

# Perceptions of secondhand tobacco smoke among Minnesota Metro renters

*A survey of renters across the  
Twin Cities metro area*

AUGUST 2009

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# Summary

To examine the experiences and perceptions regarding secondhand tobacco smoke among renters in the seven-county Twin Cities Metro region, the Association of Nonsmokers-Minnesota (ANSR-MN) contracted with Wilder Research to conduct a combined mailed and telephone survey during the 2008-2009 heating season (November 2008-February 2009). This project was modeled after a similar study commissioned by ANSR-MN in 2001.<sup>1</sup>

A total of 406 completed surveys were collected from Metro renters for the project. Most renters who completed the survey were women (63%), White (75%), and did not smoke tobacco (79%). The prevalence of smoking among respondents is comparable to results from the 2007 Minnesota Adult Tobacco Survey (MATS), which estimated that 17 percent of adult Minnesotans were current smokers. Compared to U.S. Census data of renters within the seven-county Metro, respondents were somewhat older, somewhat more likely to be female, and somewhat more likely to be Caucasian than the general population within the metro area.

While the final sample is fairly representative of renters in the seven-county Metro region, it is important to note that the survey was available in only two languages, English and Spanish. Renters who did not speak or read these two languages were underrepresented in the final sample.

A number of key findings from the project are highlighted below:

## Perceptions and experiences of renters

- Approximately one in five renters reported that they lived in completely smoke-free buildings. However, over 10 percent of renters did not know the specific smoking policies in their current apartment building. Data from the 2001 study suggests renters may over-report smoke-free building policies. While 14 percent of residents from the 2001 study reported living in smoke-free buildings, only 2 percent of buildings were verified as having smoke-free policies when building owners were contacted.
- Nearly 30 percent of renters had experienced secondhand tobacco smoke in their apartment at least a few times a month during the past 12 months. One-third of the 172 renters who experienced secondhand smoke in their current or previous apartment building had considered moving to a different apartment or building because of it.

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<sup>1</sup> A copy of the full report, *Survey of Minnesota Renters regarding Secondhand Smoke in Apartment Buildings and Interest in Smoke-Free Buildings*, can be accessed online: [http://www.mncee.org/research/environmental\\_tobacco/multifamily\\_bldgs/index.php](http://www.mncee.org/research/environmental_tobacco/multifamily_bldgs/index.php)

- Most renters who experienced secondhand tobacco smoke altered their apartment in some way to minimize the problem. Only one-quarter of renters had spoken to their landlord about their concern with the issue. Nearly 40 percent of renters who experienced secondhand smoke decided not to contact their landlord because they felt there was nothing that could be done.

#### Interest in smoke-free policies

- Over 90 percent of renters agreed that people who do not smoke have a right to live in smoke-free environments.
- Nearly two-thirds of renters also agreed that individuals have a right to smoke in their own apartment building.
- Over half of renters, including 16 percent of renters who smoke, would be interested in living in an apartment building where smoking is not allowed anywhere in the building or on the property. However, most renters who smoke (52%) were not interested in smoke-free policies, especially policies that prohibit smoking in outdoor areas.
- When given a scenario where two apartment buildings were completely the same in every way, but that one was completely smoke-free, three-quarters of renters would be “very likely” or “somewhat likely” to choose the smoke-free building. However, renters who smoke were significantly less likely to choose to live in smoke-free buildings.
- Although nearly half of renters (48%) would consider moving to live in a smoke-free building, fewer would be willing to give up amenities, such as on-site laundry (11%) or off-street parking (23%), or pay more in rent (5-23%), to live in a smoke free building.
- Not surprisingly, renters who smoke were significantly less likely to consider giving up various amenities for a smoke-free building. In addition, non-White renters were often more willing to give up amenities in the building to live in smoke-free buildings than renters from other racial groups.

# Project background

The Association of Nonsmokers--Minnesota (ANSR) is a nonprofit organization dedicated to reducing the human and economic costs of tobacco use in Minnesota. Their core commitments are to reduce the number of young smokers and to continuously advocate for the rights and health of nonsmokers. Live Smoke Free is one of ANSR's current programs and is designed to: educate owners, funders, and policy makers about secondhand smoke in apartment buildings; provide owners with materials and resources for developing smoke-free policies; and educate and assist renters who have problems with secondhand smoke in their rental units.

Wilder Research was contracted by ANSR to conduct a combined written and telephone survey of adults who rent apartments in the seven-county Metro area. This study was based on a prior statewide survey<sup>2</sup> of Minnesota renters conducted by ANSR and the Center for Energy and Environment in 2001. The current study was designed to address the following key questions:

- How often do renters experience secondhand smoke in apartment buildings?
- How do tenants respond when secondhand smoke enters their apartment unit?
- What are the perceptions of renters regarding smoke-free policies in apartment buildings?

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<sup>2</sup> A copy of the full report, *Survey of Minnesota Renters regarding Secondhand Smoke in Apartment Buildings and Interest in Smoke-Free Buildings*, can be accessed online:  
[http://www.mncee.org/research/environmental\\_tobacco/multifamily\\_bldgs/index.php](http://www.mncee.org/research/environmental_tobacco/multifamily_bldgs/index.php)

# Methodology

## *Instrument design*

The survey instrument was based on a tool designed by ANSR and a number of partnering agencies in 2001. Although some revisions were made, key questions, particularly useful to ANSR staff, were not altered when the survey instrument was revised so that changes in renter experiences and perceptions over time could be explored. A copy of the final survey was translated into Spanish by Wilder Research. A final version of the survey, approved by the Minnesota Department of Health, is included in the Appendix.

## *Survey sample*

List samples, which match individuals by address and telephone numbers, tend to identify more stable renters. To improve our ability to gather input from more transient renters, a postal file was used from Genesys Sampling Systems. A list of 1,500 randomly selected addresses was selected from the Deliverable Postal File (DSF file) of rental units located in the seven-county Metro region (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington). Telephone numbers were matched to the randomly selected addresses, when possible.

The sample targeted multi-family dwelling units with four or more units, excluding single drop addresses, such as college or university housing and nursing homes. Residents of townhomes and condominiums were also ineligible for the survey because policies in those types of buildings are developed through board decisions, not by the building landlord. Because the sample was drawn from a postal file, townhomes and condominiums with numbers distinguishing different units at the same address could not be identified and excluded from the sample. However, screening questions were included in the survey to screen out ineligible respondents. No oversampling techniques were used for this project.

This sampling approach was used to attempt to gather feedback from more transient renters who may not be captured through a more traditional list sample, as well as young renters who are less likely to have a landline telephone. Resident names and telephone numbers were available for most, but not all, addresses.

## ***Data collection***

A combined mailed and telephone data collection approach was used to maximize the response rate and minimize non-response bias while staying within the budget parameters of the project. An initial mailing to 1,000 residents included an introductory letter, survey questionnaire, \$2 bill, and pre-addressed postage-paid return envelope. In addition to the \$2 incentive, the letter invited the respondent to register for a drawing for one of five \$100 Target gift cards. A week later, a reminder postcard was sent to individuals who did not respond to the mailing. Telephone interviews were attempted with those who did not respond to the second mailing.

An additional sample of 500 was added in order to obtain the targeted goal of 400 completed surveys. To expedite data collection, an initial mailing of the written surveys was sent only to 94 residents who did not have a listed telephone number. Telephone calls began with the remaining individuals on the list. As a result of a large number of disconnected or otherwise bad telephone numbers, the telephone calls were halted and a mailing, containing the introductory letter, \$2 bill, and pre-addressed postage-paid envelope, was sent the remaining renters identified in the second sample.

Data collection for the project took place during the 2008-2009 heating season, when renters may be more likely to be exposed to secondhand smoke due to the cold outdoor temperatures and closed windows. Data collection began in November 2008 and ended in late February 2009. A similar data collection period was used for the study conducted in 2001.

## ***Response rate***

A total of 1,219 eligible respondents were contacted from an initial list of 1,500 renters from buildings with four or more units. Ineligible respondents included individuals who rented or owned townhomes or condominiums. The targeted response rate for study using a multi-method data approach can vary, based on the characteristics of the target population and study design. Because an address-based sample was used for this study, the approach included a more transient and difficult to reach population (i.e., those without landline phones) so we would expect the response rate to be slightly lower than what would have been obtained using strictly a phone survey. However, an address-based sampling approach yields more representative data because it is more likely to include people from demographic groups that are less likely to have landline phones, including lower-income households and non-White households. Wilder Research uses a conservative, industry-standard method to calculate responses rates. A total of 406 renters completed the survey, for a response rate of 33 percent. Overall, the survey was completed by 55 percent of renters whom we were successful in reaching by mail or telephone (i.e., cooperation rate).

A complete description of the final disposition for the survey sample is summarized in Figure 1.

**Figure 1. Final disposition of survey sample**

<b>Disposition status</b>	<b>Total</b>
<b>Released/Mailed:</b>	<b>1,500</b>
Completes - mailed survey	250
Completes – phone interviews	156
<b>Total Completes:</b>	<b>406</b>
Contact made, not completed	33
Refusals	304
<b>Eligibility Unknown:</b>	
Disconnects	241
No Answer/All Attempts	90
Mailed/No Return	211
Mailed/Undeliverable	17
Language Barrier	27
Total Unknowns:	586
Estimated Eligible Unknowns	476
Estimated Ineligible Unknowns:	110
<b>Total Ineligible</b>	<b>171</b>
<b>Total Eligible:</b>	<b>1,219</b>
<b>Final Response Rate:</b>	<b>33%</b>

*Wilder Research calculates response rates consistent with methods described by the American Association for Public Opinion Research (AAPOR). The response rate used for this survey (AAPOR Response Rate 3) takes the proportion of ineligible respondents into consideration. Based on the number of known ineligible addresses among individuals who responded to the mailed or telephone survey, this estimate assumes 18.7% of “unknown” cases were ineligible because they did not reside in an apartment unit.*

*-The American Association for Public Opinion Research. 2008. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 5th edition. Lenexa, Kansas: AAPOR.*

## ***Data analysis and reporting***

Although 406 renters completed the survey, not all respondents answered each question. Missing data may be due to refusals to questions, responses that were not clearly marked in written surveys, or intentional survey skip patterns. As a result, the number of respondents (N) reported in tables throughout the report varies by question.

Additional analyses explored differences between key demographic groups in regard to all survey items, including a variety of hypothetical questions regarding smoke-free policies and housing preferences. The following categories were used throughout the report: gender (male or female); current smoking status (renters who smoke or renters who do not smoke, either in the apartment/not in the apartment); race (White or non-White); age (64 and younger or 65 and older); subsidized housing (market value rental units or public/subsidized housing, including Section 8 vouchers); children in home (households with one or more child and households without any children). Chi-square analyses and, when applicable, z-tests of proportion with Bonferroni corrections were used to identify significant differences between key demographic groups. These differences are reported in the text and/or in the charts throughout the report and in the Appendix.

# Respondent characteristics

## *Demographic characteristics*

Nearly two-thirds of the surveys were completed by women (63%) and one-quarter of the respondents were age 65 or older (26%) (Figure 2). Three-quarters of the respondents identified as White or Caucasian, and 13 percent identified as Black or African American. Compared to U.S. Census data of renters within the seven-county Metro area gathered through the 2005-2007 American Community Survey, respondents were somewhat more likely to be older, female, and Caucasian than the general population of renters within the metro area.

Nearly all surveys were completed in English; respondents who were unable to complete the survey in either English or Spanish were not eligible to participate. The annual household income of respondents was consistent with that of the general population (Figure 2).

**Figure 2. Age, gender, and race/ethnicity of survey respondents**

	Survey respondents (N=406)		Census data
	Number	Percent	
<b>Gender</b>			
Male	150	37%	47%
Female	255	63%	53%
Unknown	1	<1%	0%
<b>Age</b>			
Less than 25 years	29	7%	25%
25-64	270	67%	61%
65 or older	104	26%	14%
Unknown	3	1%	0%
<b>Race/ethnicity<sup>a</sup></b>			
White/Caucasian	303	75%	69%
Black/African American	51	13%	18%
Hispanic/Latino <sup>b</sup>	20	5%	-
American Indian	10	3%	1%
Asian-American/Pacific Islander	12	3%	7%
Bi- or multi-racial	7	2%	2%
Other <sup>c</sup>	2	1%	4%
Missing	6	2%	0%

**Figure 2. Age, gender, and race/ethnicity of survey respondents (continued)**

	Survey respondents (N=406)		Census data
	Number	Percent	
<b>Ethnicity<sup>b</sup></b>			
Hispanic	-	-	8%
Non-Hispanic	-	-	92%
Missing/refused	-	-	-
<b>Language of completed survey</b>			
English	401	99%	-
Spanish	5	1%	-
<b>Annual household income (pre-tax)</b>			
Less than \$25,000	156	38%	39%
\$25,001-\$50,000	123	30%	33%
\$50,001-\$75,000	56	14%	18%
\$75,001-\$100,000	9	2%	6%
Over \$100,000	13	3%	4%
Unknown (missing/refused)	49	12%	0%
<b>County</b>			
Hennepin	208	51%	53%
Ramsey	120	30%	24%
Dakota	38	9%	10%
Anoka	24	6%	7%
Washington	10	3%	3%
Scott/Carver <sup>d</sup>	5	1%	4%

**Note:** Census estimates for the 7-county Metro area are based on American Community Survey (2005-2007) data.

- <sup>a</sup> The total percentage may exceed 100%, as some respondents identified more than one racial/ethnic category.
- <sup>b</sup> Respondents were asked to identify race and ethnicity in a single, combined question for the ANSR survey; U.S. Census data reports race and ethnicity separately.
- <sup>c</sup> Other responses included: Cruzan (Caribbean), Jewish, Arabic, and multi-racial.
- <sup>d</sup> Due to the small number of rental units in Scott county, this estimate available through the American Communities Survey includes rental units in both Carver and Scott counties.

## *Household characteristics*

**Over half of all survey respondents live alone.** Approximately 6 out of every 10 respondents live in a one-bedroom (55%) or studio (6%) apartment (Figure 3). Most respondents did not have any children under the age of 18 (83%). These demographics are consistent with U.S. Census data for renters in the seven-county metro.

Although most renters surveyed had lived in their current apartment three or more years (61%), nearly 10 percent had lived in their apartment six months or less (8%). The percentage of respondents who reported living in their apartment for fewer than 12 months (17%) is much lower than U.S. Census estimates of renters in the seven-county metro, which estimates that nearly 40 percent of renters have lived in their current apartment for less than one year.

**Figure 3. Household characteristics of survey respondents**

	Survey respondents (N=402-406)		Census data
	Number	Percent	
<b>Number of individuals in each household</b>			
One (respondent only)	251	62%	56%
Two	89	22%	27%
Three	34	8%	8%
Four to Six	28	7%	8%
Unknown	4	1%	-
<b>Households with children living in home</b>			
No children living in the household	335	83%	80%
One or more children living in the household	67	17%	20%
<i>One or more children ages 0-5</i>	37	9%	9%
<i>One or more children ages 6-17</i>	46	10%	8%
<i>One or more children 0-5 and 6-17</i>	-	-	3%
Unknown	1	<1%	-
<b>Length of time in current apartment unit (ANSR survey)</b>			
6 months or less	31	8%	-
7-12 months	36	9%	-
1-2 years	90	22%	-
3-4 years	83	20%	-
5 years or more	165	41%	-
Unknown	1	<1%	-

**Figure 3. Household characteristics of survey respondents (continued)**

	Survey respondents (N=402-406)		Census data
	Number	Percent	
<b>Length of time in current apartment unit (ACS data)</b>			
12 months or less	-	-	39%
13 to 23 months	-	-	13%
2 to 4 years	-	-	12%
5 years or more	-	-	20%

*Note:* Census estimates for the 7-county Metro area are based on American Community Survey (2005-2007) data.

**Most renters lived in market-rate units, in buildings with 20 or more apartment units.** Nearly three-quarters of renters (73%) lived in market-rate apartment units, while approximately one-quarter of renters (26%) lived in public housing or participated in some type of subsidized housing program. Rents paid by survey respondents are also similar to demographic data provided by the U.S. Census, with the one-third of respondents paying between \$600-\$799 per month (Figure 4).

