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College Student Beliefs and Behavior Regarding Sharing When Smoking Hookahs

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Abstract

Objectives: We examined college students' beliefs and behavior regarding sharing when smoking a hookah, a practice that may involve substantial risk of disease transmission.

Methods: We carried out a cross-sectional Web-based survey of undergraduate ever users of hookah (N = 970) at a US university in 2007.

Results: Hookah sharing started at initiation of hookah use. The first-time participants smoked hookah, 96.9% shared it, and 97.5% were with friends either in a hookah lounge (59.5%) or at a friend's home (30%). Participants shared a hookah when they first smoked it because sharing was acceptable with friends, family, or trusted others, normative etiquette, not problematic/harmful, cheaper, or the only smoking option. Participants did not use a mouth tip when they first smoked a hookah because it is not necessary with friends/family, there was no tip available, they were unaware of tips, or did not want to use one.

Conclusions: Overwhelmingly, hookah sharing started at smoking initiation. Efforts are needed to create an environment in which sharing hookah practices are less acceptable such as increasing awareness of potential health risks of sharing, particularly among youth, and providing disposable hoses, disposable mouth tips, and proper hookah device cleaning practices in private and public hookah venues settings.

Keywords

hookah; waterpipe; smoking; disease transmission; college students; health risk-taking

The prevalence of hookah tobacco smoking is becoming a public health concern, particularly among university students in several eastern Mediterranean, eastern European, and western countries, including the United States (US).^{1–5} The US National College Health Assessment II (2014 ACHA-NCHA II) found that of US undergraduate college students, 38.2% of men and 31.4% of women, reported ever using hookah tobacco, and 11.6% of men and 8.3% of

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Conflict of Interest Statement

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women reported current use (past 30 days).⁶ US college-based random sample surveys reported higher rates of hookah use than national data (ever use range = 15.4%–61%, and current use range = 6%–20%).^{7–11} The 2009–2010 ACHA - NCHA II found that 95% of college students who reported current hookah use were undergraduates.¹² This suggests that US college students, especially undergraduates, are susceptible to experimenting with hookah smoking, particularly because of the spread of hookah lounges around colleges and universities along with the belief that hookah tobacco use is less harmful than cigarettes.^{5,13–18}

A hookah (waterpipe) consists of a bowl, a vertical tube that passes into a partially-filled water jar, and a flexible hose with a mouthpiece. Using a hookah hose, the smoker inhales the smoke that is generated from charcoal-heated hookah tobacco, which is drawn from the bowl and through water.¹⁹ Hookah smoking is often practiced in social settings in public venues and in private homes.^{14,20–22} A popular and expected customary practice of hookah smoking includes sharing the hookah device during a smoking session with other hookah smokers.^{14,20,23–29} Sharing the hookah device includes passing the hookah hose around 2 or more family members and friends.^{27–29} A disposable mouthpiece (mouth tip), usually made of plastic, may be offered in home parties and in smoking public venues for the hookah smokers to place over the fixed mouthpiece of the hookah hose when sharing the hookah.³⁰

Whereas research has focused on non-communicable diseases associated with the toxicity of hookah tobacco use,^{31,32} understanding of sharing behaviors, a potential risk factor for communicable diseases, is lacking. Hookah device parts, including the hose, stem, and water, constitute fomites, ie, objects or materials that may be associated with the transmission of enteric and respiratory infectious diseases between smokers via saliva and fecal-oral routes.^{32–37} A number of previous studies suggest that sharing a hookah between smokers is associated with transmission of infectious diseases.^{32–39} This is the first study that examined in-depth sharing behaviors during hookah initiation and current use.

This study, focusing on undergraduate student ever hookah smokers at a US university, examined: (1) sharing hookah and mouth tip use behaviors at home and in public venues by sex; (2) reasons for sharing a hookah; and (3) reasons for not using a mouth tip.

METHODS

Participants and Study Design

A detailed description of methods has been published previously,¹⁴ so only a brief description is provided here. In 2007, this cross-sectional study investigated hookah use among undergraduate college students at an urban public university in San Diego County, California. The university enrollment services randomly selected 10,000 students from the database of 26,019 undergraduate students with email addresses on file, and emailed invitations to participate in a 30-minute online hookah behavior survey.

