

Spring 2006

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### Recommended Citation

Fountain, Jeffrey B. (2006) "Knowledge and Attitudes of Restaurant Operators Concerning the Requirements of the Georgia Smoke-Free Air Act," *Journal of the Georgia Public Health Association*: Vol. 1 : No. 1 , Article 5.

DOI: 10.20429/jgpha.2006.010105

Available at: <https://digitalcommons.georgiasouthern.edu/jgpha/vol1/iss1/5>

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## Knowledge and Attitudes of Restaurant Operators Concerning the Requirements of the Georgia Smoke-Free Air Act

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### Abstract

The State of Georgia enacted the Georgia Smoke-Free Air Act (GSAA) in 2005 to limit smoking in public places including restaurants. The purpose of this study was to determine if a correlation exists between restaurant operators' attitude toward smoking regulation and prevention and their knowledge of requirements of the GSAA. Participants from Atkinson, Bacon, and Jeff Davis counties, three of the smaller populated rural counties of the Southeast Health District, completed questionnaires for this study (n = 41). The correlation was weak and not determined to be statistically significant ( $r = -.251$ ) but did indicate restaurant operators agree they have not lost more customers than have been gained as a result of the enactment of the GSAA. The study also indicates that these restaurants do not have access to computers, printers, and the Internet for GSAA information, education, or requirements.

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**jGPHA (2006), Volume 1, Number 1**

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### Knowledge and Attitudes of Restaurant Operators Concerning the Requirements of the Georgia Smoke-Free Air Act

The health effects of smoking and exposure to environmental tobacco smoke (ETS) have been concerns of public health practitioners for years. Only recently have these exposures received intense public attention (Akbar-Khanzadeh, 2003). Tobacco kills 4.2 million people in the world annually and is forecasted by the World Health Organization, as cited in *Lancet*, "to kill over ten million people per year by the late 2020's if robust steps to curb the epidemic are not taken immediately" (2002, p. 267). The Surgeon General's report, as cited in Kaur, Cohen, Dolor, Coffman, & Bastian, concludes that smoking is "the leading cause of preventable death in the United States" (2004, p. 888). From 1997 to 2001, the annual attributable cost of smoking in the United States was estimated at 167 billion dollars (Morantz, 2005). In Georgia alone, over 11,000 tobacco-related deaths occur each year (S. Brown, personal communication, November 9, 2005).

Tobacco smoke contains over 4,000 substances, of which over 40 are known to be carcinogenic. Lung cancer is often attributed to smoking (U.S. Department of Health and Human Services, 2004). Kaur et al. report that in women alone "since 1950 there has been a 600% increase in death rates from lung cancer, surpassing breast cancer as the leading cause of cancer death in women in 1997" (2004, pp. 888-889). In addition, other components of smoke attribute to heart, lung, and other deadly diseases (American Cancer Society, 2005; Akbar-Khanzadeh, 2003). Laboratory research now indicates smoking causes disease at the molecular and cellular levels of the body. Hebert reports that smoking is considered a primary risk factor for cardiovascular disease because it increases the tendency of blood platelets to clot and obstruct blood vessels (2004). In addition, Kaur et al. suggests that ETS tends to decrease

levels of high-density lipoprotein and to damage the internal lining of heart and blood vessels (2004). The Centers for Disease Control and Prevention also indicate that exposure to ETS ". . . causes approximately 35,000 heart disease deaths and 3,000 lung cancer deaths among nonsmokers in the United States every year" (2005, p.649).

Tobacco smoke sometimes referred to as mainstream smoke, as defined by the American Cancer Society, is the smoke that is inhaled and exhaled from the cigarette. Environmental tobacco smoke (ETS) is not only mainstream smoke, but also the smoke in the environment that consists mainly of smoke escaping from the burning end of a cigarette (2005). The largest source of ETS is from ". . . side stream smoke coming directly from the burning end of the cigarette, not smoke exhaled by a smoker. Side stream smoke releases greater concentrations of both nicotine and other toxic and carcinogenic substances than what a smoker exhales" (Hebert, 2004, p. 754).

ETS-related cancer is so great that in 1992 the United States Environmental Protection Agency designated ETS ". . . as a Group A carcinogen to which no safe level of exposure exists . . ." (Williams et al., 2004, p.36). This designation resulted in regulatory efforts at federal, state, and local levels to minimize public smoking, such as in restaurants. The elevated danger of ETS in non-regulated bars and restaurants has recently been reported by many studies (Cramer et al., 2003; Williams et al., 2004). As a result, smoking must be limited in these working and family environments. Holloway et al., indicates that reducing public exposure to ETS is one of the national health objectives for 2010. To accomplish a reduction in exposure, the Centers for Disease Control and Prevention

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recommends smoking bans and restrictions in public places (2003).