Two-thirds (66%) lived in buildings with 20 or more apartment units (Figure 4). This is fairly comparable to data from the American Community Survey, where, based on building of three or more units, 61 percent of apartments rented were in buildings of 20 or more units.

**Figure 4. Characteristics of respondents' apartment units, buildings**

	Survey respondents (N=406)		Census data
	Number	Percent	
<b>Do you live in public/affordable/subsidized housing or participate in a voucher/low-income housing program?</b>			
Yes	106	26%	27% <sup>a</sup>
No	296	73%	73% <sup>a</sup>
Unknown	4	1%	-
<b>Who owns or manages your apartment building?</b>			
An apartment management company	256	63%	-
An individual landlord	71	18%	-
A local public housing authority	26	6%	-
A community-based nonprofit organization	15	4%	-
A religiously-affiliated organization	8	2%	-
Other	2	1%	-
Unknown	28	7%	-
<b>How many apartment units does your individual building have?</b>			
4-9 <sup>b</sup>	41	10%	17%
10-19	77	19%	19%
20-49	106	26%	28%
50 or more	387	40%	36%
Unknown	19	5%	-
<b>What is the total monthly rent for your apartment unit, not including utilities?</b>			
Less than \$400	54	13%	11%
\$400-\$599	54	13%	14%
\$600-\$799	145	36%	33%
\$800-\$999	74	18%	20%
\$1000-\$1250	33	8%	10%
More than \$1250	32	8%	9%
Unknown	14	3%	-

*Note:* Totals may not equal 100% due to rounding. Census estimates for the 7-county Metro area are based on American Community Survey (2005-2007) data.

<sup>a</sup> The percentage of subsidized rental units in the 7-county Metro was calculated using data from HousingLink and the American Community Survey.

<sup>b</sup> Includes buildings with 3-9 apartment units for American Community Survey data.

## *Individual and household smoking status*

**Most renters who responded to the survey did not smoke.** Seventy-nine percent of survey respondents did not smoke (Figure 5). Among the 84 renters who did smoke, over half (60%) smoked in their apartment unit. The prevalence of smoking among respondents is comparable to results from the 2007 Minnesota Adult Tobacco Survey (MATS), which estimated that 17 percent of adult Minnesotans were current smokers.

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**Figure 5. Smoking status of survey respondents (N=406)**

	<b>Number</b>	<b>Percent</b>
Renters who do not smoke	319	79%
Renters who do smoke	84	20%
<i>In the apartment unit</i>	50	12%
<i>In other places (not in the apartment unit)</i>	34	8%
Unknown	3	1%

Of the 172 renters who lived with someone else, most reported that the other household members did not smoke (68%). Only 10 percent of renters lived with someone else who smoked in the apartment (Figure 6).

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**Figure 6. Smoking status of other household members (N=172)**

	<b>Number</b>	<b>Percent</b>
Other household members do not smoke	118	68%
Other household members do smoke	54	32%
<i>In the apartment unit</i>	18	10%
<i>In other places (not in the apartment unit)</i>	36	21%

When single-resident and multi-resident apartments were combined, more than two-thirds of all households surveyed (N=280, 69%) had no smoking residents and 93 households (23%) had one or more residents who smoked.

# Key findings

## *General perceptions of smoke-free policies*

**Over 90 percent of renters agreed that people who do not smoke have a right to live in smoke-free environments.** To understand the perceptions of renters regarding smoke-free policies and identify any potential biases within the sample, respondents were asked about the rights of individuals who do and do not smoke. Regardless of age, race, or smoking status, a majority of renters agreed people who do not smoke have a right to live in smoke-free environments. Renters who did not smoke were significantly more likely to agree with this statement (96%, compared to 87% of those who do smoke,  $p<0.001$ ).

Renters were also asked about the rights of others to smoke in their home. Among all renters, 66 percent agreed that renters have a right to smoke in their own apartment unit. Renters who live in subsidized housing (76%, compared to 62% of renters who did not,  $p<0.05$ ) or smoked (86%, compared to 60% of those who did not,  $p<0.001$ ) were significantly more likely to agree that individuals have a right to smoke in their own apartments. Renters who had experienced secondhand tobacco smoke were significantly less likely to agree individuals have a right to smoke in their own apartment unit (59%, compared to 72% of renters who did not,  $p<0.01$ ).

**Fewer renters felt there were too many restrictions that limit the rights of individuals who smoke.** When asked about overall restrictions, not specifying housing restrictions, 44 percent of renters felt there were too many restrictions on individuals who smoke. Renters living in subsidized housing (58%, compared to 36% of renters who did not,  $p<0.001$ ) or smoked (83%, compared to 67% of those who did not,  $p<0.001$ ) were significantly more likely to agree there are too many restrictions limiting the rights of individuals who smoke.

Differences among groups of renters with different demographic characteristics are included in the Appendix (Figures A1-A3).

## *Experiences with secondhand tobacco smoke*

There are some discrepancies in how often renters reported experiencing secondhand tobacco smoke in their apartments. Renters were first asked to report how often they experienced tobacco smoke on a 5-point scale ranging from “never” to “almost every day.” A total of 214 renters experienced some level of tobacco smoke entering their apartment unit from somewhere else in or around the building during the past 12 months. However, fewer renters ( $N=156$ ) who experienced tobacco smoke in that timeframe were consistent

in their responses when later asked, “Has tobacco smoke ever entered your current or previous apartment building from somewhere else?”

When responses were compared, 39 renters who had stated that they “rarely” experienced secondhand tobacco smoke during the past 12 months (question 6a of the survey) later responded that they had not experienced secondhand tobacco smoke (question 8 of the survey). Discrepancies were also observed among renters who experienced tobacco smoke more frequently during the past 12 months, including renters who experienced tobacco smoke “a few times a month” (N=8), “a few times a week” (N=4), or “almost every day (N=7). While these discrepancies may be due to misunderstanding survey questions or errors when completing the form, it may also suggest that renters who experience secondhand tobacco smoke infrequently may underreport the frequency of their exposure or that recall is less accurate when renters are asked to consider lifetime exposure to secondhand tobacco smoke.

As a result of these inconsistencies in the data, throughout this section of the report, the number of individuals who experienced secondhand smoke will vary.

Frequency and intensity of secondhand tobacco smoke exposure

**Approximately one in every three renters experienced secondhand tobacco smoke in their apartment units at least a few times a month.** Thirty percent of renters reported tobacco smoke at least a few times a month, where 23 percent rarely and 45 percent never experienced secondhand tobacco smoke during the past 12 months. Fewer renters experienced tobacco smoke a few times a week or more (18%) compared to cooking odors (25%) or disruptive sounds or noises (34%) (Figure 7).

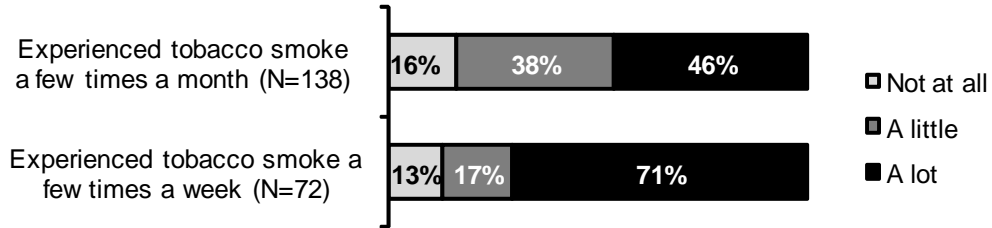
**Figure 7. Experience with secondhand odors and noise during the past 12 months**

During the past 12 months, how often have any of the following gotten into your current or previous apartment building from somewhere else in or around the building?	N	Never	Rarely	A few times a month	A few times a week	Almost every day
Tobacco smoke	397	183 (45%)	94 (23%)	48 (12%)	37 (9%)	35 (9%)
Cooking odors	400	107 (26%)	111 (27%)	77 (19%)	62 (15%)	43 (11%)
Disruptive sounds or noise	399	73 (18%)	112 (28%)	77 (19%)	62 (15%)	74 (19%)

Among 210 renters who experienced tobacco smoke and responded to how much it bothered them, a larger percentage of renters were bothered “a lot” by tobacco smoke

when smoke entered their apartment unit a few times a week (71%) compared to renters that noticed smoke less often (46%) (Figure 8).

**Figure 8. Degree to which renters were bothered by secondhand smoke**



**One-third of renters who experienced secondhand tobacco smoke had thought about moving because of it.** Over 40 percent of renters (43%) reported experiencing secondhand tobacco smoke in any apartment unit they have lived in (Figure 9). These renters were more likely to be individual who did not smoke (48%, compared to 23% of those who did not,  $p < 0.001$ ), and adults age 64 or younger (46%, compared to 32% of older renters,  $p < 0.05$ ) (Appendix A4-A5). Among the 172 renters (43%) who experienced secondhand tobacco smoke in any apartment, one-third (33%) had considered moving because of it. None of the renters who smoked reported thinking about moving because of secondhand tobacco smoke entering the apartment, (0%, compared to 38% of renters who did not smoke,  $p < 0.001$ )

**Figure 9. Renters experience with tobacco smoke in any apartment unit (N=404)**

	N	%
<b>Has tobacco smoke ever entered your current or previous apartment unit from somewhere else?</b>		
Yes	172	43%
No	232	57%
Total	404	100%
<b>Have you ever thought about moving because of tobacco smoke entering your apartment unit?</b>		
Yes	57	33%
No	113	66%
Missing	2	1%
Total	172	100%

**Over half of renters who experienced secondhand smoke thought it came from another apartment unit.** Fewer renters identified smoke entering their apartment from outdoors (37%), or another person’s patio or balcony (34%) (Figure 10). Although Minnesota state law prohibits smoking in all indoor common areas, 27 percent of respondents felt that tobacco smoke entered their apartment from these areas.

**Figure 10. Perceptions of tobacco smoke source (N=170-172)**

<b>When tobacco smoke entered your apartment unit from somewhere else, where do you believe it came from?</b>	<b>N</b>	<b>%</b>
Another person’s apartment unit	91	53%
From outdoors or on the building grounds	63	37%
Another person’s patio or balcony	59	34%
Common areas of the building	47	27%
From another source	6	4%
I don’t know	12	7%

Concerns regarding secondhand tobacco smoke

**Over 80 percent of renters who had experienced secondhand smoke agreed it is harmful to their health.** A slightly larger percentage of renters who experienced secondhand smoke (92%) “somewhat” or “strongly” agreed it is an annoyance (Figure 11). Renters who lived in market-rate housing were significantly more likely to agree that secondhand smoke is an annoyance, compared to renters who live in subsidized housing ( $p = 0.014$ ). In addition, renters who do not smoke were significantly more likely to agree that secondhand smoke is an annoyance, compared to renters who do smoke ( $p=0.001$ ). Renters who do not smoke, and those who do not live with a smoker, were significantly more likely to disagree with the statement, “[smoke entering my apartment unit] is not something I worry about” ( $p=0.004$  and  $p=0.025$ , respectively) (Figure 12). Differences between groups of renters with different demographic characteristics are included in the Appendix (Figures A6-A8).

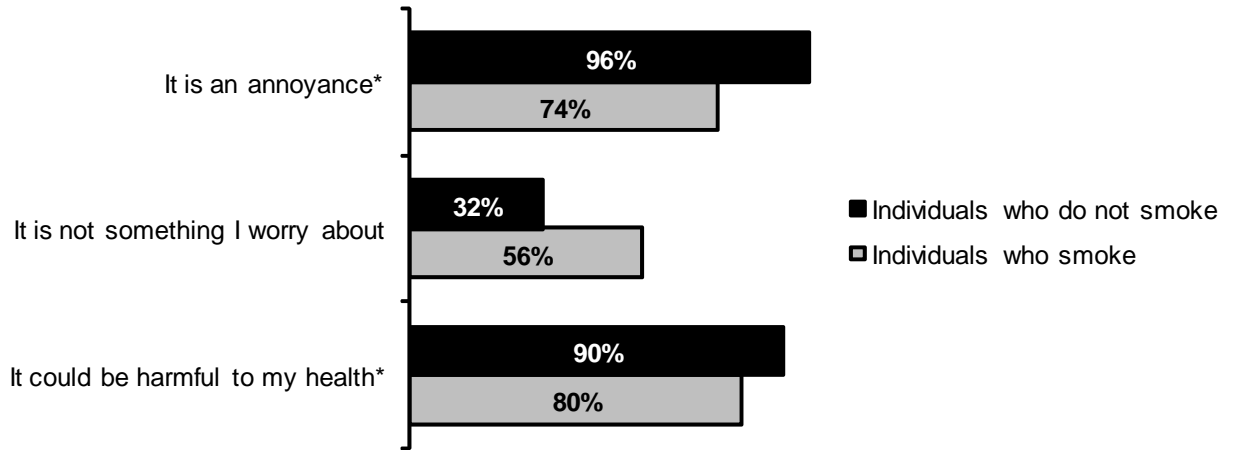
**Figure 11. Renter concerns about smoke that has entered their apartment unit (N=164-166)**

<b>When you think about the tobacco smoke that has entered into your apartment unit, how much do you agree or disagree with the following statements?</b>	<b>N</b>	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>Somewhat disagree</b>	<b>Strongly disagree</b>
It is harmful to my health	165	93 (56%)	53 (32%)	12 (7%)	7 (4%)
It is an annoyance	164	106 (65%)	45 (27%)	8 (5%)	5 (3%)
It is not something I worry about	166	21 (13%)	39 (24%)	29 (18%)	77 (46%)

*Note:* All 172 renters who experienced secondhand smoke were asked to respond to all three statements.



**Figure 12. Percentage of renters who “somewhat” or “strongly agreed” with statements about secondhand smoke, based on current smoking status (N=363-377)**



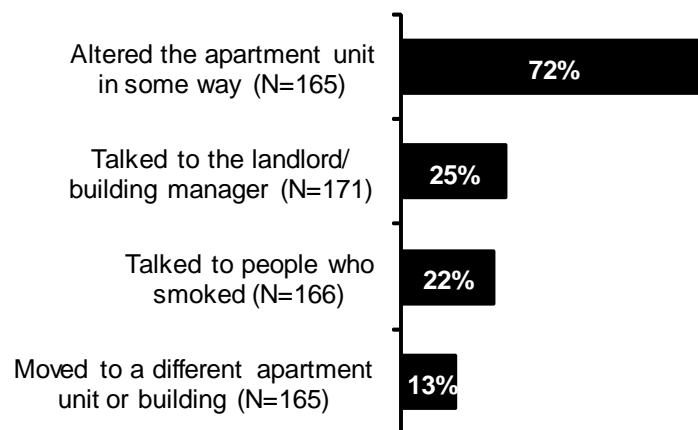
Note: \*\*\*p<0.001 \*\*p<0.01 \*p<0.05

**Approximately one in five renters who had experienced secondhand smoke in their apartment believed they, or someone in their household, experienced health problems as a result.** Among the 32 renters who attributed a health problem to tobacco smoke entering their apartment building, over half (61%) experienced some type of respiratory problem, such as coughing, difficulty breathing, or increased asthma-, emphysema-, or bronchial-related symptoms. Fewer renters believed they experienced headaches or migraines (N=5), allergies (N=5), or watery eyes (N=2) as a result of tobacco smoke. A total of three renters believed lung cancer, a tracheotomy, or reactive airway disease was related to secondhand smoke entering their apartment.

#### Actions taken to avoid secondhand tobacco smoke exposure

**Approximately one in ten renters who experienced secondhand smoke moved to a different apartment unit or building to avoid it.** Twenty-one of the renters who experienced tobacco smoke reported moving because of the problem (13%). However, renters were more likely to alter their apartment (72%), talk to their landlord (25%), or talk to the people who smoke (21%) (Figure 13). A few renters (8%) took other actions, including installing a fan in the hallway, using air fresheners, and putting up “No Smoking” signs.

**Figure 13. Percentage of renters who took actions to address secondhand tobacco smoke**



When asked how much their actions helped reduce the problem of secondhand tobacco smoke, most of the renters who altered their apartment in some way (89%) or moved to another building (81%) felt it helped “some” or “a lot” (Figure 14). Half of the renters who spoke to the people who smoked felt it helped reduce the problem.