The invitation email explained the study, the option to complete the survey in multiple visits, the opportunity to win one of 5 money orders of \$50 each, and how to contact researchers. All participants read and electronically signed an informed consent prior to initiating the

survey. We received survey responses from 1374 students (13.74%). Due to our focus on students of traditional undergraduate ages, we excluded students age 35, conducting analyses on 1332 students aged 18–34 years. [SurveyMonkey.com](https://www.surveymonkey.com) was used to format the hookah questionnaire and collect data. This paper presents findings on a subset of students who reported ever hookah use (N = 970).

Measures

We developed a hookah questionnaire and checked its content validity by consulting the literature on hookah use and US national surveys on tobacco use.^{40–43} In addition to asking about age, sex, and race/ethnicity, we measured the variables identified below.

Ever hookah use.—Ever hookah smokers were identified by a ‘Yes’ response to ‘Have you ever tried or smoked a hookah, even a few puffs?’ and never hookah smokers by a ‘No’ response. Hookah use assessment included age first tried to smoke hookah, location and with whom they smoked when they first tried hookah, and past 30 days hookah use.

Sharing a hookah and reasons for doing so.—We asked about sharing hookah and about mouth tip use, at first time use and during current use. We also asked open-ended questions about reasons for sharing a hookah, and for not using a mouth tip. Responses to open-ended questions appear in tables later in this paper.

Data Analysis

Quantitative data.—Data were exported from SurveyMonkey and analyzed with SPSS version 22 using 2-tailed statistical tests ($\alpha = 0.05$). Pearson chi-square tests were used for categorical variables and independent sample t-tests for continuous variables to assess differences in hookah smoking related behaviors by sex.

Qualitative data.—For open-ended questions, based on initial reading of responses, a codebook was developed by the principal investigator (PI) and reviewed by the study team. Participants’ responses were manually grouped independently by 2 coders - the data manager, and a hookah smoker graduate university student intern. The PI and the 2 coders discussed discrepancies and made corresponding modifications to coding. The codebook was updated by emerging themes.

RESULTS

Demographic characteristics of undergraduate university students ever hookah smokers (970 of the 1332 survey respondents age 35) are presented in Table 1. Nearly two-thirds of the respondents were women (64.5% women vs 35.5% men). The mean (M) age of respondents was 21 years (SD = 2.42). About half identified as white (49.4%), 19.9% as Hispanic, 16.2% as Asian, and those who chose the ‘Other’ option for ethnicity (11.8%) considered themselves bi- or multi-ethnic, or identified themselves by their country of origin, such as Italian or Filipino.

Men and women ever hookah smokers did not differ significantly by age, ethnic makeup, length of time they usually smoke hookah on the day they smoke, or whether they smoked hookah in past 30 days.

Sharing Hookah Behaviors

Table 2 presents sharing hookah behaviors among ever hookah smokers. When participants first tried to smoke hookah, most (97.5%) were with friends and were away from their own home [at a hookah lounge (59.5%), at a friend's home (30%), or at school/college (6.2%)]. The first time they smoked a hookah, most shared it with someone they knew (96.9%). When asked about current use, 78.9% reported almost always or often sharing with someone they knew. About one-fourth of participants (24.8%) reported currently sharing a hookah with someone they just met.

In a home setting, more than three-fourths (76.5%) did not use a mouth tip when they first smoked hookah, and rarely/never during their current use (83.2%). In a public setting, less than one-fourth (22.6%) did not use a mouth tip when they first smoked hookah, and about one-fourth (24.5%) rarely/never used a mouth tip during their current use.

Most participants reported that the first time they smoked hookah they were happy and celebrating (73.9%), and not depressed (95%). Men and women were similar in that the first time they smoked hookah they shared it with someone they knew and were happy/celebrating and not depressed. However, women were more likely than men to use a mouth tip the first time they smoked hookah in public (81.5% of women vs 69.6% of men), and during their current use (80.4% of women vs 68.2% of men).

