

## Original Investigation

# What Does It Take to Be a Smoker? Adolescents' Characterization of Different Smoker Types

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## Abstract

**Introduction:** Studies have demonstrated that clinical- and research-based definitions of who a smoker is and what constitutes smoking often differ from adolescent-derived definitions, which can be problematic for effective intervention and prevention efforts. We investigated how adolescents define different smoker types (nonsmoker, smoker, regular smoker, addicted smoker, heavy smoker, experimental smoker, casual smoker, and social smoker) using multiple indicators of smoking behaviors, including frequency, amount, place, and length of time cigarette smoking, and whether differences exist by smoking experience.

**Methods:** Quantitative and qualitative methods were used to analyze data from a cohort of adolescents ( $N = 372$ ) in northern California.

**Results:** We found differences in how adolescents characterized smoker types based on their own smoking experience. Ever-smokers tended to have a greater flexibility in determining what constituted nonsmoking and heavy smoking, while never-smokers had much narrower definitions. Results also indicated that adolescents may mistakenly associate nicotine addiction with a high frequency and amount of cigarette use as 74.3% characterized an addicted smoker as having smoked for a few years or more. In addition, there was a considerable amount of overlap in definitions between different smoker types, particularly among the smoker–regular smoker, addicted smoker–heavy smoker, and casual smoker–social smoker pairs.

**Conclusion:** Health communication strategies for youth smoking prevention need to address the wide variability and overlap in how adolescents define different smoker types. Greater attention should be directed to understanding the nuances of how adolescents define smoking in order to maximize the effectiveness of youth-centered smoking prevention and cessation messages.

## Introduction

Youth-centered smoking prevention strategies have often relied on conveying health messages that emphasize negative aspects

of smoking, such as “smoking is ugly,” “most teens would never date a smoker,” and “teens who smoke produce twice as much phlegm as teens who don't” (Centers for Disease Control and Prevention [CDC], 2011; World Health Organization, 2010). This approach may be problematic as research-based definitions of what constitutes a smoker or smoking may differ from adolescent-derived definitions (Delnovo, Lewis, Kaufman, & Abatemarco, 2004; Leatherdale & McDonald, 2006; Okoli et al., 2009; Rubinstein, Halpern-Felsher, Thompson, & Millstein, 2003). The implications of these findings are important: If adolescents who smoke do not consider themselves to be smokers, then smoking prevention and cessation efforts that are generally messaged for smokers will be less effective than programs that are tailored to different levels of smoking (Backinger et al., 2003; Okoli et al., 2009; Oksuz, Mutlu, & Malhan, 2007). Thus, understanding the differences in adolescents' definitions of these classifications is crucial in the development and targeting of appropriately designed smoking prevention messages and cessation interventions for adolescents.

Evidence suggests that adolescents have a varied perception of what constitutes different classifications of smokers and smoking. For example, Leatherdale and McDonald (2006) found that approximately 52% of students who were categorized by researchers as “regular smokers” and 98% categorized as “experimenters” did not actually consider themselves to be smokers. Evidence also suggests that less frequent smoking, being younger, and social smoking are related to less likelihood of an individual identifying themselves as a smoker (Berg et al., 2009; Levinson et al., 2007; Moran, Wechsler, & Rigotti, 2004).

Research-based classifications of smoking status generally rely on the frequency and volume of cigarettes smoked. Previous studies have found that using frequency and volume measures of smoking may not necessarily reflect how adolescents conceptualize their smoking behavior (Leatherdale, Ahmed, Lovato, Manske, & Jolin, 2007; Nichter, Nichter, Vuckovic, Quintero, & Ritenbaugh, 1997; Oksuz et al., 2007; Rubinstein et al., 2003), especially since adolescent smoking is generally characterized by nondaily and low amounts of cigarette use (Hassmiller, Warner, Mendez, Levy, & Romano, 2003; Wortley, Husten, Trosclair, Chrismon, & Pederson, 2003). Adolescents

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also conceptualize their smoking behavior based on the location and the context of the situation. Differences have been found between types of smokers (e.g., occasional smokers vs. daily smokers) in terms of where they tend to smoke (Leatherdale et al., 2007; Oksuz et al., 2007), so that smoking location and setting may be important factors in understanding how adolescents conceptualize and characterize different types of smokers, and as a result, how they interpret their own smoking behavior.