**Figure 14. Responses of renters to address secondhand tobacco smoke**

When tobacco smoke entered your current or previous apartment unit from somewhere else, how much did any of the following help to reduce the problem?	N	This didn't help at all	This helped some	This helped a lot
Altering the apartment unit in some way	118	13 (11%)	68 (58%)	37 (31%)
Talking to the people who smoke	36	18 (50%)	14 (39%)	4 (11%)
Moving to a different apartment unit or building	21	4 (19%)	7 (33%)	10 (48%)

**Often, renters didn't talk to their landlord about secondhand smoke in their apartments because they were not bothered by it or they felt it couldn't be changed.**

The most common reasons why renters chose not to talk to their landlord about secondhand smoke was that “it didn't bother me that much” (42%) or because there was “nothing that could be done” (38%). Fewer renters were afraid of conflict with their neighbor (24%) or landlord (12%), or were worried about losing their housing subsidy (4%). Other reasons for not talking to their landlord included the infrequency of the problem (N=3), a lack of time (N=3), a belief that it is an individual's right to smoke (N=3), or because smoking was allowed in apartment units in their building (N=3) (Figure 15).

**Figure 15. Reasons renters did not talk to their landlord about secondhand tobacco smoke (N=128-129)**

<b>If you did not talk to your landlord or manager about unwanted tobacco smoke entering your apartment unit, why?</b>	<b>N</b>	<b>%</b>
It didn't bother me that much	54	42%
Felt there was nothing that could be done	49	38%
Afraid of conflict with neighbor	31	24%
Afraid of conflict with landlord or building management	16	12%
Worried about losing housing subsidy	5	4%
Other	20	16%

ANSR staff were also interested in knowing whether there was a relationship between reasons renters chose not to contact their landlord related to the type of apartment building they lived in. Although renters living in subsidized housing were significantly more likely to be concerned about losing their housing subsidy than renters living in market-rate units (15% compared to 1%, respectively), there were no other significant differences between these renter groups (Appendix A9).

**When renters did speak to their landlords about secondhand tobacco smoke, little action was taken.** A total of 22 renters described their interactions with their landlord or building manager. Nine renters who complained about secondhand tobacco smoke to their landlords saw no actions taken or were told there was nothing that could be done. One resident who lived in a non-smoking building stated, “The manager is aware that a smoker has moved into the apartment next door, but needs to rent units.” Five renters stated their landlord made modifications to the apartment, or encouraged the resident to made changes. See Appendix A10 for all of the open-ended comments provided by respondents.

### ***Current smoke-free policies in buildings and individual units***

**Approximately one in five renters reported living in completely smoke-free buildings.** However, data from the 2001 study suggests renters may over-report smoke-free building policies. While 14 percent of residents from the 2001 study reported living in smoke-free buildings, only 2 percent of buildings were verified as having smoke-free policies when building owners were contacted. For the present study, over one-third of renters (36%) reported living in buildings with restrictions on smoking in outdoor areas, including building entrances. Fewer renters reported restrictions in all apartment buildings (26%) or outdoor patio, balconies, and decks (25%). It is important to note a number of renters (10-19%) did not know the specific smoke-free policies of their current apartment building (Figure 16). Building owners were not contacted to verify the responses of survey respondents in this study.

**Figure 16. Current smoking regulations in apartment buildings (N=406)**

<b>Is smoking prohibited in any of the following areas of your current apartment building?</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>	<b>N/A</b>
All apartment units	105 (26%)	238 (59%)	55 (14%)	2 (1%)
Some apartment units	79 (20%)	203 (50%)	78 (19%)	21 (5%)
On patios, balconies, and decks	101 (25%)	206 (51%)	39 (10%)	41 (10%)
In other outdoor areas, including building entrances	144 (36%)	198 (49%)	46 (11%)	2 (1%)
Everywhere in the building and on the property	76 (18%)	250 (62%)	58 (14%)	5 (1%)

### *Enforcing smoke-free policies with guests*

**Approximately three-quarters of renters did not allow smoking in their individual apartment units.** Most renters (72%) did not allow anyone, including guests, to smoke in their apartment. Eight percent of renters who do not smoke, compared to 71 percent of renters who do smoke, allowed smoking in their apartment. Only two renters reported someone from their apartment building had complained about tobacco smoke from their apartment unit. Eighty percent of renters did not think it would be difficult to insist no one smoke in their apartment, if they lived in a smoke-free building. Not surprisingly, renters who smoke were more likely to find it difficult to insist no one smoke in their building than those who do not smoke (32% and 10%, respectively).

### *Interest living in smoke-free buildings*

**Over half of renters would be “extremely” or “very” interested in living in a smoke-free building.** When asked about their interest in living in apartment buildings with different smoke-free policies, half of the renters would be “extremely” or “very” interested in living in a building where smoking was not allowed in all apartment units (53%) (Figure 17). Somewhat fewer were “extremely” or “very” interested living in a building where smoking was not allowed anywhere in the building or on the property (45%).

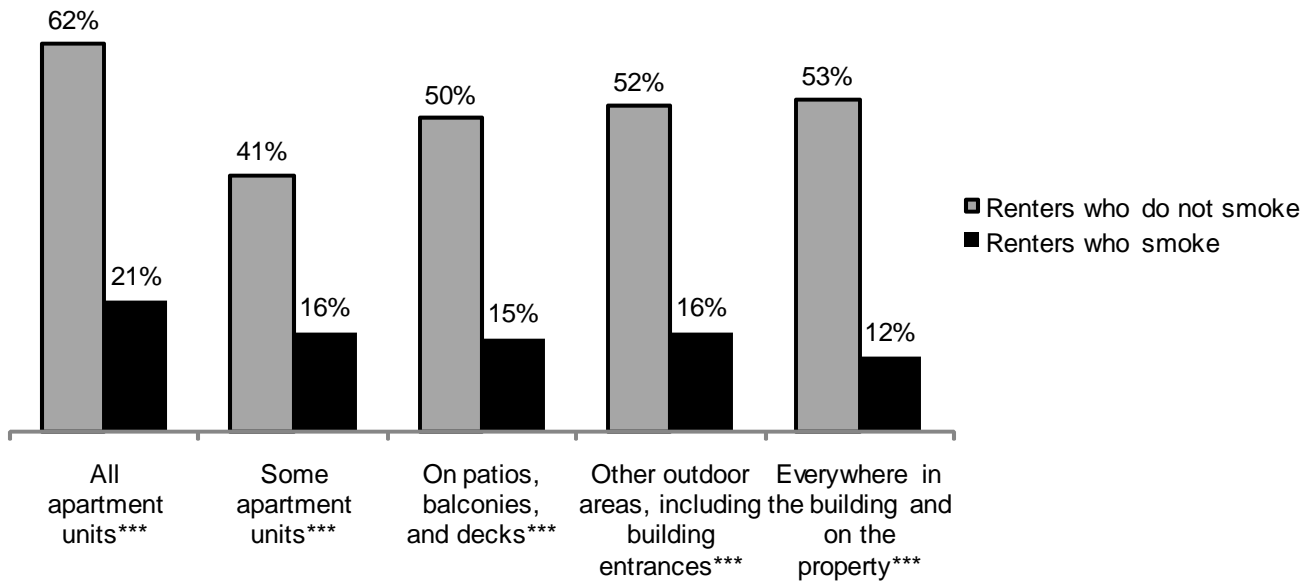
**Figure 17. Percentage of renters interested in living in buildings with smoke-free policies**

How interested would you be living in a building where smoking is not allowed in the following areas	N	Survey responses					
		Extremely interested	Very interested	Somewhat interested	Not very interested	Not at all interested	Not sure
All apartment units	401	152 (38%)	61 (15%)	81 (20%)	28 (7%)	66 (17%)	13 (3%)
Some apartment units	382	77 (20%)	60 (16%)	110 (29%)	38 (10%)	75 (20%)	22 (5%)
On patios, balconies, and decks	388	101 (26%)	66 (17%)	73 (19%)	44 (11%)	86 (22%)	18 (5%)
Other outdoor areas, including building entrances	389	107 (28%)	67 (17%)	78 (20%)	33 (9%)	87 (22%)	17 (4%)
Everywhere in the building and on the property	396	113 (29%)	64 (16%)	68 (17%)	30 (7%)	98 (25%)	23 (6%)

**Interest in living in buildings with smoke-free policies was greater among renters who do not smoke.** Not surprisingly, non-smoking renters were more interested in all smoke-free policies than those who didn't smoke. For example, 53 percent of renters who do not smoke were "extremely" or "very" interested in living in a building where smoking was not allowed anywhere in the building or on the property, compared to only 12 percent of renters who smoke (Figure 18). Although renters who do not smoke were generally less interested in smoke-free policies, a small percentage of these renters (12-21%) were "extremely" or "very" interested in smoke-free policies.

Significant differences between groups of renters based on age, race, and presence of a child in the home, were also observed for some smoke-free policy options. These results are included in the Appendix (Figures A11-A15).

**Figure 18. Percentage of renters “extremely” or “very” interested in living in buildings with smoke-free policies, by current smoking status (N=379-398)**



Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

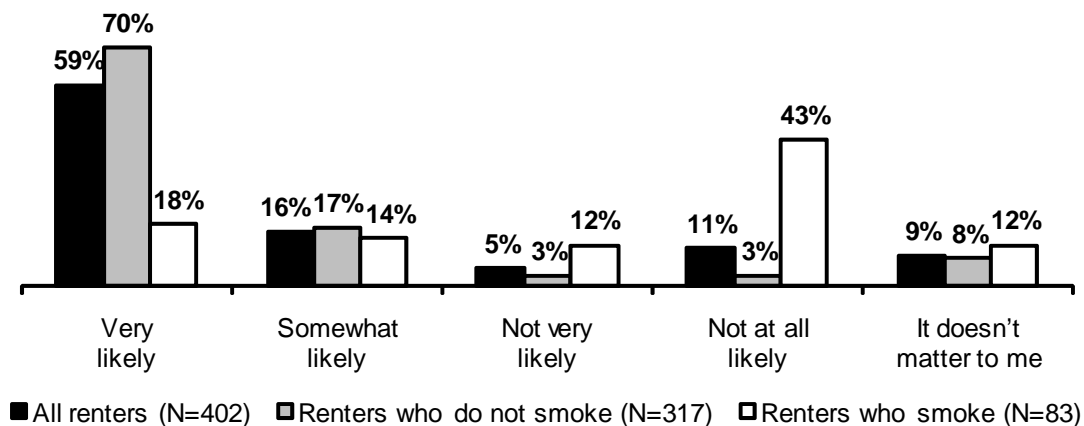
Response categories were collapsed into three variables: extremely/very, somewhat, and not very/not at all. Z-tests of proportion with Bonferroni corrections were used to examine differences between key demographic groups for each response category.

### Perceived likelihood of choosing a smoke-free building

**Three-quarters of renters would likely choose to live in a “no-smoking” building over a building where smoking was permitted.** When renters were asked about a hypothetical scenario where two buildings were the same in every way, including rent, but they could choose to live in a “no-smoking” building, most renters (76%) responded they would be “very likely” or “somewhat likely” to choose the building where smoking was prohibited (Figure 19). This includes nearly 90 percent of renters who do not smoke (87%) as well as one-third of renters who do smoke (32%).

To explore potential difference between key populations, response categories were collapsed to likely (including “very likely” and “somewhat likely”) and not likely (including “not very likely” and “not at all likely”). Again, differences based on the current smoking status of renters were observed. Renters who do not smoke were significantly more likely to consider choosing a ‘no-smoking’ building over a building where smoking was allowed (97%, compared to 3% of renters who do smoke,  $p < 0.001$ ).

**Figure 19. Percentage of renters who would likely choose to live in a “no-smoking” building over a building where smoking as allowed**



**Nearly half of renters would consider moving to live in a smoke-free building.** When asked to imagine a scenario where they lived in a building where smoking was allowed, approximately half of renters (48%) would consider moving (Figure 20). Nearly one-quarter of renters (22%) were not sure what they would do in this situation. Significant differences in preferences were noted among two demographic groups (Appendix A16). Renters who do not smoke were significantly more likely to consider moving to a smoke-free building (57%, compared to 15% of those who do smoke,  $p < 0.001$ ). Renters with children were also significantly more likely to consider moving (60%, compared to 46% of those without children,  $p < 0.01$ ).

**Figure 20. Percentage of renters who would consider moving to live in a smoke-free building (N=403)**

**If you lived in a building where smoking was allowed, would you ever consider moving in order to live in a smoke-free apartment building?**

	N	%
Yes	194	48%
No	119	30%
Not sure	90	22%

**Some renters were willing to give up certain amenities to live in a smoke-free building.** Over 40 percent of renters thought they would be willing to live in a building without a pool, playground, or athletic facilities (47%) to live in a smoke-free building. Fewer renters were willing to give up amenities, including off-street parking (23%), or on-site laundry facilities (11%) (Figure 21).

In addition to amenities within the apartment building or unit, renters were also willing to give up amenities associated with the location of the building. More than one-third (36%) felt that they would be willing to drive 10 minutes further to work, and 43 percent were willing to travel 10 minutes further to parks and lakes to live in a building without smoking. See Appendix A17-A22 for complete description of differences based comparisons of difference demographic groups.

**Some renters were willing to pay more in rent to live in a smoke-free building.**

Nearly one-quarter of renters (23%) reported that they would pay up to \$25 extra per month to live in a smoke-free building, while fewer were willing to pay up to \$50 (9%) or \$100 (5%) more per month (Figure 21). Other renters responded “maybe” when asked whether they would be willing to pay up to \$25 (20%), \$50 (14%), or \$100 (9%) more in rent. In addition, one in five renters was willing to live in a building where heat is not included in the monthly rent to live in a smoke-free building. See Appendix A23-A26 for complete description of differences based comparisons of different demographic groups.

**Figure 21. Renters' willingness to give up amenities to live in smoke-free apartment buildings**

If you were planning to move, would you be willing to do the following to live in a completely smoke-free apartment building:	N	Response			Chi-square					
		No	Maybe	Yes	Gender	Current smoking status	Race	Age	Affordable housing	Children in home
Drive 10 minutes further to work	316	36%	28%	36%	3.8	32.4***	9.5**	4.2	1.2	6.6*
Travel 10 minutes further to parks or lakes	346	31%	26%	43%	0.6	27.0***	9.4**	8.1*	0.1	5.0
Walk 3 blocks further to a bus line	322	42%	19%	39%	1.9	17.1***	5.5	9.3**	3.1	6.1*
Live in a building without off-street parking	340	63%	14%	23%	3.1	5.1	10.0**	6.2*	2.9	5.0
Live in a building where heat is not included in rent	363	63%	19%	19%	1.7	5.3	10.1**	9.4**	7.0*	8.6*
Live in a building without on-site laundry facilities	369	77%	13%	11%	2.7	4.0	9.4**	12.2**	4.5	10.9**
Live in a building/complex that doesn't have a pool, playground, or athletic facilities	342	34%	19%	47%	9.1*	47.1***	1.9	1.6	3.4	1.0
Pay up to \$25 more each month in rent	375	57%	20%	23%	0.8	15.1**	9.7**	5.6	10.0**	5.9
Pay up to \$50 more each month in rent	370	77%	14%	9%	1.7	1.9	15.1**	12.7**	5.4	5.8
Pay up to \$100 more each month in rent	369	86%	9%	5%	8.2*	2.6	18.5***	9.6**	5.4	2.1

Note: \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$

# Limitations

It is important to note while survey respondents were mostly representative of the demographics of the metro area, they were somewhat older, somewhat more likely to be female, and somewhat more likely to be Caucasian than the general population within the metro area. Additionally, very few non-English speaking residents completed the survey (n=5), as the survey was available in English and Spanish only. The additional costs associated with translating the survey into additional languages were not feasible within the budget for this study. Future studies could incorporate strategies to gather information from a more linguistically diverse sample of Metro residents, including targeted sampling of recent immigrant or refugee populations.