Reasons for Sharing a Hookah when First Smoking it

Table 3 presents responses to the open-ended question: "The first time you smoked a hookah, if you shared it, list reason(s) why." More than one-fourth of the responses (28.5%) indicated that students shared a hookah because they were with friends (28.5%), and because they believed that sharing a hookah is the etiquette/norm of smoking it (22.8%). Illustrative responses included: "I thought it was a custom" and "It's rude to not share." Other reasons were that it is cheaper to share a hookah (13.1%), and that there was only one hookah (10.3%). Illustrative responses included: "Cheaper to pass it around all of us" and "There were about 6 of us passing it around" and "It's not like everyone brings their own hookah." The remaining 25.3% of responses included the such reasons as: "I trust the people I share hookah with," "Nothing wrong with sharing a hookah," "Too much tobacco for one person," "Shared hookah to experiment," and "Shared it with family."

Reasons for not Using a Mouth Tip when First Smoking Hookah

Table 4 presents responses to the open-ended question: "The first time you smoked a hookah, if you did not use a mouth tip, list reason(s) why not." About one-third (39.1%) of the responses indicated that it is not necessary to use a mouth tip when smoking with friends and family. An illustrative response was: "Friends too young and innocent to get herpes of the mouth." About one-third (38.1%) of the responses indicated that participants did not have a mouth tip: "I didn't have any," "I wasn't given one," and "The hookah bar did not

provide mouth tips.” Other reasons reported were that participants either did not know about a mouth tip, or did not want to use one, eg, “I didn’t know there was such a thing,” “No one uses them,” and “But none of us thought the experience was unsanitary.”

DISCUSSION

This study added important findings on hookah-sharing behaviors among undergraduate students at a US university. We found that, irrespective of the sex of participants, the practice of sharing a hookah started during initiation of hookah use; almost all participants (96.9%) reported sharing a hookah the first time they smoked it. When participants first smoked hookah, they reported that they were with friends or family, they trusted the people they were with, felt that there was nothing wrong with sharing, and that it was the norm to share a hookah. Examples of responses describing sharing behaviors included: “There were 6 of us passing it around,” and “Ten men and one hookah.” Our results and the results of other US-based studies and ones from other countries reveal that sharing a hookah is common, and almost always practiced in groups in hookah-smoking public venues and in-home settings.^{14,20,23–29}

We found that more than half of the participants (59.5%) reported that when they first tried to smoke hookah they were at a hookah lounge. Furthermore, during current use, participants reported sharing a hookah with strangers at times. For example, about one-fourth (24.8%) of the participants reported that they currently share a hookah with someone they just met. This is alarming because sharing of hookah hoses may be associated with transmission of infectious diseases between smokers.^{32–39} Pathogens that could be transmitted include enteric and respiratory bacteria and viruses.³⁵ Two studies found that the risk of *Helicobacter pylori* bacterial infection was found to be 4.1 times significantly higher (odds ratio (OR), 95% CI: 4.1, 1.01–17.24) for communal hookah smokers compared to non-smokers,³⁶ and sharing a marijuana hookah with a case of pulmonary tuberculosis (TB) was associated with transmission of TB (OR, 95% CI: 2.22, 0.96–5.17).³⁷ As these 2 studies^{36,37} were limited by small sample sizes and acknowledgement of potential confounding factors, the common practice of sharing a hookah warrants further investigation to determine the risk of infectious disease transmission.

Transmission of infectious diseases also could be due to poor sanitation and inadequate cleaning of hookah devices in public settings.^{38,44–46} Four studies found that components of hookah devices in public venues were contaminated with microorganisms, which can be transmitted to users.^{38,44–46} In Saudi Arabia, water in the hookah jars in cafes was found to be contaminated with various bacterial pathogens including multidrug-resistant and pneumonia-causing bacteria.⁴⁴ In Jordan, random hose swab samples collected from hoses of hookahs at hookah cafes showed the presence of a wide spectrum of Gram-positive and Gram-negative strains with variations in their susceptibility to major antibiotics.⁴⁵ In Iran, in samples collected from disposable and fixed mouthpieces, and from water in hookah jars in hookah cafes, the most frequently identified contaminants that may contribute to respiratory tract colonization were coagulase-negative staphylococci, *Streptococcus spp*, *Neisseria spp*, and *Escherichia coli*.⁴⁶ In the US, investigators examined evidence of bacterial contamination in hookah devices in hookah lounges (N = 10) by collecting samples from the

fixed mouthpiece, detachable hose, and non-disposable hose connector of hookah devices.³⁸ They found that all devices sampled showed bacterial growth, with the highest bacterial prevalence and diversity being found in the mouthpiece. Furthermore, some of the bacterial isolates were antibiotic-resistant, and 10 of the isolated bacteria were Gram-positive and 2 were Gram-negative.