While there is consensus that there are differences between research-based and adolescent-derived definitions of smoking and that such discrepancies can be problematic for intervention and prevention efforts, there has been little research investigating how adolescents characterize different smoker types using multiple indicators of smoking behaviors, including frequency, amount, place, and length of cigarette smoking. Additionally, the majority of previous studies have predominantly collected data using quantitative methods, thus only allowing for adolescents' responses to investigator-driven definitions of smoking typologies. What is less known is how adolescents themselves define smoking types based on adolescents' own "voices." Using a mixed-methods approach, we investigated how adolescents define different smoker types. For the quantitative component of the study, adolescents defined eight types of smokers (nonsmoker, smoker, regular smoker, addicted smoker, heavy smoker, experimental smoker, casual smoker, and social smoker) using a more comprehensive list of indicators of smoking behaviors, including smoking frequency, amount of cigarettes smoked, place of smoking, and length of time smoking. For the qualitative component, adolescents provided definitions of what they believed constitutes a "smoker." We also examined whether differences in definitions exist by smoking experience and gender.

## Methods

### Sample

All ninth-grade students from mandatory ninth-grade classes from two northern California public high schools (School A in 2001–2002 and School B in 2002–2003) were invited to participate in a longitudinal study investigating adolescent smoking behavior. Project staff visited both schools to introduce the study, describe participant requirements, and invite students to participate. Parental consent and student assent forms were distributed during this time. Of the 790 students who received consent packets, 418 (53%) returned completed consent forms. Of these 418 students, 395 (95% of consenting students) completed a self-administered survey during a classroom period. Further detail on study design have also been described elsewhere (Halpern-Felsher, Biehl, Kropp, & Rubinstein, 2004; Song et al., 2009).

Every six months (Fall and Spring semesters), participants completed self-administered questionnaires during a regular class period at their school. Before each survey administration, the researchers provided instructions for completing the surveys and remained available to answer questions during the survey administration. Questions that asked adolescents to define characteristics of smoking and different types of smokers were added to the survey in Fall 2002, corresponding to Wave 3 for School A and Wave 1 for School B. Only data from these waves were used for this study. For the purposes of this cross-sectional study, we

eliminated participants who were not surveyed at these waves. Analyses were conducted on a total of 372 students. There were small school differences in rates of smoking behavior but no differences by school in definitions of smoking typologies. Consequently, results are reported for the total sample, aggregated across both schools.

Qualitative data were also collected from a subsample of adolescents ( $n = 40$ ) randomly selected from participants from School A to provide more information on smoking-related decision making. Included in the interview were questions about adolescents' definitions of a smoker only as the qualitative interviews were not specifically designed to investigate how adolescents discriminate and classify different types of smokers. Prior to beginning the face-to-face semistructured interview, adolescents were reminded of confidentiality and were given the opportunity to ask any questions. The interviews lasted approximately 30–60 min in length and were tape recorded for transcription. Adolescents were given \$25.00 for their participation in the interviews.

The surveys and interviews were administered in accordance with a human subjects protocol approved by the Committee on Human Research at the University of California, San Francisco.

### Measures

Adolescents were asked to identify characteristics of cigarette use that best defined eight types of smokers: nonsmoker, smoker, regular smoker, addicted smoker, heavy smoker, experimental smoker, casual smoker, and social smoker. The smoker types and response choices were chosen based on a previous study conducted by Rubinstein et al. (2003), pilot data assessing smoking patterns among adolescents, and evidence from the literature suggesting that these smoker types are commonly used and recognized among adolescents.

#### Smoker Type—Frequency

Adolescents were asked to identify the frequency of cigarette use in each of the eight types of smokers. Response categories included never (a), a couple times a year (b), every few months (c), a couple times a month (d), a couple times a week (e), and everyday (f).