# Appendix

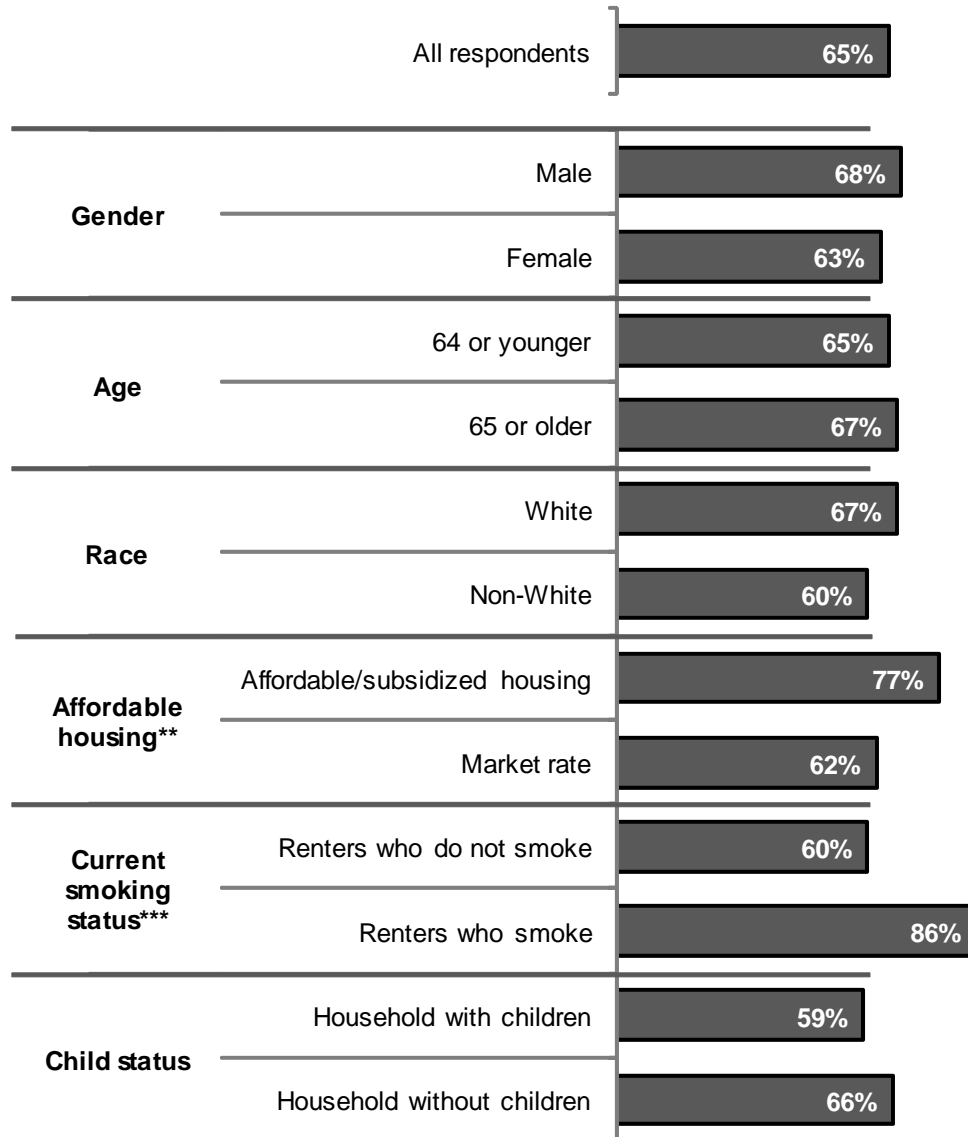
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*Survey instrument*



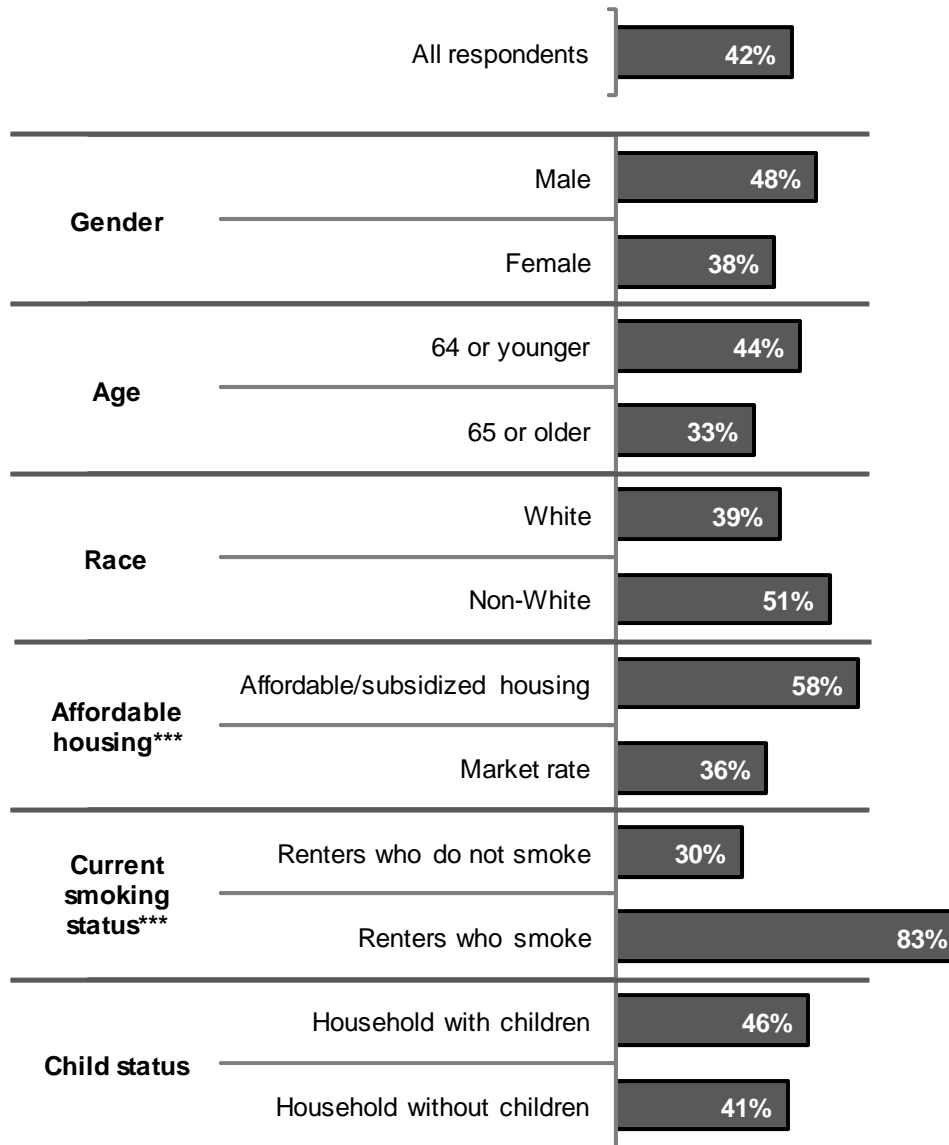
## Additional data

**Figure A1. Percentage of respondents who “strongly” or “somewhat” agreed that individuals have a right to smoke in their own apartment unit (N=385)**



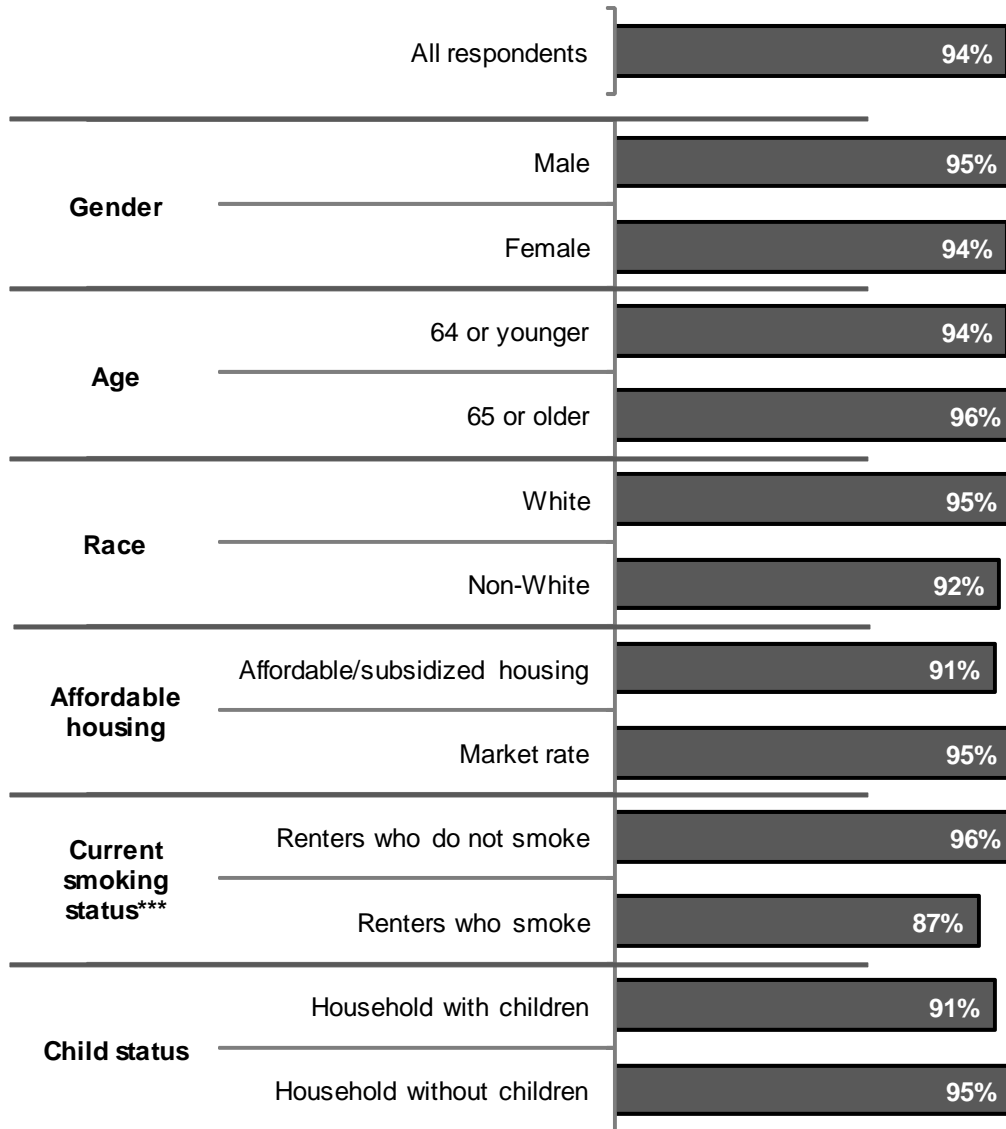
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A2. Percentage of respondents who “strongly” or “somewhat” agreed that there are too many regulations that limit the rights of people who smoke (N=367)**



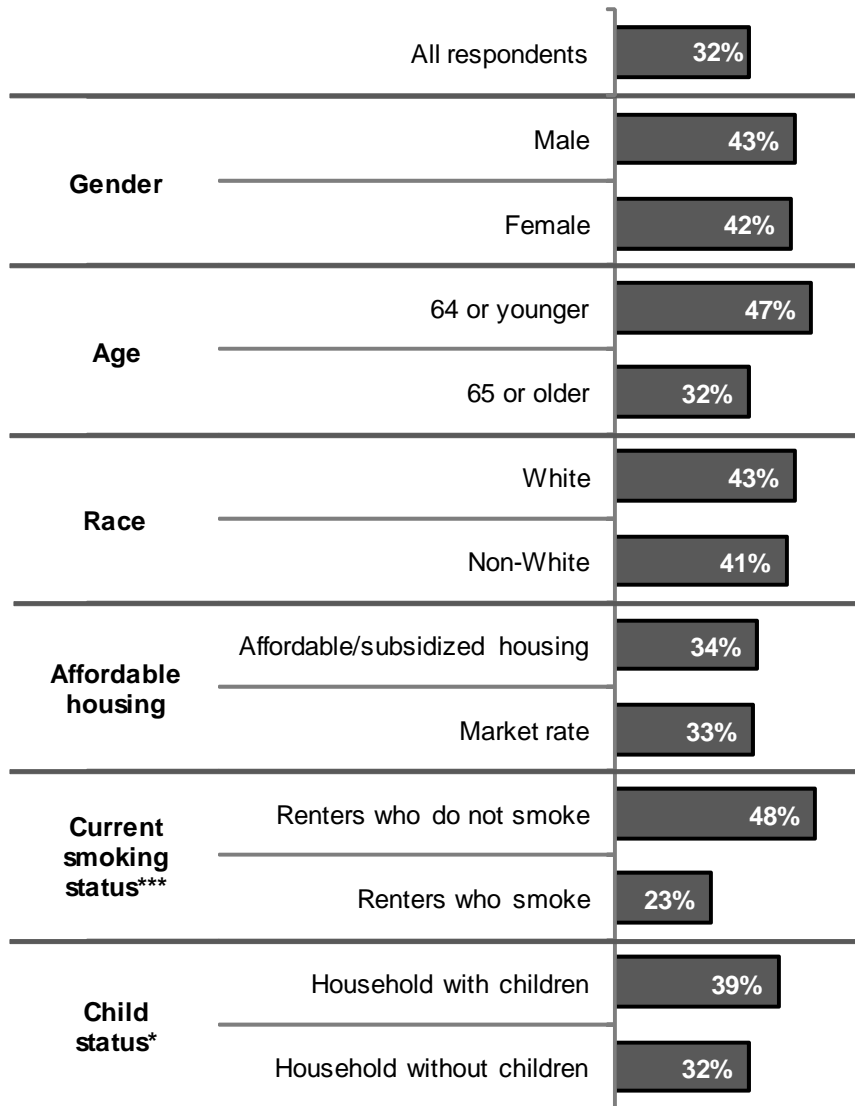
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A3. Percentage of respondents who “strongly” or “somewhat” agreed that people who do not smoke have a right to live in smoke-free environments (N=382)**



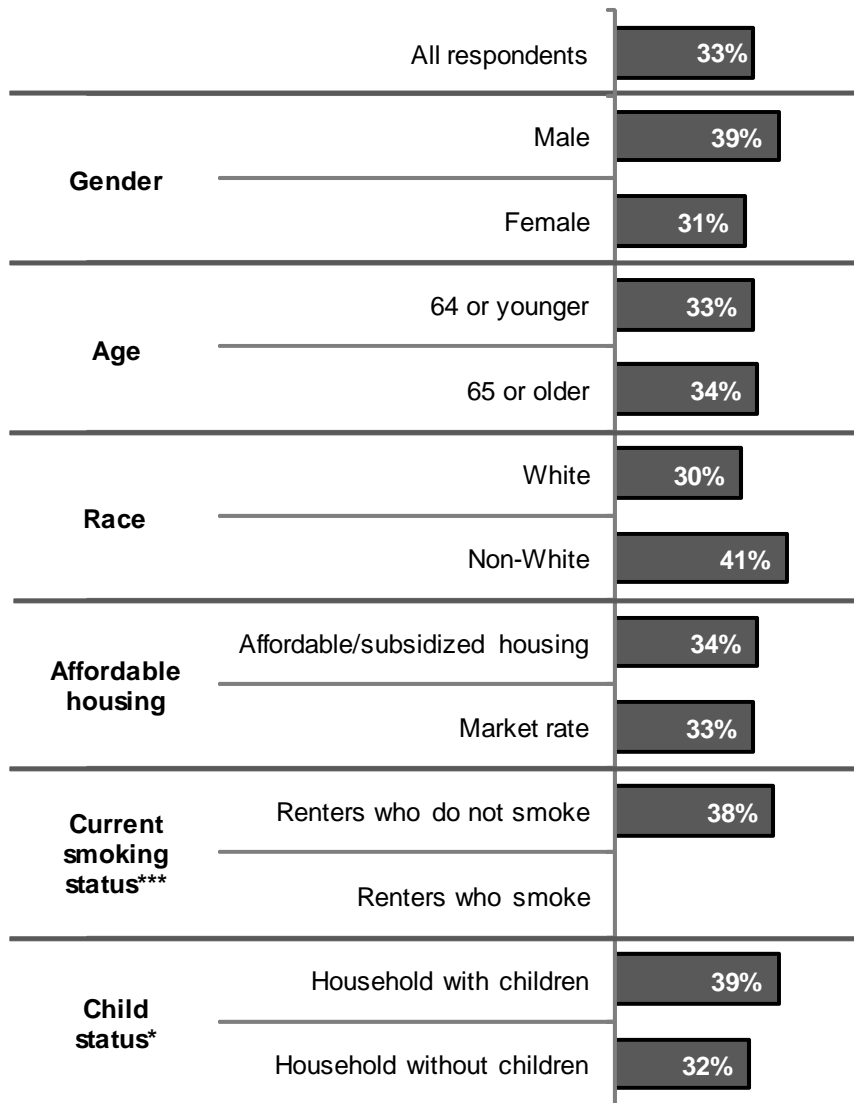
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A4. Percentage of renters who have experienced secondhand tobacco smoke in any current or previous apartment unit (N=404)**