Not only hookah lounge patrons share the hookah devices; hookah lounge employees also share the hookah when getting them ready for customers. Therefore, health departments in the US and other countries are urged to pass and enforce sanitation regulations in hookah smoking public venues, including requiring the use of disposable hoses and conducting unannounced pathogen testing of hookah devices.

To our knowledge, there are no studies on contamination levels of hookah devices in home settings. We previously found that hookah smokers smoke in groups in public venues as well as in home settings.^{14,20,22,26} In the current study we found that one-third of participants reported that when they first tried to smoke hookah they were either at a friend's home (30%) or their home (4.3%).

In California, effective June 9, 2016, Senate Bill X2 7 changed the minimum legal purchase age for all tobacco products in California from 18 to 21 years.⁴⁷ California's TOBACCO 21 Law was passed to decrease tobacco addiction in California by restricting youth access to tobacco products, including alternative tobacco products such as hookah tobacco.⁴⁷ This law prohibits young adults under the age of 21 years from entering hookah lounges. We have previously found that most ever hookah smoker participants [87.5% (301/344) of men and 90% (564/626) of women] first tried to smoke hookah tobacco at an age younger than 20 years.¹⁴ The new California law would prohibit initiation of hookah tobacco at a hookah lounge for those younger than age 21 years. Therefore, college-aged youths will probably be initiating hookah tobacco use, and learning the norms regarding sharing, in a dorm, fraternity/sorority house, or off-campus apartment/home. Furthermore, hookah smokers younger than 21 years may continue to smoke hookah in a home setting. Therefore, future studies of hookah device contamination might include those settings.

Future research in California and other states with such laws should investigate location of initiation and current hookah use of young adults, particularly those younger than 21 years. Mean-while, our findings and the advent of tobacco-related minimum legal age laws inform the need to include hookah tobacco in tobacco cessation interventions, encourage residents to create home bans against hookah smoking inside their homes to protect nonsmokers, and encourage proper cleaning of hookah devices in home settings.

Manufacturers of hookah devices produce and make available on their websites disposable mouth tips and personal mouth tips for reuse for hookah smokers. In public smoking venues, we found that when participants first smoked hookah, about a little less than one-fourth (22.6%) did not use a mouth tip, and (24.5%) rarely or never used one during current use. In contrast, in home settings, a much higher percentage of participants (76.5%) did not use a mouth tip when they first smoked hookah, and a much higher percentage of participants (83.2%) rarely or never used it during current use. We also found that when asked about

reasons for not using a mouth tip the first time they smoked hookah, about one-third of the respondents indicated they felt it was not necessary because they were with people they knew, and about one-third indicated that they did not have a mouth tip. Responses for not having a mouth tip ranged from not having one themselves, to not available at the hookah lounge they were at, to friends did not have one. About one-third did not know about the existence of mouth tips.

A US-based study found that sampled mouth-pieces from hookah bars had the highest bacterial prevalence and diversity compared to other parts of the hookah device.³⁸ Similarly, another study in hookah cafes and restaurants in Iran also found the mouthpiece contained the highest bacterial contamination.⁴⁶

Whereas the effectiveness of using a mouth tip in reducing the harm of sharing a hookah with others has not been determined yet, strategies to reduce harm of sharing a hookah ought to include the use of a mouth piece when sharing a hookah with friends or strangers in public venues and home settings.

Limitations

This study employed a cross-sectional design, which limits our ability to establish causality. The response rate (13.4%) was low, possibly compromising the external validity of the findings; however, this level of response is typical of Web-based surveys.⁴⁸ Length of time needed to complete the survey (30 minutes) may have resulted in missing data. Many of our recommendations to control the spread of communicable diseases potentially due to sharing a hookah were based on small sample sizes from open-ended questions in Tables 3 and 4; we suggest that future researchers collect data on larger samples informed by our results. Use of single-hose or multiple-hose hookahs was not assessed; future researchers are encouraged to investigate perceptions of and actual health risks associated with sharing practices while using either set-up. Because hookah use is emerging and changing rapidly in the US, the time elapsed since 2007, when data were collected, is another limitation, as hookah sharing practices may have changed since then. However, our findings fill a gap in knowledge about sharing hookah in home settings and public venues, thereby informing points of intervention to reduce harm due to sharing a hookah. Moreover, due to continued sharing practices among hookah smokers, and lack of change in regulations governing hookah device-cleaning practices in hookah lounges since this study was conducted, its implications remain relevant.