#### Smoker Type—Amount

Adolescents were asked to define the amount of cigarette smoking in each of the eight types of smokers. Response categories included 0 cigarettes (a), a few cigarettes per year (b), a few cigarettes per month (c), a few cigarettes per week (d), a few cigarettes per day (e), a half pack per day (f), one pack per day (g), and two or more packs per day (h).

#### Smoker Type—Place

Adolescents were asked to define the place of cigarette smoking in each of the eight types of smokers. Response categories included nowhere (a), at home only (b), at school only (c), at parties only (d), and anywhere (e).

#### Smoker Type—Length

Adolescents were asked to define the length of cigarette smoking in each of the eight types of smokers. Response categories included never (a), for a few days (b), for a few months (c), for about a year (d), for a few years (e), and for more than a few years (f).

# What does it take to be a smoker?

## Smoking Experience

Smoking status was determined by the response to the following questions: (a) “During your ENTIRE LIFE, about how many times have you smoked a few puffs of a cigarette?” and (b) “During your ENTIRE LIFE, about how many times have you smoked a whole cigarette?” “Never-smokers” were defined as never having smoked a cigarette or even having a few puffs, and “ever-smokers” were defined as having ever smoked at least one cigarette.

## Qualitative Measures

During the interviews, adolescents were asked, “How do you define a smoker?” Probes were used to generate more detail, such as, “Is there a certain amount of cigarettes you need to smoke to be a smoker?”, and adolescents were encouraged to clarify and expand on their answers.

## Statistical Analysis

Descriptive measures were generated for all variables of interest. Independent sample *t* tests with Levene’s test for equality of variances and chi-square tests were employed in order to test for significant differences in definitions between never-smokers and ever-smokers as well as between genders. All quantitative analyses were performed using SPSS 17.0.

For the qualitative data, verbatim transcripts were independently reviewed by the principal investigator and research team. The use of an interdisciplinary research team and presentation of preliminary findings with colleagues helped to validate the themes that were extracted and identified from the transcripts and to clarify investigator biases. For the purposes of this study, representative themes and quotes were selected to illustrate the quantitative findings.

## Results

### Sample Characteristics

The gender distribution of the survey sample was balanced (47.3% male, 52.7% female) with an age range of 12–16 years (mean = 14.6 years, *SD* = 0.7). The sample was ethnically diverse, with 48.7% White/Non-Hispanic, 23.7% Asian/Pacific-Islander,

17.5% Hispanic or Latino, and 5.1% of other ethnicities. Nineteen participants (5.1%) declined to state their ethnicity.

The qualitative interview sample showed similar gender distribution as the main sample (45.0% male and 55.0% female). Forty interviews were conducted with 22 never-smokers (32.0% male and 68.0% female) and 18 ever-smokers (55.0% male and 45% female).

## Adolescent Characterization of Smoker Types

Adolescent characterization of smoker types by frequency, amount, place, and length of cigarette smoking is shown in Tables 1–4, respectively. Given that our focus is on how adolescents define different types of smokers, we present the results by smoker type.

### Nonsmoker

The majority of adolescent participants (>90%) characterized a “nonsmoker” as an individual who never smokes, smokes 0 cigarettes (92.5%), and smokes nowhere (96.0%). However, some adolescents described a nonsmoker as an individual who does smoke. Approximately 6% of adolescents characterized a nonsmoker as smoking a couple times a year or more, smoking a few cigarettes per year, smoking in different places, and smoking for a short period of time. Differences in frequency and place of smoking were also found between never smoking and ever smoking adolescents. Compared with never smoking adolescents, ever-smokers were more likely to define a nonsmoker with some frequency of smoking ( $t = 3.18, df = 333, p < .01$ ) and to characterize nonsmokers as smoking in places other than “nowhere” ( $\chi^2 = 14.17, df = 4, p < .01$ ). Gender differences were found in terms of defining frequency, amount, and length of smoking among nonsmokers. Males were more likely to characterize nonsmokers with an increased frequency ( $t = -2.48, df = 347, p \leq .01$ ), increased amount ( $t = -2.67, df = 360, p \leq .01$ ), and increased length of smoking ( $t = -2.47, df = 351, p \leq .01$ ) than females.