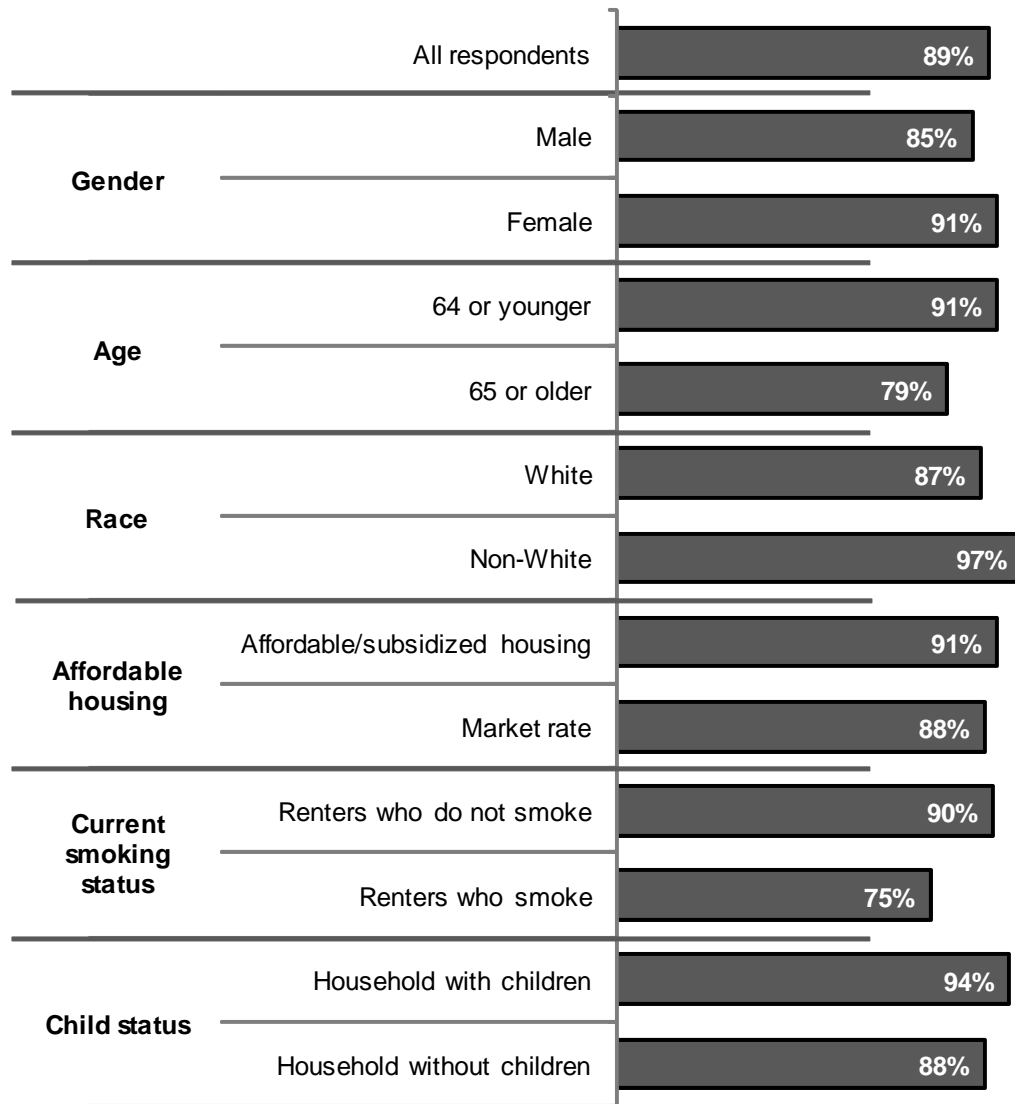
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A5. Percentage of renters who have experienced secondhand tobacco smoke and thought about moving because of it (N=172)**



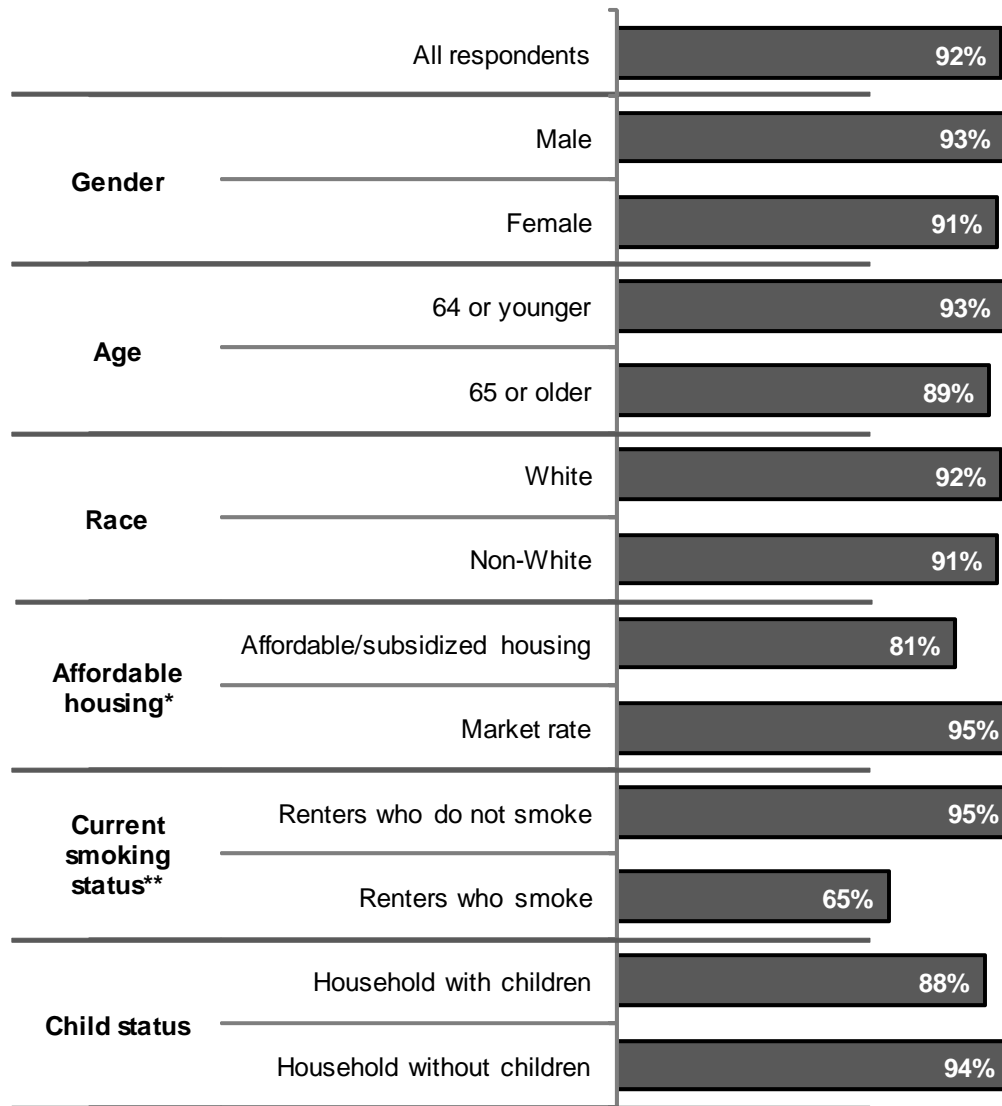
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A6. Percentage of renters who experienced secondhand tobacco smoke and "strongly" or "somewhat agree" secondhand tobacco smoke could be harmful to my health. (N=162-165)**



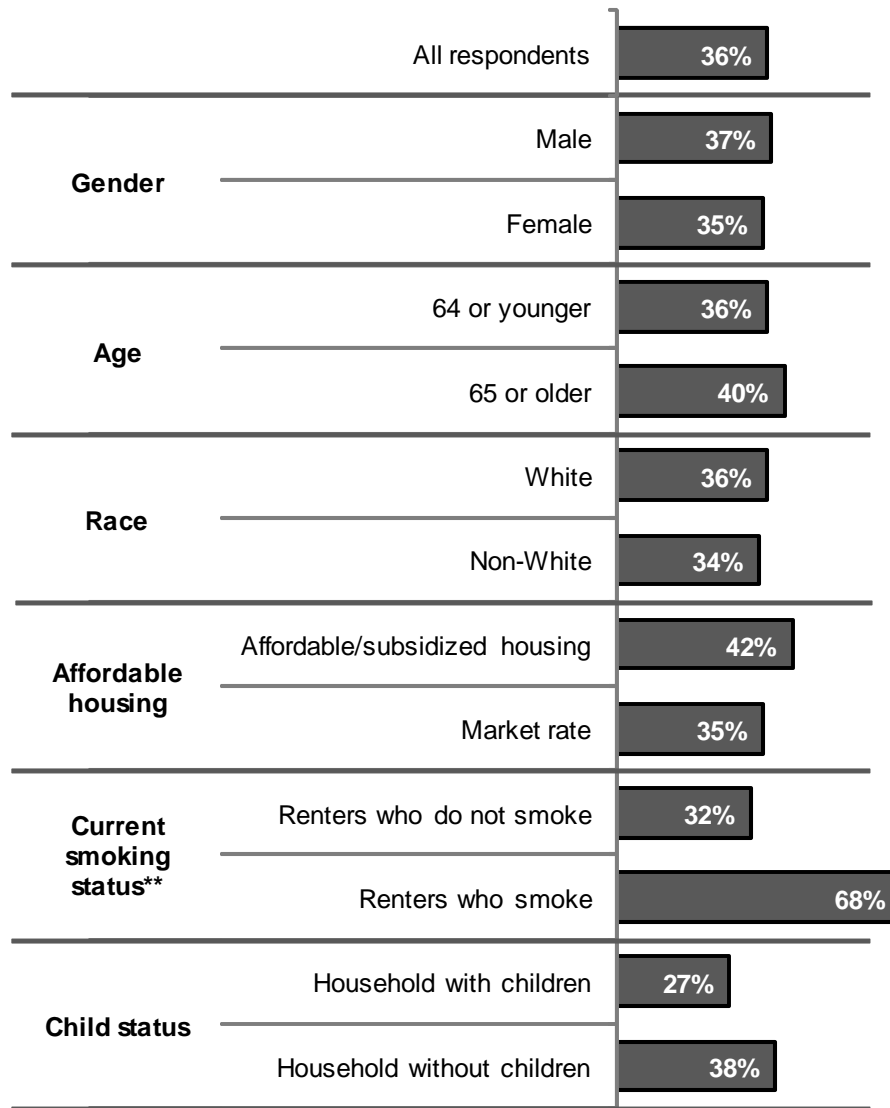
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A7. Percentage of renters who experienced secondhand tobacco smoke and "strongly" or "somewhat agree" secondhand tobacco smoke is an annoyance. (N=160-164)**



Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A8. Percentage of renters who experienced tobacco smoke and "strongly" or "somewhat agree" secondhand tobacco smoke is not something I worry about. (N=162-166)**



Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A9. Perceptions of renters who did not contact their landlord to discuss secondhand smoke concerns, by housing type (N=170)**

	N	%
<b>Have you ever talked to your landlord/building manager about tobacco smoke entering your apartment unit?</b>		
Subsidized housing	35	26%
Market rate	135	24%
Total	170	100%
<b>If you did not talk to your landlord or manager about unwanted tobacco smoke entering your apartment unit, why?</b>		
Afraid of conflict with landlord or building management		
Subsidized housing	26	15%
Market rate	103	12%
Total	129	100%
Afraid of conflict with smoking neighbor		
Subsidized housing	26	27%
Market rate	103	23%
Total	129	100%
Worried about losing housing subsidy*		
Subsidized housing	26	15%
Market rate	103	1%
Total	129	100%
Felt there was nothing that could be done		
Subsidized housing	26	39%
Market rate	103	38%
Total	129	100%
It didn't bother me much		
Subsidized housing	26	54%
Market rate	103	39%
Total	129	100%
Other reason		
Subsidized housing	26	8%
Market rate	130	18%
Total	129	100%

*Note:* \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

---

**Figure A10. Open-ended comments from respondents who spoke with landlord or manager about unwanted tobacco smoke drifting into their apartment (N=20)**

**No Action**

---

Manager is aware of a new smoker that has moved next door but needs to rent units. This is a non-smoking building.

---

Said there was nothing they could do.

---

They understood my concern but not much they could do about it.

---

Nothing he could do. He is a smoker himself.

---

Couldn't do much. They were smoking on the balcony.

---

Nothing as far as I know.

---

Nothing. (2)

---

**Made changes to the apartment**

---

Authorized me to cover vents in bathroom.

---

Plugged holes around stove ventilation.

---

Talked to building manager about fixing exhaust fans on roof.

---

They encourage residents who smoke to buy filtering equipment.

---

The landlord asked that tenant to open windows when smoking indoors.

---

**Spoke to resident who smokes**

---

Spoke to offending party but was met with hostility and offenders took the position: "Too bad. That's their problem."

---

We don't like smoke getting into my unit. Needs to stop right away. We'll talk to the smoker to stop it from happening again.

---

Tried addressing the problem.

---

**Other**

---

I think he kind of blew it off but he doesn't usually smoke outside my window now. Everyone else does.

---

Send maintenance man (who smoked) up to check and he said couldn't smell smoke or see any ash tray but we saw smoke coming out under door and smoker moved out.

---

They are not to smoke in hallway but can smoke in apartments. Would encourage on deck.

---

The weed. I call the police.

---

I didn't talk to her as she is a smoker and several people working for her also smoke.

