Further compared to older smokers, fewer younger smokers expressed strong concern about health effects or had a strong desire to quit (Kviz, Clark, Crittenden, Warnecke, & Freels, 1995).

While reasons to quit overlap considerably across age groups, the apparently contradictory findings by Kviz and colleagues (Kviz et al., 1994, 1995) suggest that younger and older smokers may assign different values to specific reasons. Few studies have examined reasons for quitting among young adults specifically. One qualitative study with college students identified a desire to save money, health-related reasons including a desire to become/remain physically fit to participate in sports, social factors and concerns about looking or smelling bad as motivators for quitting (Berg et al., 2010). In a nationally representative sample of young adults ages 18–34 in the U.S., the most popular reasons for quitting among current smokers who tried to quit in the previous year were physical fitness and cost, each endorsed by 64% of respondents, health hazards (endorsed by 60% of respondents), and encouragement from a friend or relative (endorsed by 55%) (Villanti, Manderski, Gunderson, Steinberg, & Delnevo, 2016). The relative importance of reasons for quitting has yet to be examined by demographic or smoking-related characteristics, which might offer insight into targeting or the content of interventions.

The objective of this study was to examine the importance of reasons to quit in young adult smokers according to sex, education, smoking frequency, and whether the smoker (a) had made a quit attempt in the previous year, (b) attributed their continued smoking to difficulty in quitting, and (c) expressed strong motivation to quit. Given that a sizable proportion of smokers do not cite health risks as important reasons to quit (McCaul et al., 2006), we also examined whether smokers who discount the importance of long-term health risks differ from those who acknowledge such risk.

## 2. Methods

### 2.1. Participant recruitment and data collection

Participants ($n$ = 1294) in the Nicotine Dependence in Teens (NDIT) Study (O'Loughlin et al., 2015) were recruited during 7th grade in 1999–2000, in a purposive sample of 10 high schools in Montréal, Canada. Sampling was designed to assure inclusion of a mix of (i) French- and English-language schools; (ii) urban, suburban, and rural schools; and (iii) schools located in high, moderate and low socioeconomic status neighborhoods. Data for the current study were collected in self-report questionnaires administered in the 22nd survey cycle in 2011–12 (six years after participants had graduated from high school). Participants provided informed consent. NDIT was approved by the Institutional Review Board of the Ethics Research Committee of the Centre de Recherche du Centre Hospitalier de l'Université de Montréal.

### 2.2. Study variables

The questionnaire included demographic and smoking-related items, and the Adolescent Reasons for Quitting Scale (ARFQ: Myers & MacPherson, 2008; see Table 2), which assesses concerns about short-term consequences of smoking (9 items), social disapproval of smoking (5 items) and long-term concerns about smoking (2 items). The ARFQ has good psychometric properties, including the ability to predict adolescents' cessation attempts over 3- and 6-month follow-up intervals (Myers & MacPherson, 2008), although it has not been tested among young adults. The stem for each item was "How important to you are each of the following reasons for quitting smoking?" Response options were *not at all important* (0), *a little important* (1), *quite important* (2), *very important* (3). We omitted "I don't want my parents to find out" (social disapproval subscale) from the questionnaire because participants were now age 24. To create subscale scores, we summed the items in each subscale and divided by the number of items in the subscale (i.e., 9, 4 and 2, respectively). To assess attitudes among participants who discount long-term health concerns, we created a subscale assessing non-health-related short-term concerns only (i.e., sum of items 4, 5, 7–9).

Smoking-related items assessed past-month smoking frequency (daily vs. nondaily), number of cigarettes consumed per day in the past month, age first puffed on a cigarette, lifetime consumption of 100 cigarettes, past-year use of other tobacco products, whether the person had made a quit attempt in the past year, motivation to quit, intensity of cravings, withdrawal symptoms, the Fagerström Test for Nicotine Dependence (FTND) and ICD-10 tobacco dependence. Table A1 (online appendix) presents the items, response options and coding for analyses. Smokers who reported smoking on at least one day in the preceding month (i.e., current smokers) were included in the analytic sample. Daily smokers indicated they had smoked every day during the past month.

To assess differences between smokers who discount and those who acknowledge the importance of long-term health concerns, we categorized participants based on their response to "I don't want to get sick when I'm older (get cancer, lung damage)" into discounters (i.e., smokers who rated this item as "not at all important") and non-discounters (i.e., smokers who rated the item as at least a little important).

### 2.3. Statistical analyses

The three ARFQ subscales and the 15 individual items were not normally distributed, necessitating use of non-parametric tests (i.e., Mann-Whitney $U$-test and a Kruskal-Wallis test; Bewick, Cheek, & Ball, 2004). To accomplish our primary objective, we examined the three ARFQ subscale scores as a function of six characteristics (sex, education, daily vs. nondaily smoking, quit attempt (yes, no), difficulty