

Consumer Attitudes and Behaviors Before and After the Implementation of a Smoke-Free Workplace Ordinance in Appleton, Wisconsin: Results From Two Cross-Sectional Studies

Daphne Kuo, PhD and Karen Palmersheim, PhD

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Background and Data

To understand Appleton residents' attitudes, preferences, and consumer behaviors related to the smoke-free workplace ordinance implemented July 1, 2005, the St. Norbert College Survey Center conducted two population-based surveys in Appleton, Wisconsin on behalf of the University of Wisconsin's Comprehensive Cancer Center and the Wisconsin Division of Public Health. The first survey was administered one month before the ordinance, during June 2005. The second survey was administered during February and March of 2006, seven months after the ordinance had gone into effect. The current report was based on data from both surveys.

For the 2005 survey, a total of 400 telephone surveys were completed from randomly selected residents who resided in the City of Appleton. The interviews were conducted between June 9th and June 22nd, 2005 - inclusively. Respondents were scientifically selected so the survey would be representative of all adults, 18 years of age and older, who resided in Appleton, Wisconsin. The sample of random telephone numbers, obtained from Genesys Sampling Systems of Fort Washington, Pennsylvania, was selected from both listed and unlisted numbers. Respondents within each household were randomly selected using the Trolldahl-Carter household selection technique. Up to six attempts were made to contact a respondent at each household.

For the 2006 survey, a split sample design was employed. A new random sample of 200 Appleton women and men age 18 and older were selected to interview using the same procedure described above. In addition, 200 of the 2005 respondents were randomly selected and re-interviewed. Thus, the 2006 sample consists of 400 women and men – a panel sample of 200, and a new cross-sectional sample of 200.

The surveys administered in 2005 and 2006 were almost identical, with the exception of some modifications in wording to accommodate the timing of each survey relative to that of the ordinance. In addition, the 2006 survey included the addition of two reliability questions.

Table 1 shows the distribution of the demographic and socioeconomic characteristics for the 2005 and 2006 samples. The distribution within each sociodemographic characteristic looks

fairly similar for the 2005 and 2006 samples. However, the 2006 sample was slightly older, slightly more educated, had a somewhat flatter distribution of family income, had a higher percentage of females, had a slightly higher percentage of married respondents, and higher percentage of respondents that had voted on the ordinance.

Table 2 displays the findings for the 2005 and 2006 surveys on questions related to preference for smoke-free restaurants and bars, opinions on allowing smoking in bars, overall support for the smoking ban, *anticipated* patronage of bars after the ban went into effect (for the 2005 sample), reported patronage of bars after the ban went into effect (for the 2006 sample), and whether respondents generally go to bars/taverns in the city of Appleton or outside of Appleton. Key findings associated with the data displayed in Table 2 are summarized here.

Key Findings: 2005 and 2006 Samples (see Table 2)

- Sixty percent of the Appleton respondents either strongly supported or somewhat supported the smoke-free workplace ordinance in 2005; 59% supported the ordinance in 2006.
- The percentage of the respondents who strongly supported the smoking ban was 39% in both 2005 and 2006; The percentage of those who strongly opposed the smoking ban was 28% in 2005, and 24% in 2006.
- Fifty-four percent of the Appleton respondents preferred smoke-free restaurants in 2005; 58% preferred smoke-free restaurants in 2006.
- The percentage of respondents that believed smoking should not be allowed in restaurants was 55% in 2005, and 61% in 2006.
- Thirty-eight percent of Appleton respondents preferred smoke-free bars/taverns in 2005; 39% preferred smoke-free bars/taverns in 2006.
- The percentage of respondents that believed smoking should not be allowed in bars/taverns was 29% in 2005, and 31% in 2006.
- Eighty-seven percent of respondents in the 2006 survey reported that they have frequented bars in restaurants after the ordinance at least as often as they did before the ordinance.
- Eighty-nine percent of respondents in the 2006 survey reported that they have frequented bars/taverns after the ordinance at least as often as they did before the ordinance.
- Among the respondents that go to bars/taverns, 80% reported usually going to bars/taverns in the city of Appleton, and 20% reported going to bars/taverns outside the city in 2005; 65% reported usually going to bars/taverns in the city of Appleton, and 35% reported going to bars/taverns outside the city in 2006.

Additional analyses, conducted on data stratified by various demographic and socioeconomic characteristics, are presented in Appendix A and Appendix B for the interested reader. Data were stratified by smoking status (smoker vs. non-smoker), level of education (college graduate vs. less than college graduate), family income (less than 50K vs. 50K or more), and gender, for 2005 and 2006, respectively.