---

**Figure A11. Level of interest among renters of living in a building where smoking is prohibited in all apartment units (N=382-286)**

	Response		
	Extremely/ very interested	Somewhat interested	Not very/ not at all interested
All respondents	53%	20%	24%
<b>Gender</b>			
Male	54%	22%	24%
Female	56%	20%	25%
<b>Age</b>			
64 and younger	52%	24%*	24%
65 and older	63%	13%	25%
<b>Race</b>			
White	51%	23%*	26%
Non-white	66%*	13%	21%
<b>Affordable housing</b>			
Affordable/subsidized housing	46%	23%	31%
Market rate	58%*	20%	22%
<b>Current smoking status</b>			
Renters who do not smoke	66%***	20%	14%
Renters who smoke	29%	23%	49%***
<b>Child status</b>			
Household with children	61%	22%	16%
Household without children	53%	21%	26%

Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A12. Level of interest among renters of living in a building where smoking is prohibited in some apartment units (N=355-359)**

	Response		
	Extremely/ very interested	Somewhat interested	Not very/ not at all interested
All respondents	36%	29%	30%
<b>Gender</b>			
Male	34%	29%	37%
Female	41%	31%	28%
<b>Age</b>			
64 and younger	38%	33%	29%
65 and older	37%	22%	41%*
<b>Race</b>			
White	36%	32%	32%
Non-white	59%	16%	26%
<b>Affordable housing</b>			
Affordable/subsidized housing	33%	37%	30%
Market rate	40%	28%	32%
<b>Current smoking status</b>			
Renters who do not smoke	44%***	30%	26%
Renters who smoke	23%	32%	45%***
<b>Child status</b>			
Household with children	41%	38%	22%
Household without children	37%	29%	34%

Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A13. Level of interest among renters of living in a building where smoking is prohibited on patios, balconies, and decks (N=365-369)**

	Response		
	Extremely/ very interested	Somewhat interested	Not very/ not at all interested
All respondents	43%	19%	34%
<b>Gender</b>			
Male	43%	20%	37%
Female	47%	20%	34%
<b>Age</b>			
64 and younger	45%	21%	34%
65 and older	47%	15%	38%
<b>Race</b>			
White	41%	22%	38%*
Non-white	59%**	16%	26%
<b>Affordable housing</b>			
Affordable/subsidized housing	44%	19%	38%
Market rate	46%	20%	34%
<b>Current smoking status</b>			
Renters who do not smoke	55%***	22%*	23%
Renters who smoke	27%	12%	56%***
<b>Child status</b>			
Household with children	57%*	19%	24%
Household without children	43%	20%	38%*

Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A14. Level of interest among renters of living in a building where smoking is prohibited in other outdoor areas, including building entrances (N=367-371)**

	Response		
	Extremely/ very interested	Somewhat interested	Not very/ not at all interested
All respondents	45%	20%	31%
<b>Gender</b>			
Male	42%	20%	37%
Female	50%	22%	29%
<b>Age</b>			
64 and younger	47%	22%	31%
65 and older	47%	18%	35%
<b>Race</b>			
White	45%	21%	34%
Non-white	55%	21%	24%
<b>Affordable housing</b>			
Affordable/subsidized housing	47%	18%	34%
Market rate	46%	22%	32%
<b>Current smoking status</b>			
Renters who do not smoke	55%***	22%	23%
Renters who smoke	27%	17%	56%***
<b>Child status</b>			
Household with children	59%	17%	24%
Household without children	45%	19%	37%

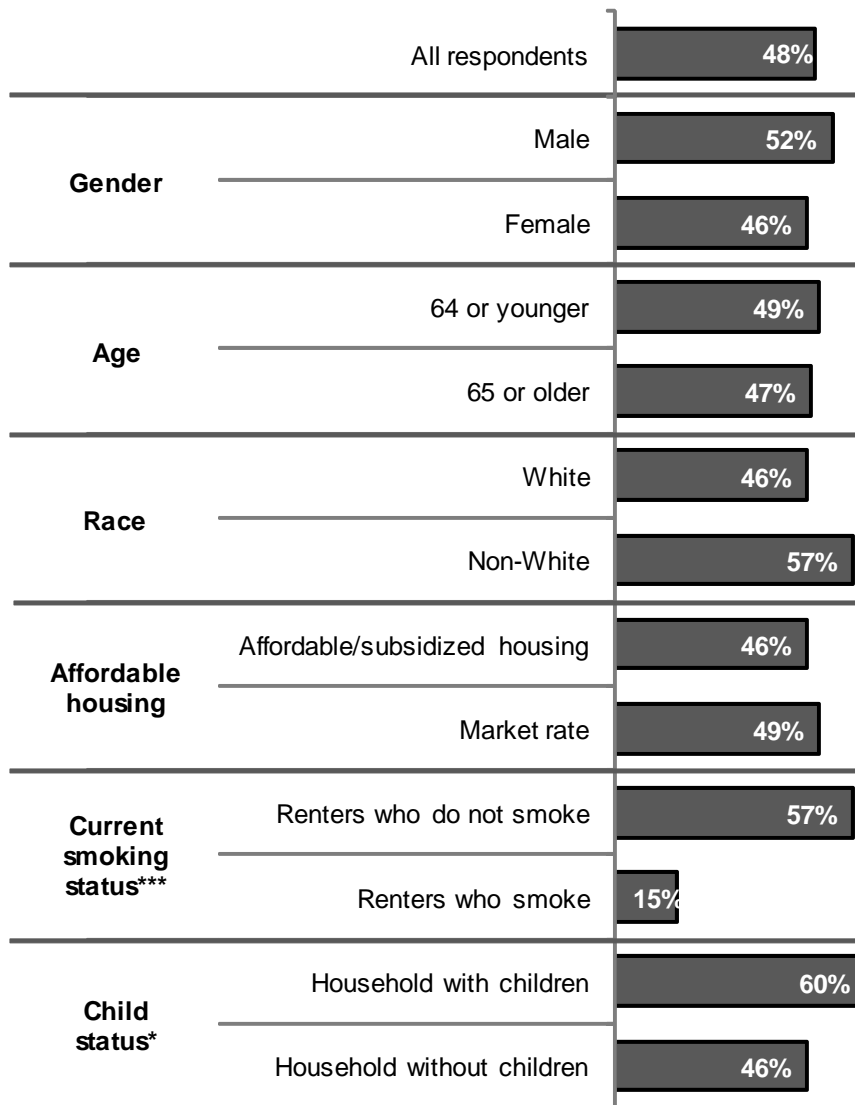
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A15. Level of interest among renters of living in a building where smoking is prohibited everywhere in the building and on the property (N=367-372)**

	Response		
	Extremely/ very interested	Somewhat interested	Not very/ not at all interested
All respondents	45%	17%	32%
<b>Gender</b>			
Male	44%	17%	38%
Female	50%	19%	32%
<b>Age</b>			
64 and younger	45%	21%*	35%
65 and older	56%	10%	34%
<b>Race</b>			
White	43%	20%	36%
Non-white	61%**	12%	28%
<b>Affordable housing</b>			
Affordable/subsidized housing	44%	14%	42%
Market rate	49%	19%	32%
<b>Current smoking status</b>			
Renters who do not smoke	57%***	22%**	21%
Renters who smoke	25%	9%	66%***
<b>Child status</b>			
Household with children	59%*	17%	24%
Household without children	45%	19%	37%

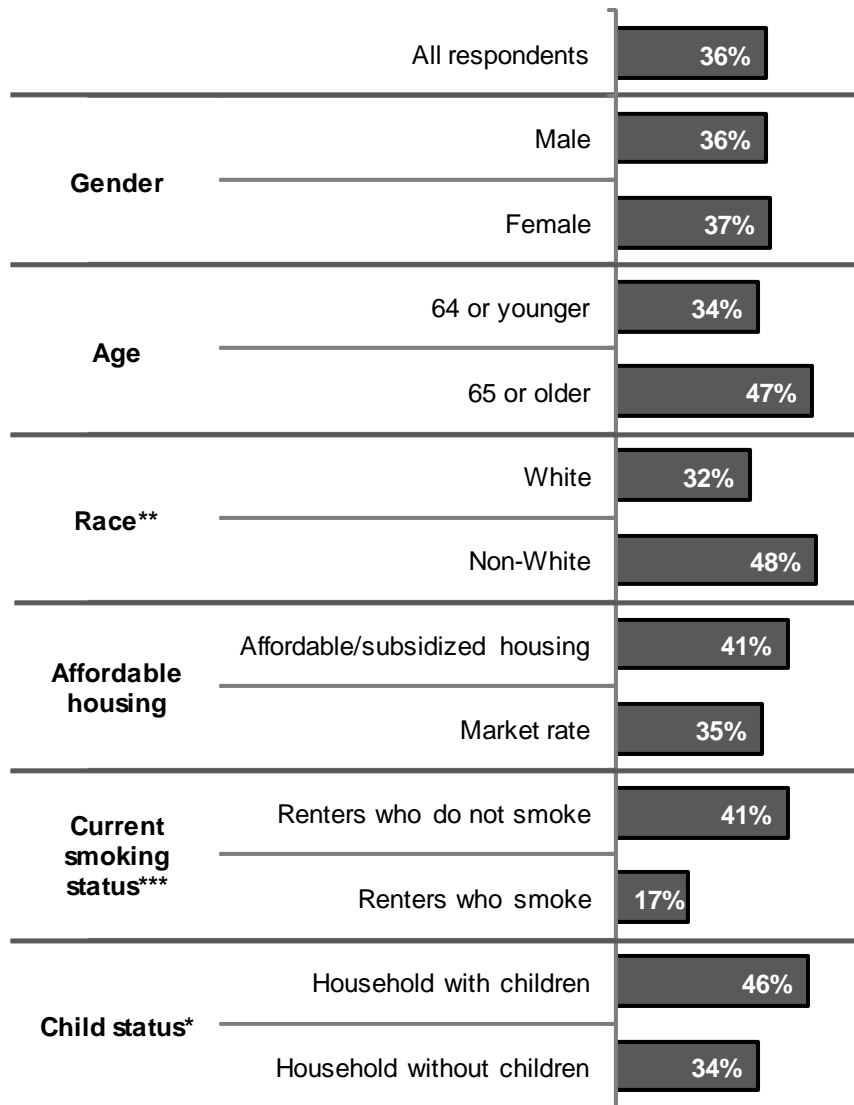
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A16. Percentage of renters who would ever consider moving in order to live in a smoke-free building (N=397-403)**



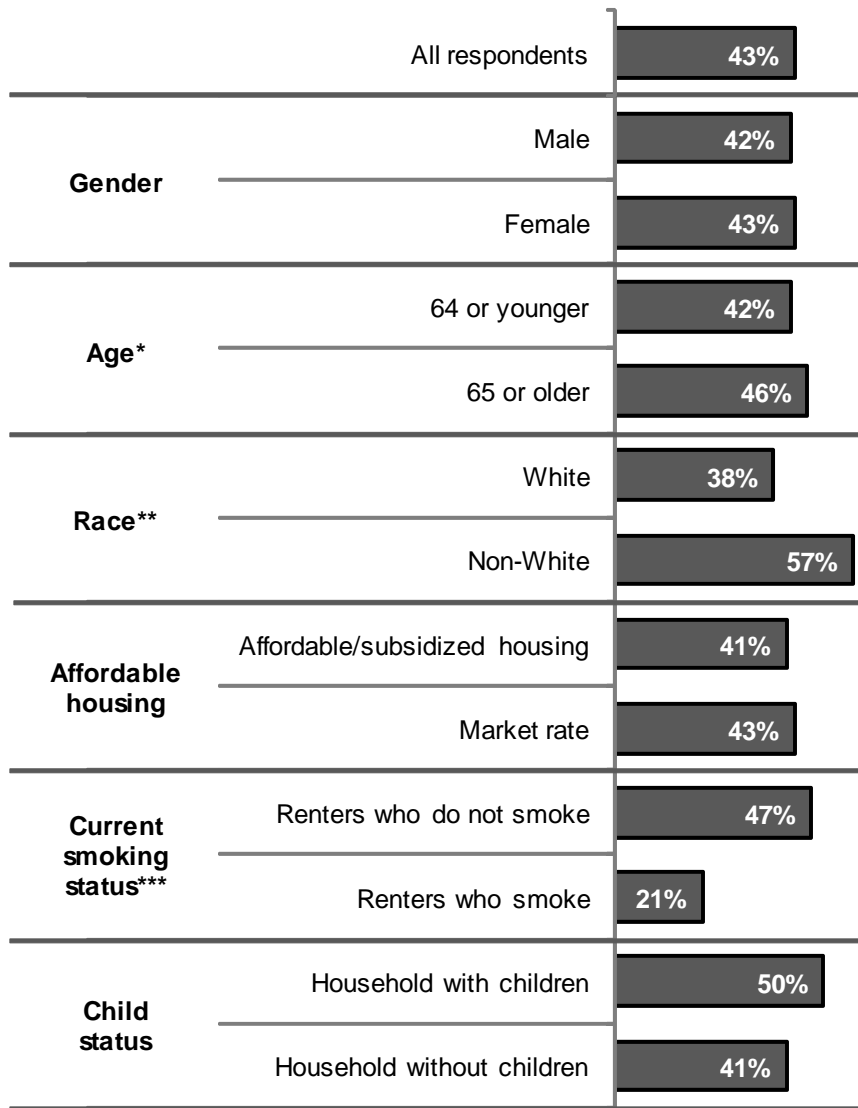
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A17. Percentage of renters willing to drive 10 minutes further to work to live in a smoke-free apartment building (N=316)**



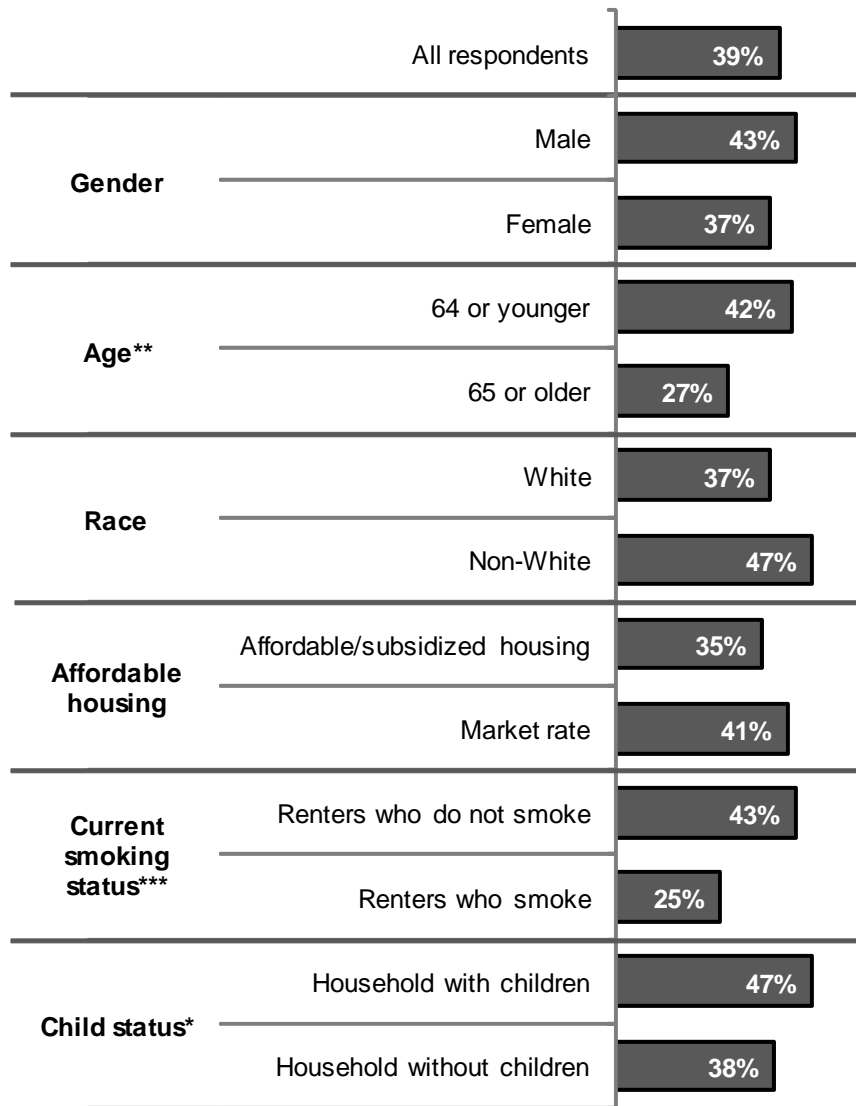
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A18. Percentage of renters willing to travel 10 minutes further to parks and lakes to live in a smoke-free apartment building (N=346)**