Conclusion and Implications

Irrespective of sex of smokers, the practice of sharing a hookah started during initiation of its use in public venues or friends' homes. Reasons for sharing a hookah during initiation included believing that it is the etiquette/norm. Those who did not use a mouth tip during initiation felt that it was not necessary to use one when smoking with friends and family, did not have a mouth tip, or did not know about a mouth tip. Interventions are needed with youth before they enter college to increase their awareness of the potential health risks of sharing a hookah prior to their initiation of its use. Studies of contamination levels in hookah devices in public venues and homes of hookah smokers are encouraged. Meanwhile, to reduce potential transmission of pathogens between smokers via hookah devices, health

departments in the US and in other countries are urged to require the use of disposable hoses in public venues, provide disposable mouth tips, and regulate proper cleaning practices of hookah devices and enforce these regulations via unannounced compliance checks.

California's successful tobacco control efforts have worked to change the social norms around the use of tobacco to create an environment in which tobacco is less acceptable.⁴⁹ Tobacco control efforts should include hookah tobacco, involve healthcare professionals, encourage banning hookah smoking inside homes to protect nonsmokers, encourage proper cleaning measures for hookah devices in both public and home settings, and create an environment in which hookah sharing practices are less acceptable.

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Human Subjects Statement

The study was approved by the Institutional Review Board of San Diego State University. Electronic informed consent for all study procedures was obtained before data collection.

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Table 1
Demographics of Undergraduate University Student Ever Hookah Smokers, San Diego, California (N = 970)

	Ever Hookah Smokers				<i>p</i> ^a
	Total N = 970	Men N = 344 (35.5%)	Women N = 626 (64.5%)		
Age (years)	N	N	N	(%)	
18–21	631	206	425	(65.1)	.038
22–24	258	107	151	(26.6)	
25–34	81	31	50	(8.4)	
Mean (SD) ^b	21	21.2	20.9	(2.42)	(2.38)
Median (Minimum–Maximum)	21	21	20.5	(18–34)	.064
Ethnicity					
White	479	168	311	(49.4)	
Hispanic	193	73	120	(19.9)	
Asian	157	56	101	(16.2)	
African American	26	12	14	(2.7)	
Other ^c	115	35	80	(11.8)	.546
Did you smoke hookah during the past 30 days? ^d					
Yes	255	98	157	(41.8)	.645
No	355	143	212	(58.2)	
About how old were you when you first tried to smoke hookah? (years)					
<18	252	97	155	(28.1)	.354
18	361	116	245	(40.3)	
19–21	230	81	149	(25.7)	
22–34	53	22	31	(5.9)	
Mean (SD)	18.3	18.3	18.3	(2.10)	.002
Median (Minimum–Maximum)	18	18	18	(11–30)	.960
How long do you usually smoke hookah on the day you smoke? (minutes)					
Mean (SD)	67.1	65.6	68.1	(42.5)	.512

Ever Hookah Smokers					
Men N = 344 (35.5%)		Women N = 626 (64.5%)		p^a	
N	(%)	N	(%)	N	(%)
What is the longest time you have ever smoked hookah in one day? (minutes)					
Median (Minimum-Maximum)	60 (2–240)	60 (10–180)	60 (2–240)		
Mean (SD)					
119.3	(74.5)	121.7	(73.8)	117.8	(75.1)
Median (Minimum-Maximum)					
120	(5–450)	120	(10–450)	120	(5–360)

Note.

^a: The p-values are from the chi-square test or t-test, as appropriate, significance at $p < .05$; statistically significant p values are bolded.

^b: SD = Standard Deviation

^c: Other = Mixed ethnicity backgrounds

^d: 'Hookah' was referred to in the questionnaire as 'hookah tobacco'.

Due to missing values, some variables do not total the sample size 970.