### Smoker

The majority of adolescents characterized a smoker as an individual who smokes a couple times a week (30.3%) or everyday

**Table 1. Adolescents’ Definitions of Smoker Types Based on Frequency of Cigarette Smoking**

Smoker type	Frequency of cigarette smoking					
	Never, <i>n</i> (%)	Couple times a year, <i>n</i> (%)	Every few months, <i>n</i> (%)	Couple times a month, <i>n</i> (%)	Couple times a week, <i>n</i> (%)	Every day, <i>n</i> (%)
Nonsmoker <sup>a,b</sup>	326 (93.4)	17 (4.9)	2 (0.6)	2 (0.6)	0 (0.0)	2 (0.6)
Smoker	2 (0.6)	13 (3.7)	9 (2.5)	23 (6.5)	108 (30.3)	201 (56.5)
Regular smoker	1 (0.3)	8 (2.2)	8 (2.2)	38 (10.4)	139 (38.1)	171 (46.8)
Addicted smoker	2 (0.6)	1 (0.3)	4 (1.1)	3 (0.8)	17 (4.7)	333 (92.5)
Heavy smoker <sup>a</sup>	1 (0.3)	2 (0.6)	2 (0.6)	1 (0.3)	10 (2.8)	338 (95.5)
Experimental smoker	2 (0.6)	150 (43.2)	65 (18.7)	69 (19.9)	37 (10.7)	24 (6.9)
Casual smoker	1 (0.3)	33 (9.2)	81 (22.5)	103 (28.6)	100 (27.8)	42 (11.7)
Social smoker	1 (0.3)	36 (10.4)	59 (17.0)	101 (29.1)	116 (33.4)	34 (9.8)

Note. <sup>a</sup>Significant difference in gender (independent sample *t* test with  $p < .05$ ).

<sup>b</sup>Significant difference in smoking experience (independent sample *t* test with  $p < .05$ ).

**Table 2. Adolescents' Definitions of Smoker Types Based on Amount of Cigarette Smoking**

Smoker type	Amount of cigarette smoking							
	0 cigs, n (%)	Few cigs per year, n (%)	Few cigs per month, n (%)	Few cigs per week, n (%)	Few cigs per day, n (%)	Half pack per day, n (%)	1 pack per day, n (%)	2+ packs per day, n (%)
Nonsmoker <sup>a</sup>	335 (92.5)	19 (5.2)	1 (0.3)	1 (0.3)	1 (0.3)	2 (0.6)	0 (0.0)	3 (0.8)
Smoker	4 (1.1)	5 (1.4)	15 (4.2)	50 (13.9)	138 (38.4)	70 (19.5)	53 (14.8)	24 (6.7)
Regular smoker	0 (0.0)	3 (0.8)	8 (2.2)	37 (10.3)	115 (32.0)	122 (34.0)	62 (17.3)	12 (3.3)
Addicted smoker	1 (0.3)	1 (0.3)	5 (1.4)	7 (1.9)	26 (7.2)	44 (12.2)	112 (31.0)	165 (45.7)
Heavy smoker <sup>a</sup>	0 (0.0)	3 (0.8)	1 (0.3)	2 (0.6)	3 (0.8)	15 (4.2)	49 (13.8)	281 (79.4)
Experimental smoker <sup>a</sup>	1 (0.3)	137 (39.6)	89 (25.7)	75 (21.7)	20 (5.8)	6 (1.7)	10 (2.9)	8 (2.2)
Casual smoker <sup>a</sup>	0 (0.0)	22 (6.1)	100 (27.8)	139 (38.6)	48 (13.3)	26 (7.2)	13 (3.6)	12 (3.3)
Social smoker	2 (0.6)	54 (15.6)	95 (27.4)	103 (29.7)	47 (13.5)	25 (7.2)	12 (3.5)	9 (2.6)

Note. <sup>a</sup>Significant difference in gender (independent sample *t* test with *p* < .05).