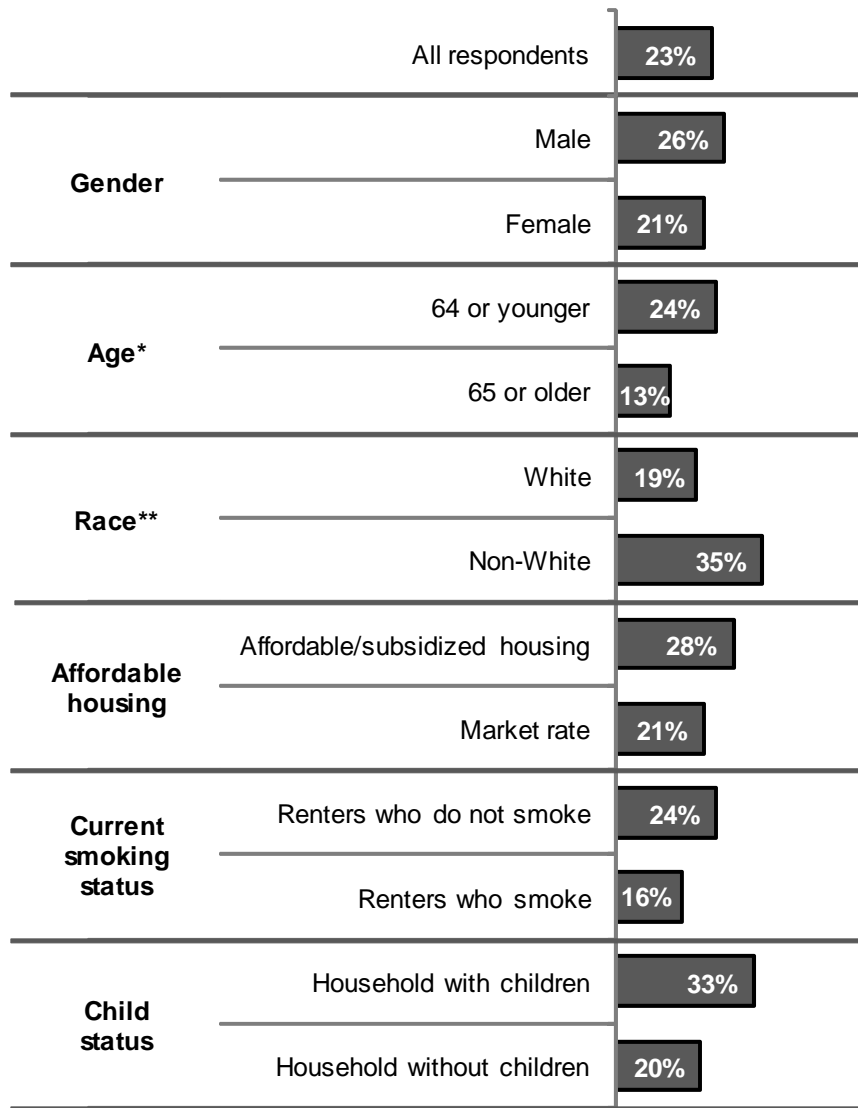
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A19. Percentage of renters willing to walk 3 blocks further to live in a smoke-free apartment building (N=322)**



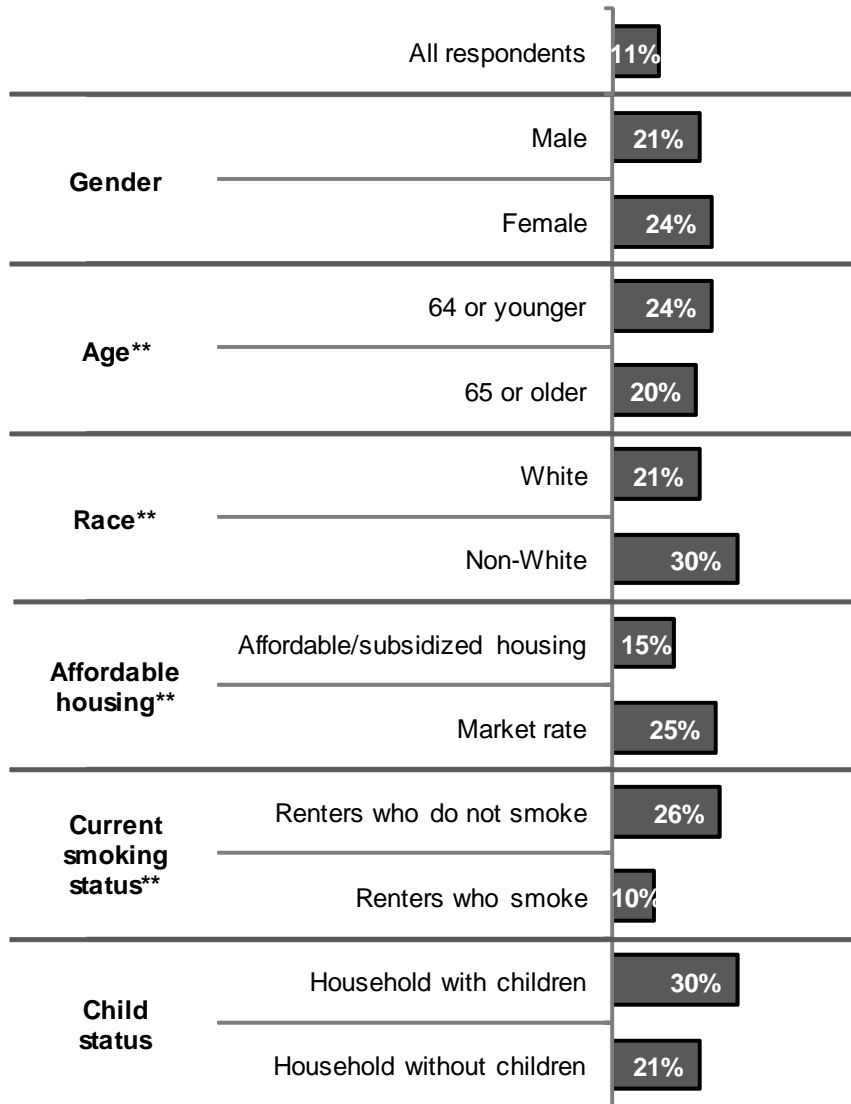
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A20. Percentage of renters willing to live in a building without off-street parking to live in a smoke-free apartment building (N=340)**



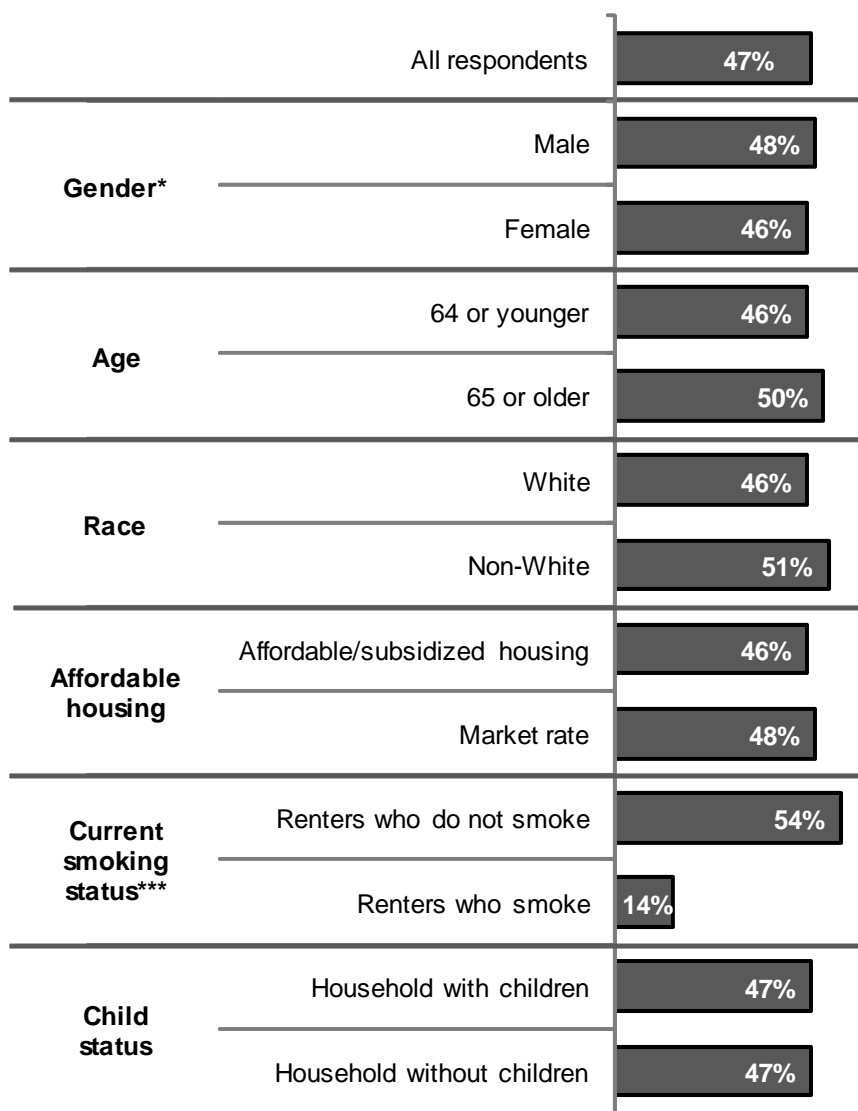
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A21. Percentage of renters willing to live in a building without on-site laundry facilities (N=369)**



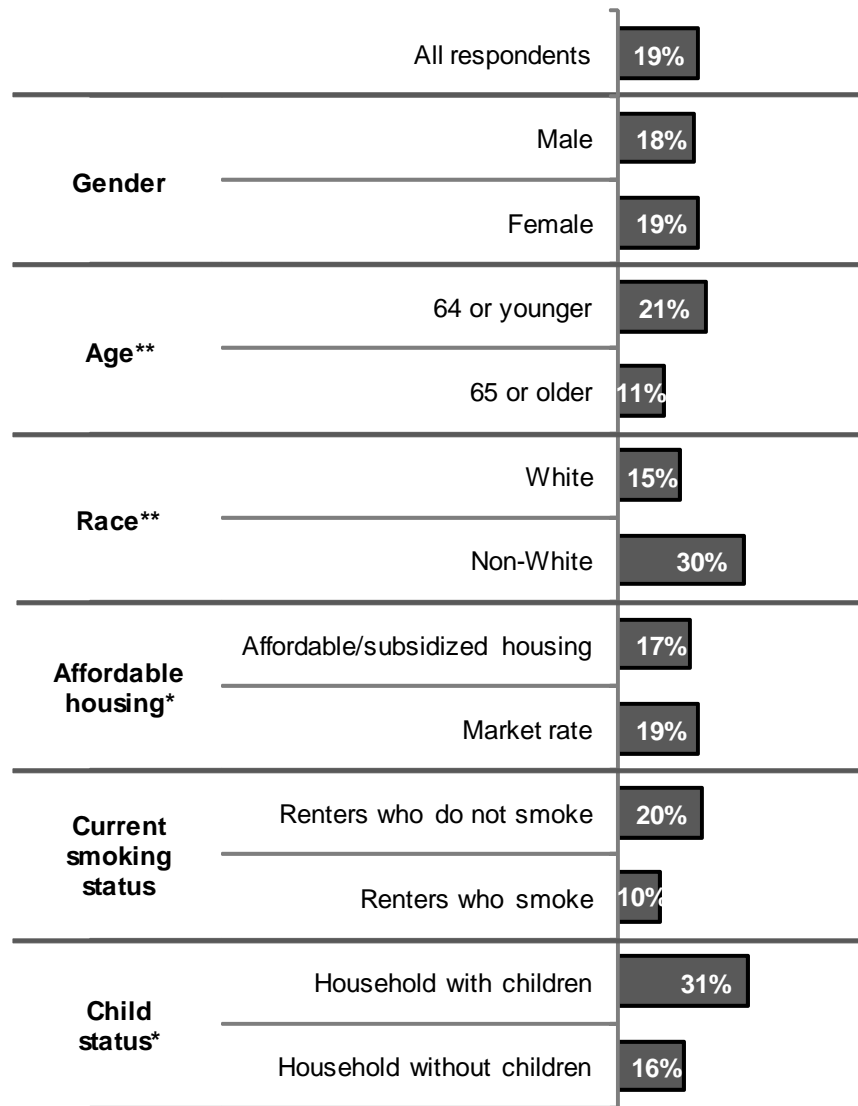
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A22. Percentage of renters willing to live in a building/complex that doesn't have a pool, playground, or athletic facilities to live in a smoke-free apartment building (N=342)**



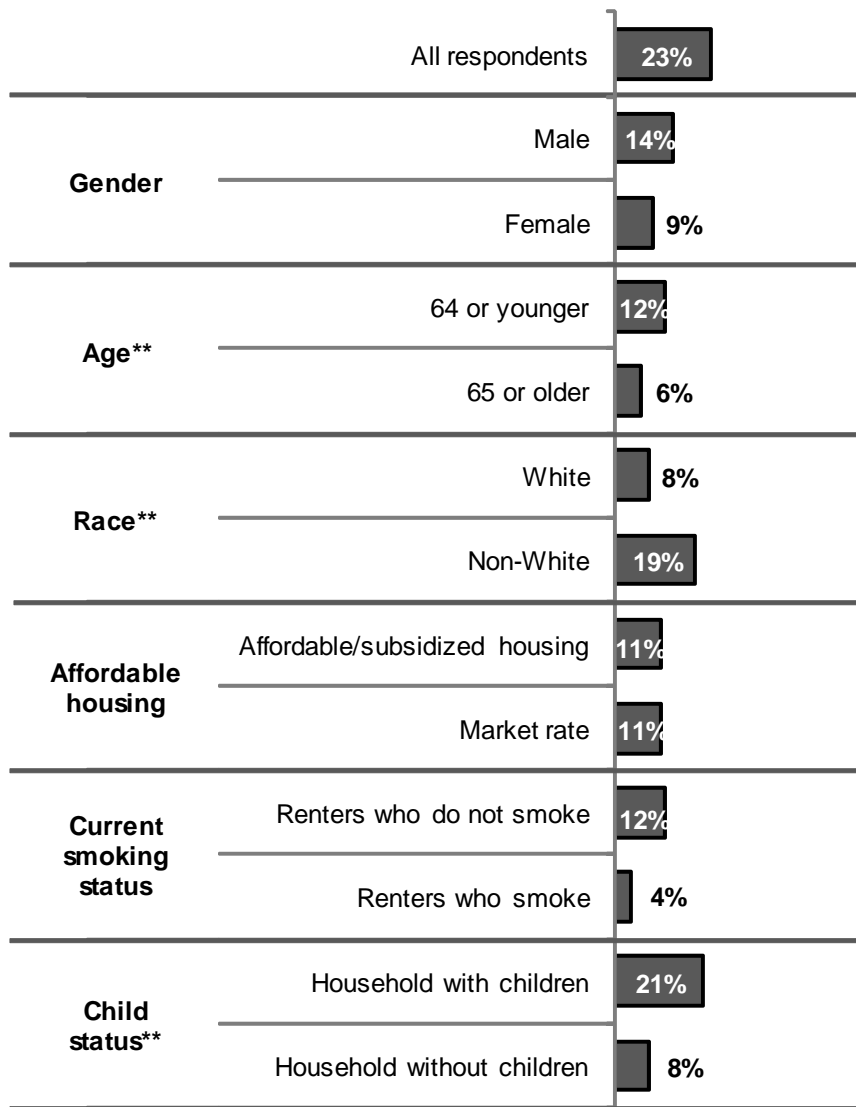
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A23. Percentage of renters willing to live in a building where heat is not included in rent to live in a smoke-free apartment building (N=363)**



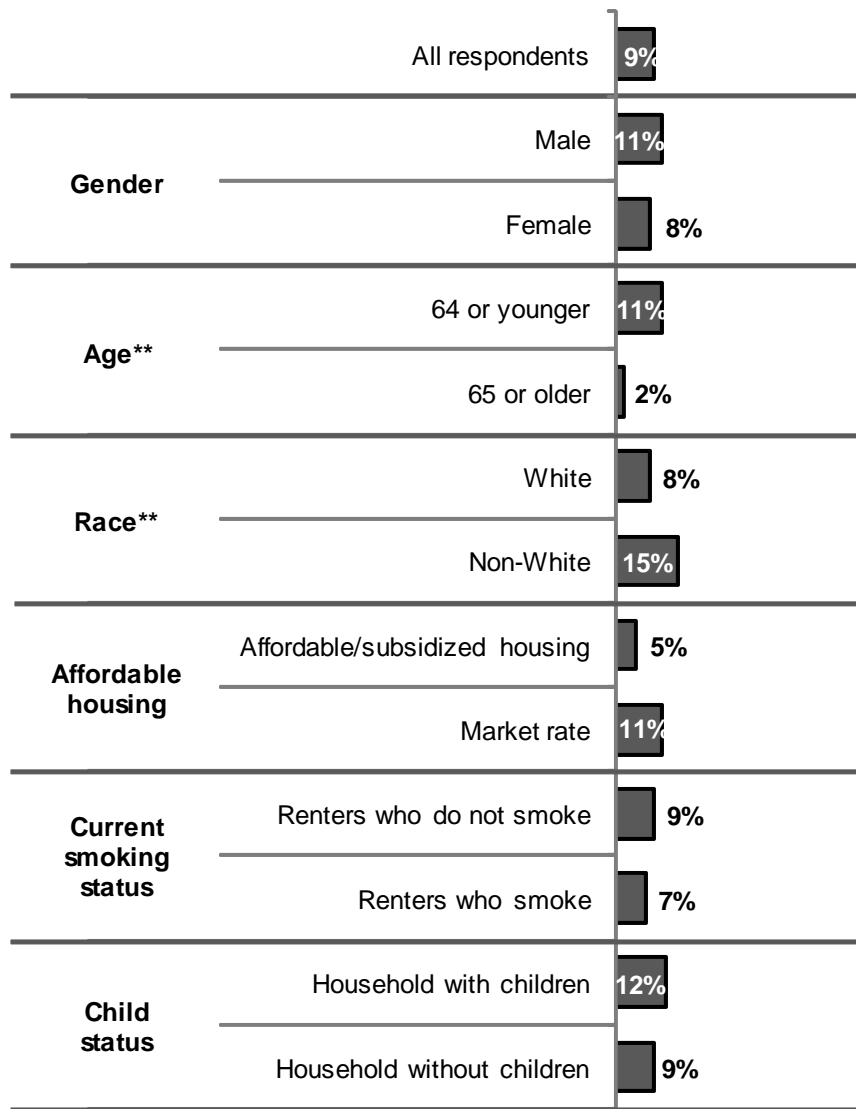
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A24. Percentage of renters willing to pay up to \$25 more each month in rent to live in a smoke-free apartment building (N=375)**