Sharing Hookah Behaviors among Ever Hookah Smoker Undergraduate Students at a University in San Diego, CA (N = 970)

Table 2

	Ever Hookah Smokers				N	Ever Hookah Smokers N = 970	(%)	Ever Hookah Smokers		p ^a
	N	(%)	Men N = 344 (35.5%)	Women N = 626 (64.5%)						
The first time you tried to smoke hookah were you:										
with friends	869		(97.5)	312	(99.4)	557	(96.5)		.009	
with family	22		(2.5)	2	(0.6)	20	(3.5)			
The first time you tried to smoke hookah were you:										
in a hookah lounge	453		(59.5)	138	(53.1)	315	(62.9)		.001	
at friend's home	228		(30.0)	95	(36.5)	133	(26.5)			
at home	33		(4.3)	5	(1.9)	28	(5.6)			
at school/college	47		(6.2)	22	(8.5)	25	(5.0)			
The first time you smoked a hookah did you share a hookah with someone you know?										
Yes	853		(96.9)	297	(97.1)	556	(96.9)		.873	
No	27		(3.1)	9	(2.9)	18	(3.1)			
Currently, do you share a hookah with someone you know?										
Almost Always/Often	460		(78.9)	169	(72.2)	291	(83.4)		.001	
Rarely/Never	123		(21.1)	65	(27.8)	58	(16.6)			
Currently, do you share a hookah with someone you just met?										
Almost Always/Often	143		(24.8)	71	(30.5)	72	(21.0)		.010	
Rarely/Never	433		(75.2)	162	(69.5)	271	(79.0)			
The first time you smoked a hookah did you use a mouth tip when smoking a hookah at home?										
Yes	167		(23.5)	63	(24.4)	104	(22.9)		.647	
No	545		(76.5)	195	(75.6)	350	(77.1)			
Currently, do you use a mouth tip when smoking a hookah at home?										
Almost Always/Often	82		(16.8)	36	(17.3)	46	(16.4)		.784	
Rarely/Never	407		(83.2)	172	(82.7)	235	(83.6)			
The first time you smoked a hookah did you use a mouth tip when smoking a hookah in public?										
Yes	615		(77.4)	192	(69.6)	423	(81.5)		<.001	

	Ever Hookah Smokers				p ^a
	Ever Hookah Smokers N = 970	Men N = 344 (35.5%)	Women N = 626 (64.5%)		
No	180	84 (30.4)	96 (18.5)		
Currently, do you use a mouth tip when smoking a hookah in public?					
Almost Always/Often	420	150 (68.2)	270 (80.4)		.001
Rarely/Never	136	70 (31.8)	66 (19.6)		
Currently, tell me if you smoke a hookah to meet someone attractive?					
Almost Always/Often	68	47 (20.6)	21 (6.1)		<.001
Rarely/Never	503	181 (79.4)	322 (93.9)		
The first time you smoked hookah did you smoke when depressed/ stressed out?					
Yes	44	17 (5.7)	27 (4.8)		.560
No	824	283 (94.3)	544 (95.2)		
The first time you smoked hookah did you smoke when happy and celebrating?					
Yes	633	218 (72.7)	415 (74.5)		.559
No	224	82 (27.3)	142 (25.5)		

Note.

^a: The p-values are from Pearson's chi-square test or t-test, as appropriate, for significance at $p < .05$. Statistically significant p values are bolded. Some cells with expected count of less than 5 violated the assumptions of the chi-square test. Due to missing values, some variables do not total the ever hookah users sample N = 970.

Table 3

Responses by Ever Hookah Users among Undergraduate University Students to the Open-ended Question: “*The first time you smoked a hookah, if you shared it, list reason(s) why.*” (N = 970)^a