In general, among the 2005 respondents, non-smokers, those with higher levels of education, higher family incomes, and women were more likely to prefer smoke-free restaurants, believe that restaurants should be smoke-free, and support the smoking ban, relative to their counterparts. In 2006, these relationships looked the same with the exception of that observed by gender; men and women looked more similar in their preferences and opinions in 2006. Similar patterns of sub-group differences were revealed for preferences and attitudes about smoking in bars/taverns. However, there was a greater dispersion of responses within each sub-group when asked about smoking in bars/taverns compared to smoking in restaurants.

Limitations

The samples are not totally independent. Two hundred of the respondents to the 2006 survey also participated in the 2005 survey. From the current analysis, it is not known how previous participation might influence answers to questions in the more recent survey. In addition, the 2006 sample was slightly older, more educated, more likely to be female, more likely to be married, and more likely to have voted on the issue of the ordinance. There is some chance that these factors are contributing to the observed increase in support and preference for smoke-free establishments observed in the 2006 survey compared to the 2005 survey. However, for the majority of these characteristics, the shift ranged from only 2% to 4%. In addition, women were less likely to prefer smoke-free restaurants in 2006 compared to 2005 (62% vs. 60%), less likely to prefer smoke-free bars/taverns (44% vs. 38%), and more likely to believe smoking should be allowed in all areas on bars/taverns (24% vs. 31%). Thus, the 4% shift in gender distribution is not likely to be driving the changes observed in the overall sample. Further, there was a greater change in favor of smoke-free restaurants among respondents with less than a college education, compared to those with a college education. There was a similar increasing shift to expressing “no preference” for smoke-free bars/taverns among both educational groups. However, those with a college education were more likely to support smoke-free bars/taverns and offer strong support for the ban in 2006 compared to 2005. These more complex relationships cannot be fully teased out in the current analysis. More sophisticated analytical applications may shed more light on these changes.

Conclusions

There was little change in overall support for the workplace smoking ordinance in Appleton, Wisconsin between June, 2005 and March, 2006. Approximately 60% of survey respondents supported the ban, either somewhat or strongly, both prior to and after July 1, 2005. A slight increase in preference for smoke-free restaurants was noted, but very little change in preference for smoke-free bars/taverns. The majority of respondents reporting frequenting bars in

restaurants and bars/taverns at least as often since the ban went into effect as they did before the ban (87% and 89%, respectively). The greatest change was observed for where Appleton residents generally go, when they do go out to bars/taverns. Among those respondents that reported going to bars/taverns, a greater percentage of the 2006 survey respondents reported going to bars outside the city of Appleton since the ban went into effect, than before the ban (35% vs. 20%). This reported change in behavior was most noted among smokers.

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Table 1. Sample Socioeconomic and Demographic Characteristics,
2005 and 2006 Appleton Surveys

	2005	2006
Age	N=395	N=388
18-29	18.2%	11.3%
30-39	17.7%	18.8%
40-49	20.8%	20.6%
50-64	23.3%	27.6%
65+	20.0%	21.6%
Mean age	47.5	49.8
Educational level	N=399	N=399
Less than high school	2.5%	2.5%
High school or GED	59.6%	57.6%
College graduate	37.8%	39.8%
Total family income before tax	N=328	N=343
Under 15,000	6.7%	9.0%
\$15 to \$35 (thousand)	22.3%	20.1%
\$36 to \$50 (thousand)	19.8%	15.2%
\$51 to \$75 (thousand)	26.2%	26.5%
\$76 (thousand or more)	25.0%	29.2%
Gender	N=400	N=400
Male	48.0%	43.5%
Female	52.0%	56.5%
Marital status	N=400	N=398
Married or living with someone	61.5%	63.6%
Single	38.5%	36.4%
Smoking Status	N=399	N=400
Smoking everyday	16.3%	15.3%
Smoking some days	4.0%	5.8%
Former smoker	29.4%	30.7%
Never smoked	50.4%	48.3%
Voted on the ordinance	N=394	N=392
Voted	57.3%	62.8%
Did not vote	42.7%	37.2%

Table 2. Attitudes and Consumer Behaviors Before and After the Implementation of Smoke-free Ordinance - Appleton, 2005 and 2006