(56.5%), with the amount of cigarettes generally ranging from a few cigarettes per day to half a pack per day (57.9%). These definitions are consistent with adolescents' actual smoking patterns as adolescent smokers tend to smoke at low frequencies and amounts. A smoker was also characterized as smoking anywhere (86.3%) and as someone who has been mostly smoking for a few months to more than a few years (93.9%). Differences in defining place of smoking were found between never smoking and ever smoking adolescents, with never-smokers more likely to define a smoker as smoking "anywhere" compared with ever-smokers ( $\chi^2 = 10.56, df = 4, p < .05$ ). Differences in defining place of smoking were found between genders, with males more likely to characterize smokers as smoking in places other than "anywhere" ( $\chi^2 = 9.78, df = 4, p < .05$ ).

**Regular Smoker**

Results indicated that adolescents' characterizations of regular smoker and smoker in terms of frequency, amount, and place of smoking were very similar. The frequency of smoking by a regular smoker generally ranged from a couple times a week (38.1%) to everyday (46.8%). Generally, regular smokers were defined as smoking anywhere from a few cigarettes per day to half a pack per day (66.0%), smoke anywhere (71.0%), and have been smoking for about a year to a few years (67.3%). Gender

differences in defining place of smoking were found, with males more likely to characterize regular smokers as smoking in places other than "anywhere" ( $\chi^2 = 9.51, df = 4, p \leq .05$ ).

**Addicted Smoker**

An addicted smoker was characterized as an individual with a high frequency and heavy amount of tobacco use: smokes everyday (92.5%), smokes one pack or more per day (76.7%), smokes anywhere (94.2%), and has been smoking for a few years or more (74.3%). Differences in place of smoking were found between never smoking and ever smoking adolescents, with never-smokers more likely to define an addicted smoker as smoking "anywhere" compared with ever smokers ( $\chi^2 = 16.70, df = 4, p < .01$ ).

**Heavy Smoker**

Results indicated that adolescents' characterizations of heavy smoker and addicted smoker in terms of frequency, amount, place, and length of smoking were very similar. The majority of adolescents characterized heavy smokers as individuals who smoke everyday (95.5%), smoke two or more packs a day (79.4%), smoke anywhere (97.0%), and have been smoking for a few years or more (94.2%). Differences in length of smoking were also found between never smoking and ever smoking

**Table 3. Adolescents' Definitions of Smoker Types Based on Place of Cigarette Smoking**

Smoker type	Place of cigarette smoking				
	Nowhere, n (%)	At home only, n (%)	At school only, n (%)	At parties only, n (%)	Anywhere, n (%)
Nonsmoker <sup>a</sup>	339 (96.0)	4 (1.1)	2 (0.6)	4 (1.1)	4 (1.1)
Smoker <sup>a,b</sup>	5 (1.4)	35 (10.0)	1 (0.3)	7 (2.0)	302 (86.3)
Regular smoker <sup>b</sup>	4 (1.1)	45 (12.8)	16 (4.5)	37 (10.5)	250 (71.0)
Addicted smoker <sup>a</sup>	2 (0.6)	8 (2.2)	5 (1.4)	6 (1.7)	340 (94.2)
Heavy smoker	1 (0.3)	8 (2.2)	0 (0.0)	2 (0.6)	351 (97.0)
Experimental smoker	1 (0.3)	65 (20.1)	25 (7.7)	171 (52.9)	61 (18.9)
Casual smoker	1 (0.3)	71 (20.7)	32 (9.3)	115 (33.5)	124 (36.2)
Social smoker	0 (0.0)	9 (2.6)	31 (8.8)	258 (73.3)	54 (15.3)

Note. <sup>a</sup>Significant difference in smoking experience (chi-square test with *p* < .05).

<sup>b</sup>Significant difference in gender (chi-square test with *p* < .05).