The State of Georgia recently enacted the Georgia Smoke-Free Air Act in 2005 (GSAA) – a set of regulations designed to limit smoking in public places, including restaurants (2005). Effective July 1, 2005, the new Act prohibits smoking inside most indoor public areas where children are admitted, including restaurants, and outlines specific guidelines for allowing smoking within establishments that serve the public (S. Brown, personal communication, November 9, 2005). Large fines may be imposed for uncooperative patrons and owners who knowingly continue to allow violations and threats to public health.

This study is designed to gain knowledge regarding the correlation between restaurant operators' attitudes toward the regulation and prevention of smoking within restaurants and their knowledge of the GSAA requirements. This study will support or disprove the hypothesis that restaurant operators with more positive attitudes will also better understand the GSAA requirements. The results will provide information on training needed for restaurant operators to reach total compliance. A Georgia Southeast Health District study found that restaurant operators manage smoking accommodations differently (some correctly, others incorrectly) (Holloway et al., 2003). As a result of this and the frequent turnover of restaurant employees, it is important that public health officials continuously monitor restaurant accommodations.

## METHOD

A total of 72 non-governmental restaurants or food service facilities were mailed surveys. These included all such facilities within the three small rural counties surveyed in Georgia: 15 from Atkinson County, 22 from Bacon County, and 35 from Jeff Davis County (U.S.

Census Bureau, 2000). Surveys were designed to assess the restaurant operators' knowledge of the GSAA requirements (18 questions); attitude toward smoking regulation and prevention (three questions); and ability to access, download, and print items needed or required from the Internet (one question). The survey instrument was developed from frequently asked questions recorded by the Georgia Department of Human Resources.

## RESULTS

Of the 72 restaurants surveyed, 41 responses were collected resulting in a response rate of 56.9%. The restaurant operators' attitudes toward smoking regulation and prevention questions were tabulated along with their responses to knowledge of the GSAA questions. The mean score on the survey relating to knowledge of the requirements of the GSAA was determined to be 35.7% answered correctly (range: 0.0 to 66.7%, SD = 17.14), with a median score of 38.9%. A statistical review of the attitude responses versus knowledge scores using an SPSS 13.0 software statistical package revealed a very large range and wide standard deviation of scores for those answering two (range: 0.0 to 66.7%, SD = 17.3) and three (range: 5.6 to 61.1%, SD = 17.8) attitude determining questions positively. Very few responses were collected that answered positively to one or none of the attitudinal questions. Overall, there were an insufficient number of responses to each category of the attitudinal questions (range: 2 to 21).

## DISCUSSION

Although a best-fit line can always be drawn through data points, there is too much variation within this data to be a reliable trend. Analyzing a graph of the restaurant operators' knowledge scores versus the number of positive attitude answers toward smoking regulation and

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prevention revealed only a weak Pearson correlation coefficient of the data ( $r = -.251$ , coefficient of determination ( $r^2$ ) = .063, coefficient of alienation = 93.7%). Therefore, there is not a clear correlation between these two results as was hypothesized in this study.

One of the most interesting attitudinal questions on the questionnaire revealed that 90.2% of the 41 restaurant operators completing the survey agreed their restaurant has not lost any more customers than it has gained since the enactment of the GSAA in 2005. In addition, according to those surveyed in the three-county area, 26 restaurants (63.4%) did not have access to a computer, printer, or Internet capabilities. Respondents that do have access to a computer, printer, and the Internet (36.6% of those surveyed), on average, were more likely (in 16.0% more of the cases) to answer more of the smoking regulation attitude questions in a positive manner (Pearson's correlation coefficient ( $r$ ) = .440). This could be a result of their ability to use a computer and the Internet to enlighten themselves on current issues including the hazards of smoking.

### CONCLUSION

Although the findings of this research were determined to be statistically insignificant, this study did demonstrate that over 90% of those surveyed agreed that the GSAA requirements have not negatively affected their businesses.

Overall, the knowledge assessment section of the questionnaire resulted in a relatively low score—an average of only 35.7% correct. Therefore, educational materials regarding the GSAA are needed by restaurant operators to fully comply with the requirements.

Finally, access to a computer, printer or the Internet was not available to 63% of the responding restaurants. Restaurant operators need to be able to

use computers and the Internet to independently obtain written regulations, pamphlets, and required signs for compliance of the GSAA. A significant number of restaurant operators need different means of obtaining the signs required for notifying potential customers of smoking designation.

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