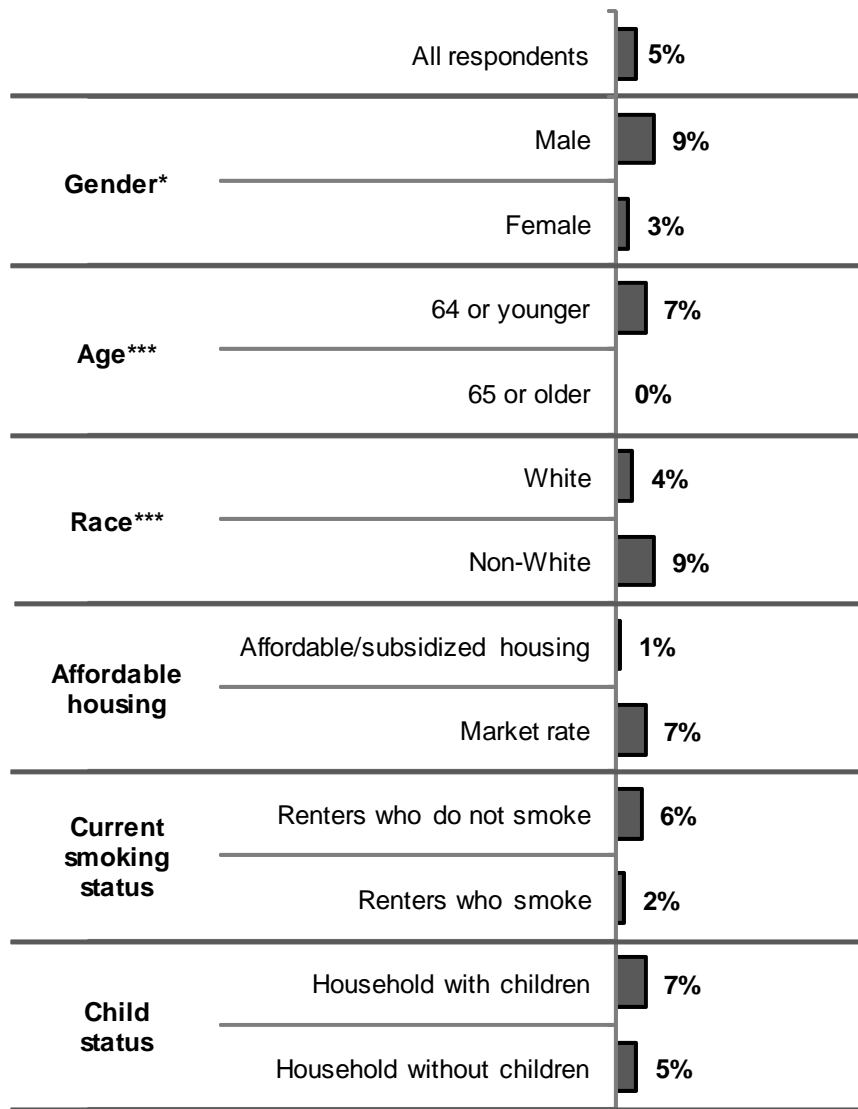
Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A25. Percentage of renters willing to pay up to \$50 more each month in rent to live in a smoke-free apartment building (N=370)**



Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

**Figure A26. Percentage of renters willing to pay up to \$100 more each month in rent to live in a smoke-free apartment building (N=369)**



Note: \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

## Survey instrument

### 2008 Twin Cities Metro Renter Survey

**1. Do you rent an apartment unit in a building with 4 or more apartments?**

<sup>1</sup> Yes. → Please continue with the survey.

<sup>2</sup> No. → Thank you for participating. This survey is for people who live in apartment buildings only. Please return the survey in the enclosed envelope to be eligible for the drawing.

Before asking about your opinions of secondhand tobacco smoke in apartment buildings, we would like to ask a few general questions about your current smoking activity and opinions about tobacco smoke.

**2. Which of the following three categories best describes your tobacco smoking activity in your apartment unit?**

<sup>1</sup> I don't smoke.

<sup>2</sup> I smoke, but do not smoke in my apartment unit.

<sup>3</sup> I smoke in my apartment unit.

**3. Which of the following four categories best describes the tobacco smoking activities of others living in your apartment unit?**

<sup>1</sup> I am the only person living in my apartment unit.

<sup>2</sup> All others living in my apartment unit do not smoke.

<sup>3</sup> Others living with me do smoke, but do not smoke in my apartment unit.

<sup>4</sup> At least one person who lives with me smokes in my apartment unit.

**4. How strongly do you agree or disagree with the following statements?**

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know
a. Individuals have a right to smoke in their own apartment unit.	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>
b. There are too many regulations that limit the rights of people who smoke.	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>
c. People who do not smoke have a right to live in smoke-free environments.	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>

**The next questions ask about your experience with tobacco smoke in your apartment building.**

Please note that this survey will refer to 'tobacco smoke' in many questions. For the purposes of this survey, 'tobacco smoke' refers to any secondhand tobacco smoke or the smell of tobacco smoke that comes into your apartment unit from somewhere else.

**5. Is smoking prohibited in any of the following areas of your current apartment building?**

	Yes	No	Don't know	Not applicable
a. All apartment units?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>8</sup>	<input type="checkbox"/> <sup>9</sup>
b. Some apartment units?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>8</sup>	<input type="checkbox"/> <sup>9</sup>
c. On patios, balconies, and decks?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>8</sup>	<input type="checkbox"/> <sup>9</sup>
d. Other outdoor areas, including building entrances?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>8</sup>	<input type="checkbox"/> <sup>9</sup>
e. Everywhere in the building and on the property?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>8</sup>	<input type="checkbox"/> <sup>9</sup>

6. During the past 12 months, how often have any of the following gotten into your current or previous apartment unit from somewhere else in or around the building?

	Never	Rarely	A few times a month	A few times a week	Almost everyday
a. Tobacco smoke?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>
b. Cooking odors?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>
c. Disruptive sounds or noises?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>

7. When the following gets into your apartment unit from somewhere else, how much does it bother you?

	Not at all	A little	A lot	Not applicable
a. Tobacco smoke?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
b. Cooking odors?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
c. Disruptive sounds or noises?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>

**The next questions ask how you feel about tobacco smoke coming into your current or previous apartment unit.**

8. Has tobacco smoke ever entered your current or previous apartment unit from somewhere else?

- <sup>1</sup> Yes
- <sup>2</sup> No →SKIP TO QUESTION 17 ON PAGE 3

9. Have you ever thought about moving because of tobacco smoke entering your apartment unit?

- <sup>1</sup> Yes
- <sup>2</sup> No

10. When tobacco smoke entered your apartment unit from somewhere else in or around the building, where do you believe it came from? (CHECK ALL THAT APPLY)

- <sup>1</sup> From another person's apartment unit
- <sup>2</sup> From another person's patio or balcony
- <sup>3</sup> From common areas of the building
- <sup>4</sup> From outdoors on the building grounds
- <sup>5</sup> From another source (Please describe: \_\_\_\_\_)
- <sup>6</sup> I don't know where it comes from

11. When you think about the tobacco smoke that has drifted into your apartment unit, how much do you agree or disagree with the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know
a. It could be harmful to my health.	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>
b. It is an annoyance.	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>
c. It is not something I worry about	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>8</sup>

12. When tobacco smoke entered into your current or previous apartment unit from somewhere else, how much did any of the following help to reduce the problem?

	This helped a lot	This helped some	This didn't help at all	I did not do this
a. Talking to the people who smoked	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>
b. Altering the apartment unit in some way (closed windows, turned off kitchen or bathroom fan, sealed cracks or leaks, etc.)	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>
c. Moving to a different apartment unit or building	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>
d. Other (please describe: _____)	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>

13. Have you ever talked to your landlord/ building manager about tobacco smoke entering your apartment unit?

- <sup>1</sup> Yes
- <sup>2</sup> No → SKIP TO QUESTION 15

14. If you talked to the landlord or manager about unwanted tobacco smoke drifting into your apartment unit, what did he or she do to respond to your concern?

\_\_\_\_\_ →SKIP TO QUESTION 16

15. If you did not talk to your landlord or manager about unwanted tobacco smoke entering your apartment unit, why? (CHECK ALL THAT APPLY)

- <sup>1</sup> Afraid of conflict with landlord or building management
- <sup>2</sup> Afraid of conflict with smoking neighbor
- <sup>3</sup> Worried about losing housing subsidy
- <sup>4</sup> Felt that there was nothing that could be done
- <sup>5</sup> It didn't bother me that much
- <sup>6</sup> Other reason (Please describe: \_\_\_\_\_)

16. Do you believe you, or anyone in your household, has experienced any health problems related to tobacco smoke entering your apartment unit?

- <sup>1</sup> Yes → What were the health problems? \_\_\_\_\_
- <sup>2</sup> No

**The next questions ask about your opinion of smoking policies in apartment buildings and in your own unit.**

17. Do you allow anyone to smoke in your apartment unit, including guests?

- <sup>1</sup> Yes
- <sup>2</sup> Sometimes
- <sup>3</sup> No → SKIP TO QUESTION 19

18. Have other renters in this building ever complained about tobacco smoke from your apartment unit getting into their apartment unit?

- <sup>1</sup> Yes
- <sup>2</sup> No
- <sup>3</sup> Not sure

19. If you lived in a smoke-free building, would you find it difficult to insist that no one smoke in your apartment unit, including guests?

- <sup>1</sup> Yes
- <sup>2</sup> No
- <sup>3</sup> Not sure

**20. How interested would you be in living in a building where smoking is not allowed in the following areas:**

	Extremely interested	Very interested	Somewhat interested	Not very interested	Not at all interested	Not sure
a. All apartment units?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>	<input type="checkbox"/> <sup>6</sup>
b. Some apartment units?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>	<input type="checkbox"/> <sup>6</sup>
c. On patios, balconies, and decks?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>	<input type="checkbox"/> <sup>6</sup>
d. Other outdoor areas, including building entrances?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>	<input type="checkbox"/> <sup>6</sup>
e. Everywhere in the building and on the property?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>4</sup>	<input type="checkbox"/> <sup>5</sup>	<input type="checkbox"/> <sup>6</sup>

**The following questions ask you to consider whether different smoke-free policies may influence where you choose to live.**

**21. If two apartment buildings were the same in every way including rent, except that one did not allow smoking anywhere, how likely would you be to choose the ‘no-smoking’ building instead of the building where smoking was permitted?**

- <sup>1</sup> Very likely
- <sup>2</sup> Somewhat likely
- <sup>3</sup> Not very likely
- <sup>4</sup> Not at all likely
- <sup>5</sup> It doesn't matter to me

**22. If you lived in a building where smoking was allowed, would you ever consider moving in order to live in a smoke-free apartment building?**

- <sup>1</sup> Yes
- <sup>2</sup> No
- <sup>3</sup> Not sure

**23. If you were planning to move, would you be willing to do the following to live in a completely smoke-free apartment building: (assume the apartment buildings you are considering are the same in every other way)**

	Yes	Maybe	No	Not applicable
a. Drive 10 minutes farther to work?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
b. Travel 10 minutes farther to parks or lakes?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
c. Walk 3 blocks further to a bus line?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
d. Live in a building without off-street parking?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
e. Live in a building where heat is not included in rent?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
f. Live in a building without on-site laundry facilities?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
g. Live in a building/complex that doesn't have a pool, playground, or athletic facilities?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
h. Pay up to \$25 more each month in rent?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
i. Pay up to \$50 more each month in rent?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>
j. Pay up to \$100 more each month in rent?	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/> <sup>2</sup>	<input type="checkbox"/> <sup>3</sup>	<input type="checkbox"/> <sup>9</sup>

**Please tell us a little more about yourself and the place you live. Your answers will be kept private. Responses to these questions help us ensure we have included a representative group of renters in our survey.**

**24. Who owns/manages your building?**

- <sup>1</sup> An apartment management company
- <sup>2</sup> A community-based nonprofit organization
- <sup>3</sup> A local public housing authority
- <sup>4</sup> A religiously-affiliated organization
- <sup>5</sup> An individual landlord
- <sup>6</sup> Other (Please specify: \_\_\_\_\_)
- <sup>8</sup> Don't know

**25. How many apartment units does your individual building have?**

- <sup>1</sup> 4 to 9
- <sup>2</sup> 10 to 19
- <sup>3</sup> 20 to 49
- <sup>4</sup> 50 or more
- <sup>8</sup> Don't know

**26. How many bedrooms does your apartment unit have?**

- <sup>1</sup> None (studio apartment)
- <sup>2</sup> One bedroom
- <sup>3</sup> Two bedrooms
- <sup>4</sup> Three or more bedrooms

**27. How long have you lived in your current apartment unit?**

- <sup>1</sup> 6 months or less
- <sup>2</sup> 7-12 months
- <sup>3</sup> 1-2 years
- <sup>4</sup> 3-4 years
- <sup>5</sup> 5 or more years

**28. Do you live in public/affordable/subsidized housing or participate in a voucher/low-income housing program (such as Section 8)?**

- <sup>1</sup> Yes
- <sup>2</sup> No

**29. What is the total monthly rent for your apartment unit, not including utilities?**

- <sup>1</sup> Less than \$400
- <sup>2</sup> \$400 to \$599
- <sup>3</sup> \$600 to \$799
- <sup>4</sup> \$800 to \$999
- <sup>5</sup> \$1,000 to \$1,250
- <sup>6</sup> More than \$1,250

**30. Including yourself, how many people live in your apartment? \_\_\_\_\_**

**31. How many children 5 years old or younger live in your apartment? (if none, write '0') \_\_\_\_\_**

**32. How many children from 6 to 17 years old live in your apartment? (if none, write '0') \_\_\_\_\_**

**33. What county do you live in?**

- <sup>1</sup> Anoka
- <sup>2</sup> Carver
- <sup>3</sup> Dakota
- <sup>4</sup> Hennepin
- <sup>5</sup> Ramsey
- <sup>6</sup> Scott
- <sup>7</sup> Washington

**34. What is your gender?**

- <sup>1</sup> Male
- <sup>2</sup> Female

**35. How old are you?**

- <sup>1</sup> Less than 25
- <sup>2</sup> 25 to 64
- <sup>3</sup> 65 or older

**36. Which best describes your racial or ethnic background? (Please mark all that apply)**

- <sup>1</sup> American Indian/Native-American
- <sup>2</sup> Asian/Pacific Islander
- <sup>3</sup> Black, African American, or African
- <sup>4</sup> Hispanic or Latino
- <sup>5</sup> White
- <sup>6</sup> Other (Please describe: \_\_\_\_\_)

**37. What is the approximate combined yearly income, before taxes, of the people who pay rent in your unit?**

- <sup>1</sup> Less than \$25,000
- <sup>2</sup> \$25,001 to \$50,000
- <sup>3</sup> \$50,001 to \$75,000
- <sup>4</sup> \$75,001 to \$100,000
- <sup>5</sup> Over \$100,000

**THANK YOU VERY MUCH FOR YOUR HELP!**

This study is being conducted in partnership with the Association for Nonsmokers-Minnesota (ANSR).