**Table 4. Adolescents' Definitions of Smoker Types Based on Length of Cigarette Smoking**

Smoker type	Length of cigarette smoking					
	Never, <i>n</i> (%)	For a few days, <i>n</i> (%)	For a few months, <i>n</i> (%)	For about a year, <i>n</i> (%)	For a few years, <i>n</i> (%)	For more than a few years, <i>n</i> (%)
Nonsmoker <sup>a</sup>	338 (95.8)	7 (2.0)	3 (0.8)	4 (1.1)	0 (0.0)	1 (0.3)
Smoker	5 (1.4)	16 (4.6)	78 (22.6)	79 (22.9)	98 (28.4)	69 (20.0)
Regular smoker	0 (0.0)	15 (4.3)	55 (15.6)	112 (31.8)	125 (35.5)	45 (12.8)
Addicted smoker	0 (0.0)	10 (2.8)	35 (9.9)	46 (13.0)	63 (17.7)	201 (56.6)
Heavy smoker	0 (0.0)	1 (0.3)	5 (1.4)	14 (4.0)	47 (13.5)	280 (80.7)
Experimental smoker	1 (0.3)	177 (53.2)	89 (26.7)	33 (9.9)	17 (5.1)	16 (4.8)
Casual smoker	2 (0.6)	43 (12.8)	121 (36.1)	96 (28.7)	46 (13.7)	27 (8.1)
Social smoker	0 (0.0)	50 (15.9)	117 (37.3)	81 (25.8)	40 (12.7)	26 (8.3)

Note. <sup>a</sup>Significant difference in gender (independent sample *t* test with *p* < .05).

adolescents. Compared with ever smoking adolescents, never smoking adolescents were more likely to define a heavy smoker with an increased length of smoking ( $t = -2.29, df = 332, p < .05$ ). Gender differences were found in defining the frequency and amount of smoking among heavy smokers. Females were more likely to characterize heavy smokers with an increased frequency ( $t = 3.16, df = 352, p < .01$ ) and an increased amount of smoking ( $t = 2.56, df = 352, p \leq .01$ ) than males.

**Experimental Smoker**

Adolescents characterized an experimental smoker as an individual who smokes a couple times a year (43.2%). The range in the amount of smoking was extremely variable (0 cigarettes to 2+ packs per day), but the majority of adolescents indicated that an experimental smoker could smoke anywhere from a few cigarettes per year (39.6%), a few cigarettes per month (25.7%), or a few cigarettes per week (21.7%). Experimental smokers tended to smoke at parties only (52.9%), but approximately one third reported that experimental smokers smoke at home only (20.1%) or anywhere (18.9%). The majority of the sample (79.9%) characterized experimental smokers as having smoked for a few days or a few months. Gender differences were found in defining the amount of smoking among experimental smokers, with males more likely to characterize experimental smokers with an increased amount of smoking than females ( $t = -2.17, df = 344, p < .05$ ).

**Casual Smoker**

A casual smoker was characterized as an individual who smokes every few months (22.5%), a couple times a month (28.6%), or a couple times a week (27.8%). The amount of smoking for a casual smoker generally ranged from a few cigarettes per month to a few cigarettes per week (66.4%) and tends to smoke at parties (33.5%) or anywhere (36.2%). Over half of the sample (64.8%) characterized casual smokers as having smoked for a few months or for about a year. Gender differences were found in defining the amount of smoking among casual smokers, with males more likely to characterize casual smokers with an increased amount of smoking than females ( $t = -2.90, df = 358, p < .01$ ).

**Social Smoker**

Adolescents characterized a social smoker as an individual who smokes a couple times a month or week (62.5%), smokes a few cigarettes per month or week (57.1%), and tends to smoke at

parties only (73.3%). Although the length of smoking for a social smoker was widely distributed, the majority of the sample (63.1%) characterized a social smoker as having smoked for a few months or for about a year. No differences in smoking experience or gender were found.