	N	(%)	Quotes
Shared hookah with friends	193	(28.5)	I was with good friends who were all sharing a hookah. It was a group of friends hanging out and passing around the hookah. All my friends were sharing hookah regularly. I shared it with a close friend. It was a party on the beach with all my friends. It was at a friend's house. It's a nice gesture of friendship. It was friends' night out at a hookah lounge. Friends said it was cool to share a hookah. I felt pressured, peer pressure.
Sharing etiquette / norm of smoking hookah	154	(22.8)	I thought sharing was the point of hookahs. I thought it was a custom. Everybody shares hookah. That's how you smoke a hookah... Duh. It's not an individual activity. It is polite to pass it around. It's common practice to share. To be social. I smoked with co-workers. It's supposed to be shared between friends and people you enjoy. Sharing is caring. Nobody smokes hookah separately. A smoker offered me to share. It's rude to not share.
Cheaper to share hookah	89	(13.1)	It was cheaper to share a hookah. Cheaper to pass it around all of us. Save money. There was 3 of us so we paid for one hookah at a hookah bar. I was with a group 6 of friends and we shared 2 hookahs and split the cost. I split the cost with a friend. It's too expensive to buy one on my own. A friend bought it. Why would you pay for 2 hookahs? I didn't want to smoke that much anyway.
There was only one hookah / only few hookahs	70	(10.3)	There was only one hookah and I had to share. We ordered one for the whole table. It was a group of people all smoking from one big hookah. There were more people then hookahs. Only one hose to smoke from. There were 4 of us and one hookah with one hose. There were about 6 of us passing it around. Ten men and one hookah. It's not like everyone brings their own hookah.
I trust the people I share hookah with	40	(5.9)	I really trust the people I shared it with. I knew my friend was clean. I trust my friends aren't diseased or disgusting. It was with close friends and it seems silly to keep changing the tip. I knew very well all the people that I was sharing with. I share everything with those friends. I was with my friends so I did not care.
Nothing wrong with sharing a hookah	39	(5.8)	I did not see anything wrong with sharing. Why wouldn't I share it? It didn't matter with my friend if we shared or not. It didn't matter to me. Why would you not share a hookah? I didn't care. I was taught in preschool to share!
Too much tobacco for one person	38	(5.6)	It is difficult to smoke an entire bowl by yourself. One hookah for one person is too much. I can't smoke an entire bowl of hookah alone. I didn't want to smoke all the tobacco by myself. One hookah is sufficient for up to 3 people. One bowl last forever. It's too much tobacco to smoke alone. I knew I wouldn't finish it. You will get sick if you smoke an entire bowl alone!!! Less tobacco per person.
Shared hookah to experiment	37	(5.5)	It was only to experiment. It was passed to me. Friends said it tasted good so I shared. My friend wanted me to try it. I wasn't sure I would like it. Never tried it before. I wanted to try it first. To see how it works. I didn't know any different. Something new and interesting. Friends wanted to try it also so we shared it. It was tempting. It was our first time and did not want separate hookahs.
Shared hookah with family	17	(2.5)	I was with my family. I was young and my uncles were smoking it. It was my husband and now we share a lot. It's my cousins. It was only my girlfriend and me and one hookah was enough. It was my boyfriend.

Note.

^a: Some participants provided no response, and others provided more than one response, for a total of 677 responses.

Table 4

Responses by Ever Hookah Users among Undergraduate University Students to the Open-ended Question: “*The first time you smoked hookah, if you did not use a mouth tip, list reason(s) why not.*” (N = 970)^a

	N	(%)	Quotes
Not necessary with friends and family	84	(39.1)	I knew the people. I didn't think it was a big deal with my friends. Not needed at friend's home. I was among friends, not strangers. I trust that my friends are clean. I was with friends and am not paranoid about germs. I was with friends I knew were not diseased. I was with friends, we share drinks, so this was the same. Friends too young and innocent to get herpes of the mouth. I did not think there were severe health problems. It was my friend's hookah and sharing germs wasn't a big deal. The hookah was cleaned before used. I shared with girlfriend. It was my boyfriend's hookah and he shared only with our friends and they were tested for cooties so no worries. I was with family at home not in a hookah bar. It's my cousins. It would have created mistrust. It just seems rude and insulting.
Did not have a mouth tip	82	(38.1)	I didn't have any. I wasn't given one to use. I wasn't offered one. Nobody gave us any. The hookah bar did not provide mouth tips. There weren't any to use. Not available at a party. Friends did not have them. It was a hookah owned by a friend and he did not have any. Someone offered me to share and did not have one.
Did not know about a mouth tip	29	(13.5)	I didn't know about it. I didn't know it was an option. I didn't know what it was. I didn't know mouth tips were available. I didn't know there was such a thing.
Did not want to use a mouth tip	20	(9.3)	I didn't want to use a tip. I didn't care to use one. No one uses them. Too much effort. Why would we use one? Taste of the smoke is altered. Too time consuming to take the tip off and switch it from each person. But none of us thought the experience was unsanitary. No one else was using one.

Note.

^a: Some participants provided no response, and others provided more than one response, for a total of 215 responses.