	2005	2006
Preference for restaurants	N=400	N=400
Smoke-free	54.0%	57.8%
Smoking in some areas	31.0%	28.0%
Smoking anywhere	0.8%	0.3%
No preference	14.3%	14.0%
Preference for bars/taverns	N=390	N=400
Smoke-free	37.8%	39.3%
Smoking in some areas	19.3%	15.3%
Smoking anywhere	14.5%	13.8%
No preference	26.0%	31.8%
Smoking in restaurants	N=395	N=397
Not allowed at all	54.7%	60.7%
Allowed in some areas	43.3%	37.3%
Allowed in all areas	2.0%	2.0%
Smoking in bars or taverns	N=381	N=388
Not allowed at all	29.1%	31.2%
Allowed in some areas	44.1%	38.4%
Allowed in all areas	26.8%	30.4%
Overall support for smoking ban	N=394	N=395
Strongly support it	38.8%	39.0%
Somewhat support it	21.6%	19.7%
Somewhat oppose it	11.2%	17.5%
Strongly oppose it	28.4%	23.8%
Frequent bars in restaurants (after the ordinance)	N=395 (anticipated behavior)	N=398 (reported behavior)
More frequently	12.7%	11.1%
About the same	78.2%	76.1%
Less frequently	9.1%	12.8%
Frequent bars/taverns (after the ordinance)	N=396 (anticipated behavior)	N=397 (reported behavior)
More frequently	13.1%	13.6%
About the same	75.3%	75.4%
Less frequently	11.6%	11.1%
Where usually go to a bar ^a	N=324	N=294
In City of Appleton	80.5%	65.0%
Outside of Appleton	19.5%	35.0%

^a Respondents that do not go to bars or taverns were excluded from the calculation.

Appendix A. Attitudes and Consumer Behaviors Related to Smoke-Free Ordinance by Smoking Status, Education, Income, and Gender - Appleton, 2005 (pre-ordinance)

	2005 Total	Smoking Status		College Grad.		Income		Gender	
		Non-smoker	Smoker	No	Yes	<50K	>=50K	Men	Women
Preference for restaurants	N=400	319	81	248	151	160	168	192	208
Smoke-free	54.0%	64.9%	11.1%	42.7%	72.2%	45.6%	57.1%	45.8%	61.5%
Smoking in some areas	31.0%	20.4%	72.8%	39.5%	17.2%	37.5%	29.2%	33.9%	28.4%
Smoking anywhere	0.8%	0.0%	3.7%	1.2%	0.0%	1.3%	0.6%	1.0%	0.5%
No preference	14.3%	14.7%	12.3%	16.5%	10.6%	15.6%	13.1%	19.3%	9.6%
Preference for bars/taverns	N=390	311	79	241	148	157	168	190	200
Smoke-free	37.8%	47.9%	2.5%	28.6%	54.7%	31.8%	43.5%	33.7%	43.5%
Smoking in some areas	19.3%	18.3%	25.3%	20.7%	18.2%	19.7%	18.5%	18.9%	20.5%
Smoking anywhere	14.5%	3.9%	58.2%	21.2%	4.7%	20.4%	11.3%	18.4%	11.5%
No preference	26.0%	29.9%	13.9%	29.5%	22.3%	28.0%	26.8%	28.9%	24.5%
Smoking in restaurants	N=395	315	80	244	150	157	166	188	207
Not allowed at all	54.7%	62.5%	23.8%	43.0%	73.3%	47.8%	57.8%	48.4%	60.4%
Allowed in some areas	43.3%	35.9%	72.5%	54.1%	26.0%	48.4%	41.6%	50.0%	37.2%
Allowed in all areas	2.0%	1.6%	3.8%	2.9%	0.7%	3.8%	0.6%	1.6%	2.4%
Smoking in bars or taverns	N=381	302	79	239	141	152	162	178	203
Not allowed at all	29.1%	36.4%	1.3%	24.7%	36.9%	31.6%	27.2%	27.0%	31.0%
Allowed in some areas	44.1%	48.0%	29.1%	39.7%	51.1%	35.5%	49.4%	43.3%	44.8%
Allowed in all areas	26.8%	15.6%	69.6%	35.6%	12.1%	32.9%	23.5%	29.8%	24.1%
Overall support for smoking ban	N=394	313	81	243	150	155	168	186	208
Strongly support it	38.8%	48.6%	1.2%	32.9%	48.0%	36.1%	38.1%	32.3%	44.7%
Somewhat support it	21.6%	24.6%	9.9%	18.9%	26.0%	19.4%	23.2%	20.4%	22.6%
Somewhat oppose it	11.2%	10.9%	12.3%	11.9%	10.0%	13.5%	9.5%	9.7%	12.5%
Strongly oppose it	28.4%	16.0%	76.5%	36.2%	16.0%	31.0%	29.2%	37.6%	20.2%
Frequent bars in restaurants	N=395	316	80	244	151	158	167	190	206
More frequently	12.7%	16.1%	1.3%	8.2%	21.2%	11.4%	17.4%	10.5%	15.5%
About the same	78.2%	82.0%	48.8%	76.6%	72.8%	75.9%	71.3%	74.2%	76.2%
Less frequently	9.1%	1.9%	50.0%	15.2%	6.0%	12.7%	11.4%	15.3%	8.3%
Frequent bars/taverns	N=396	315	80	245	149	156	167	191	204
More frequently	13.1%	15.9%	0.0%	9.8%	17.4%	9.6%	16.2%	7.9%	17.2%
About the same	75.3%	82.5%	61.3%	77.1%	79.9%	77.6%	76.0%	81.7%	75.0%
Less frequently	11.6%	1.6%	38.8%	13.1%	2.7%	12.8%	7.8%	10.5%	7.8%
Where usually go to a bar ^a	N=382	304	78	240	141	150	162	180	202
In City of Appleton	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outside of Appleton	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

^a Respondents that do not go to bars or taverns were excluded from the calculation.