**Qualitative Interviews**

When asked to define a smoker during the interviews, adolescents tended to characterize the term “smoker” using frequency of smoking. The majority ( $n = 26$ ) of adolescents included regularity and consistency in their response to the questions: For example, a female never-smoker defined a smoker as, “Someone who has cigarettes and smokes. Probably someone that does it regularly like a regular routine.” Other notable quotes included the following: “I think someone who smokes like regularly, like not like just tries it but like continuously” (female and never-smoker) and “someone who smokes tobacco or anything. Constantly like every day or every other day . . . if you do it consistently like day after day” (male and ever-smoker). In addition, adolescents made a distinction between experimentation versus regular or habitual use: “I don’t consider someone a smoker if they try it like once or twice, but if they do it consistently I’d say . . . well, yeah, if they smoke like a few a day then yeah, I’d consider them a smoker, of course, because it’s not just a one time thing, doing it like consistently” (male and ever-smoker), and “I guess someone who continually smokes, has the habit of it. I don’t think somebody who does it one time would be considered a smoker. It has to be a habit, I guess” (male and ever-smoker).

In terms of the amount of cigarette smoking required to be considered a smoker, we found less agreement among the adolescents. This qualitative finding supported the quantitative findings that indicated a wide range: “I would say maybe if the person did it like maybe 5 times a day or something like that but obviously once you get into like how many packs a day or whatever, that’s definitely a smoker so . . .” (female and never-smoker); “I feel people that smoke at least one cigarette a day, they’re smokers” (female and ever-smoker); “to me, if they smoke once, they’re a smoker—it doesn’t matter” (male and never-smoker); and “once a week would probably be a smoker. If you smoke, you smoke” (male and ever-smoker).

Some adolescents also framed their definition of a smoker in terms of addiction, but a lack of agreement in terms of what

amount was required to be considered addicted was observed: "Like a person that is like addicted to it, that smokes like every day or smoking all the time" (female and never-smoker); "either they smoke like at least once a day, I guess, or once or twice every other day, if they're addicted to it" (female and never-smoker); and "I guess someone who smokes regularly. I'm not sure like how many times a day or week, but like I don't think they're addicted but they feel the need to smoke. I think it could be from like a couple times a week to every day" (female and never smoker).

## Discussion

This is one of the first studies to employ mixed methodology to investigate how adolescents define different smoker types using multiple smoking indicators of smoking behaviors, including frequency, amount, place, and length of smoking, and whether differences exist by individual smoking experience. The results of this study add to the body of literature on how adolescents perceive and define a smoker and the associated characteristics of various other smoker types. This information can be used to maximize the effectiveness of health messages targeted to youth smoking prevention and cessation efforts.

Results from this study found that adolescents generally agreed that a high frequency of smoking was required in order to be considered a smoker (i.e., smoke a couple times a week or everyday), whereas research-based classifications agree that a smoker is an individual who smokes cigarettes, regardless of the frequency. Youth smoking behavior tends to be characterized by nondaily and low amounts of cigarette use (Hassmiller et al., 2003; Wortley et al., 2003), which may explain why some adolescents who smoke do not identify themselves as a smoker. Also, the appearance of subsets of nondaily smoking behavior, such as social smoking, may be contributing to these inconsistent self-identifications of smoking status. The majority of adolescents in our study sample (73.3%) defined social smoking as smoking primarily in social contexts (i.e., at parties only). Evidence has shown that social smokers tend to categorize themselves as nonsmokers when asked by family, friends, or health care providers (Schane, Glantz, & Ling, 2009). As a result, general health messages that are used to target youth smokers may be ineffective if they contain terms such as "smoker" because these individuals do not view their smoking behavior as a marker of such behavior (Gilpin, White, & Pierce, 2005; Moran et al., 2004) and may not perceive the messages as applicable.

The concept of nicotine addiction among adolescents raises particular concern as our findings suggest that adolescents may be unaware or not comprehend that they can experience symptoms of nicotine dependence with a lower frequency and amount of cigarette smoking compared with adults. This was shown in both the quantitative and the qualitative data. Previous research has shown that symptoms of nicotine dependence among adolescents often develop soon after smoking initiation and generally before the onset of daily smoking (Colby, Tiffany, Shiffman, & Niaura, 2000; O'Loughlin, Kishchuk, DiFranza, Tremblay, & Paradis, 2002; O'Loughlin, Tarasuk, DiFranza, & Paradis, 2002) and that loss of autonomy can be prompted with smoking just one cigarette (DiFranza et al., 2011; Scragg, Wellman, Laugesen, & DiFranza, 2008). In our study, approximately three quarters of the participants (74.3%) characterized an addicted smoker as having smoked for a few years or more. Additionally, overlap in

definitions between addicted smoker and heavy smoker was observed, which suggests that the adolescents in our sample tended to associate nicotine addiction with a high frequency and amount of cigarette use. These findings suggest that youth smoking prevention programs should include a discussion of nicotine addiction, including how quickly and from just a few cigarettes an adolescent can become addicted.

This study found differences in how adolescents characterized some smoker types based on individual smoking experience. While the majority of adolescents agreed that a nonsmoker never smokes, adolescent ever-smokers were more likely to assign some frequency of smoking to a nonsmoker. On the opposite end of the spectrum, adolescent never-smokers were more likely to characterize a heavy smoker with a greater length of smoking compared with ever-smokers. These results suggest that ever-smokers may have a greater flexibility in determining what constitutes nonsmoking and heavy smoking, while never-smokers may have much more narrower definitions. Although this study did not specifically investigate perceptions of smoking risk, our findings may contribute to future studies on risk perceptions among adolescent smokers and nonsmokers, which have found that adolescent smokers believe that health risks of smoking are lower for themselves than for other smokers their own age (Halpern-Felsher et al., 2004), and that perceptions predict smoking initiation (Song et al., 2009). These findings may be related to this flexibility in defining what smoking is and is not in this particular group.

Gender differences in how adolescents characterized different smoker types were detected. We found that males were more likely to characterize some smoker types more broadly than females, although this was not found to be consistent for all smoker types and characteristics. Previous studies have found gender differences in smoking identities among adolescent boys and girls (Lloyd, Lucas, & Fernbach, 1997; Okoli, Torchalla, Ratner, & Johnson, 2011), which suggests that there may be potential differences in how adolescents characterize different smoker types, regardless of their own smoking identity. Future research should examine these gender differences in order to develop more effective and tailored smoking prevention and cessation messages.

Our study also found a considerable amount of overlap in definitions between different smoker types. For example, adolescents' characterizations of smoker and regular smoker showed a great deal of overlap in terms of the frequency, amount, and place of smoking. This was also reflected in the qualitative interview data. Other smoker types that showed overlap included the addicted smoker–heavy smoker and casual smoker–social smoker pairs. The amount of similarities and overlap between definitions is cause for concern, especially if adolescents are indiscriminately and interchangeably using different smoker types, as the accuracy of research often depends on consistency across participants (Rubinstein et al., 2003). Future youth smoking prevention efforts and communication strategies should make efforts to provide clear definitions of what is meant by smoking and offer concrete explanations of different smoker types in order to avoid confusion and misinterpretation.

## Limitations

There are some limitations to this study. First, the participants were given specific smoking categories (i.e., regular smoker,

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addicted smoker) rather than given the option of providing their own categories, which may have resulted in confusion if adolescents were not familiar with such terms or categories. Related to this, participants were not given the option to identify their own perceived smoker type or classification according to the categories provided. Finally, the generalizability of the study findings may be limited as the smoking experience among adolescents in California does not necessarily reflect national trends.

## Conclusions

Health communication strategies for youth smoking prevention need to address the wide variability and overlap in how adolescents define different smoker types. Greater attention should be directed to understanding the nuances of how both never smoking and ever smoking adolescents define smoking in order to maximize the effectiveness of youth-centered smoking prevention and cessation messages. As adolescent smoking is generally characterized by nondaily and low amounts of cigarette use, health messages may need to be reframed in order to capture what smoking adolescents consider relevant to them.

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## Declaration of Interests

None declared.

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