Appendix B. Attitudes and Consumer Behaviors Related to Smoke-Free Ordinance by Smoking Status, Education, Income, and Gender - Appleton, 2006 (post-ordinance)

	2006 Total	Smoking Status		College Grad.		Income		Gender	
		Non-smoker	Smoker	No	Yes	<50K	>=50K	Men	Women
Preference for restaurants	N=400	316	84	240	159	152	191	174	226
Smoke-free	57.8%	70.9%	8.3%	49.6%	70.4%	46.7%	62.8%	55.2%	59.7%
Smoking in some areas	28.0%	17.7%	66.7%	32.9%	20.1%	36.8%	24.6%	27.6%	28.3%
Smoking anywhere	0.3%	0.0%	1.2%	0.4%	0.0%	0.7%	0.0%	0.0%	0.4%
No preference	14.0%	11.4%	23.8%	17.1%	9.4%	15.8%	12.6%	17.2%	11.5%
Preference for bars/taverns	N=400	316	84	240	159	152	191	174	226
Smoke-free	39.3%	49.1%	2.4%	29.2%	54.7%	25.7%	48.2%	40.8%	38.1%
Smoking in some areas	15.3%	13.0%	23.8%	15.8%	13.8%	20.4%	14.1%	17.2%	13.7%
Smoking anywhere	13.8%	4.4%	48.8%	19.2%	5.7%	20.4%	10.5%	13.8%	13.7%
No preference	31.8%	33.5%	25.0%	35.8%	25.8%	33.6%	27.2%	28.2%	34.5%
Smoking in restaurants	N=397	314	83	238	158	149	191	172	225
Not allowed at all	60.7%	71.3%	20.5%	52.9%	72.8%	52.3%	63.9%	61.0%	60.4%
Allowed in some areas	37.3%	27.4%	74.7%	44.5%	25.9%	45.0%	34.0%	36.0%	38.2%
Allowed in all areas	2.0%	1.3%	4.8%	2.5%	1.3%	2.7%	2.1%	2.9%	1.3%
Smoking in bars or taverns	N=388	304	84	232	155	146	188	171	217
Not allowed at all	31.2%	38.8%	3.6%	25.4%	40.0%	27.4%	31.9%	32.2%	30.4%
Allowed in some areas	38.4%	41.8%	26.2%	34.9%	43.2%	34.2%	41.0%	38.6%	38.2%
Allowed in all areas	30.4%	19.4%	70.2%	39.7%	16.8%	38.4%	27.1%	29.2%	31.3%
Overall support for smoking ban	N=395	312	83	238	156	148	191	171	224
Strongly support it	39.0%	48.4%	3.6%	30.7%	51.9%	30.4%	43.5%	38.6%	39.3%
Somewhat support it	19.7%	23.1%	7.2%	19.7%	19.9%	20.3%	20.4%	18.7%	20.5%
Somewhat oppose it	17.5%	15.7%	24.1%	21.4%	10.9%	25.0%	12.6%	19.3%	16.1%
Strongly oppose it	23.8%	12.8%	65.1%	28.2%	17.3%	24.3%	23.6%	23.4%	24.1%
Frequent bars in restaurants	N=398	315	83	238	159	151	191	174	224
More frequently	11.1%	16.5%	2.4%	10.5%	18.2%	9.9%	15.7%	13.2%	13.8%
About the same	76.1%	79.4%	60.2%	76.5%	73.6%	76.2%	73.3%	71.3%	78.6%
Less frequently	12.8%	4.1%	37.3%	13.0%	8.2%	13.9%	11.0%	15.5%	7.6%
Frequent bars/taverns	N=397	314	83	237	159	150	191	173	224
More frequently	13.6%	14.0%	0.0%	8.0%	15.7%	8.0%	15.2%	14.5%	8.5%
About the same	75.4%	81.5%	55.4%	75.9%	76.7%	76.7%	73.3%	70.5%	80.4%
Less frequently	11.1%	4.5%	44.6%	16.0%	7.5%	15.3%	11.5%	15.0%	11.2%
Where usually go to a bar ^a	N=294	227	67	172	121	111	151	139	155
In City of Appleton	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outside of Appleton	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

^a Respondents that do not go to bars or taverns were excluded from the calculation.